Chapter One

INTRODUCTION

1.1 E-BANKING: AN OVERVIEW

The speeding up in innovation has delivered an exceptional impact on our economy in common and has had an especially significant affect in growing the scope and utility of financial related items over the previous years. Information Technology has made conceivable the creation, valuation and trade of complex financial items on a worldwide premise, derivatives are clearly the most apparent of the numerous items that innovation has motivated, but the significant increment in our calculation has allowed an assortment of other products and, most usefully, better approaches to unbundled hazard.

What is truly very uncommon is that there is no sign that this handle of increasing speed in financial technology is drawing nearer a conclusion. We are moving at an outstandingly fast pace, fueled not as it were by the improved numerical applications created by our ever rising computing capabilities but moreover our extending broadcast communications proficiency and the related significant broadening of our markets.

Considering the speed of innovation going to higher level more assistance is included up to banking division too. Since this concept is modern and however to be investigated on entirely, we would consider this chapter for understanding the concepts of E-Banking from the Indian point of view, in which we would bargain with advancements done in the Indian Banking segment.
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It would at that point be justifiable form what would be the separating parameter between Conventional and E-Banking. While each modern concept covers challenges and has to work over it so does E-Banking. Hence would consider these challenges and analyze what E-Banking is doing to overcome these challenges, taking into consideration various portals of banking and the benefits of E-Banking.

In the present day environment, computers play an fantastically expansive part in the way the world exists in common, and the large part of assignments could really not be completed in case not for the utilize of computer. Inspite of the fact that there are certainly a few zones and occupations that cannot however be completed exclusively by computers and which hence still require genuine labor, for the most portion, computers have made a difference to make life essentially simpler, beneficial, and more helpful for us all.

E-Banking has been around for very a few a long times presently, but have truly as it were ended up conspicuous over the past year or so in specific. E-Banking offers an cluster of distinctive points of interest to the client, includes: balances in the account and history up-to-date data, the capacity to transfer funds from one account to another and to payees for invoice payments, check history, reorders, and halt payments, checking balances in credit card and statements, total online applications for loan, intuitively secure messaging with staff, and much more. This thesis will consist of several concepts, like as Mobile Banking, which includes managing a bank account from your Mobile and Online brokerage which is a critical concept, when we discuss about stream of cash and convenience of banking.
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To maintain security of these transactions we would through a few lights on different conventions like Secure Hypertext Transfer Protocol (SHTTP), Secure Electronic Transaction (SET) etc. In the conclusion we would talk about financial products delivered through online mode.

All of us know about online banking and most of us utilize it very regularly as well, but few of us really get it around the history of online banking and how it came into existence. Knowing the history of online banking can be fantastically valuable, as it will give a clear understanding of the broader perspective of E-Banking.

Computers themselves have truly come an colossal way since their introductory foundation, as the earliest electronic computers were so huge that they would take up the whole range of a room, while now-a-days a few are so little that they can barely be seen at all.

In the present day world, computers play an inconceivably big part in the way the world exists in common, and the larger part of assignments could really not be completed without the utilization of computers. Inspite of the fact that there are certainly a few regions and employments that cannot however be completed exclusively by computers and which hence still require real labor, for the most portion, computers have made a difference to make life altogether less demanding, profitable, and more helpful for us all. Online Banking essentially permits you to be able to do everything that you can in your customary banking institution, as it were with the advantage that you can do it right from the comfort of your residence.
Not as it were is this extraordinary since you can be comfortable and have peace of intellect knowing that you can keep track yourself of all your issues of banking, but as well it permits for more ease since you never have to stress out for rushing and making it to the bank.

1.2 E-BANKING - DEFINITIONS

Banking Online is the wave of the future. It gives gigantic benefits to customers in terms of the ease and transaction cost. But it too postures modern challenges for nation authorities in directing and administering the financial system and in planning and executing macroeconomic arrangement.

Online Banking has been around for a few times in the frame of automatic tellers machines and phone exchanges. A normal client exchange costing approximately Rs.1 in a conventional bank department or Rs.0.60 through a phone call as it were brings about approximately Rs.0.02 in online.

Clients in such nations can get to administrations more effortlessly from banks overseas and through remote communication frameworks, which are creating more quickly than conventional “wired” communication systems.

Competition and the consistent changes in innovation and way of life have changed the challenges of banking. Now-a-days, bank are looking for elective ways to provide and separate among their changed services. Clients, both corporate as well as retail, are no longer willing to line in banks, or hold up on the phone, for the most fundamental of services. They request and anticipate to be able to execute their financial dealings where and when they wish to.
With the number of computers expanding each year, the electronic conveyance of banking administrations is getting to be the perfect way for banks to meet their clients’ desires.

Electronic Banking can be characterized as online frameworks which permit clients to plug into a wave of banking administrations from an individual computer by interfacing with the bank’s computer over the phone wires. Innovation proceeds to make online banking less demanding for the normal consumer.

Banks are utilizing an assortment of names for online banking administrations, such as individual computer banking, domestic banking, electronic banking or Web banking. Notwithstanding of the given title, these frameworks certainly offer particular focal points over the conventional banking strategies.

**Innovation in Banking has been utilized in four ways:**

- To handle an enormously extended client base.
- To diminish considerably the actual cost of payments handling.
- To free the banks from the conventional compels on time and place.
- To introduce services and modern products.

E-Banking can be characterized as the exchange of funds through electronic signals exchange between financial institutions, or be more than an exchange of cash, cheques or other negotiable items.
E-Banking can be characterized as “delivery of bank’s services to a client at his office or residence utilizing Electronic Technology”. The quality, range and cost of these electronic services choose a bank’s competitive position.

E-Banking incorporates the frameworks that empower financial institutions, clients and people of businesses, to get to accounts or get data on financial items and services through an open or private arrangement including Web.

**Figure 1.1: Regular Online Banking Service**

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1.3 HISTORY OF E-BANKING IN INDIA

Without a sound and successful banking framework in India it cannot have a solid economy. The banking framework of India ought to not as it were be bother free but it ought to be able to meet modern challenges postured by the technology and any other outside and inner factors.

For the past three decades India’s banking framework has a few exceptional accomplishments to its credit. The most striking is its broad reach. It is no longer kept to as it were metropolitans or cosmopolitans in India.

In truth, Indian Banking framework has come indeed to the inaccessible corners of the nation. This is one of the primary reasons of India’s development handle. The government’s normal approach for Indian Bank since 1969 has paid wealthy profits with the nationalization of 14 major private banks of India.

Not long prior, an account holder had to hold up for hours at the bank counters for getting a draft or for pulling back his claim cash. Nowadays, he has a choice. Gone are days when the most productive bank exchange cash from one department to other in two days. It is as basic as messaging instantly or dialing for a pizza, presently.

During 1786, the first bank in India was established, through conservative method. Since 1786 and to till date, the Banking system of India’s travel can be bifurcated into three phases of distinct.
The above-said three distinct phases are mentioned below:

- Phases from 1786 to 1969 of Indian Banks, which is called early phase.
- Prior to 1991, namely, from Nationalization of Indian Banks to Indian banking sector reforms.
- With the introduction of new Indian Financial and Banking Sector Reforms after 1991, namely, new phase of Indian Banking System.

E-BANKING THROWS OPEN OPPORTUNITIES FOR BANKS

Progressively, individuals are exchanging to electronic stages for executing monetary transactions. Many clients are executing their banking transactions through their mobile itself. Hence it throws many opportunities for the Banking environment, coupled with adoption of latest technological advancement and strict measures to safeguard the client interest. Reserve Bank of India throws many regulatory measures to protect the customer’s funds also seen as the good outcome for the development of Online Banking.

1.3.1 PHASE I

During 1786, the General Bank of India was established. Bank of Hindustan and Bengal Bank are the other banks to come next. Bank of Bengal (1809), Bank of Bombay (1840) and Bank of Madras (1843) are established by East India Company as independent units and it was altogether called as Presidency Banks. The above-said three banks were amalgamated during 1920 and established as Imperial Bank of India, which started as private shareholders banks, in which most of the shareholders were Europeans.
During 1865, Indians established the Allahabad Bank. Punjab National Bank Limited was established during 1894 headquartered in Lahore. During 1906 to 1913, the following banks were setup: Central Bank of India, Canara Bank, Bank of India, Bank of Mysore, Bank of Baroda and Indian Bank. During 1935, Reserve Bank of India came into effect.

The general public was having very less confidence with the banks. On account of the same, the deposit mobilization was very slow. Many felt the Saving Bank Services provided by the Department of Postal was very safe.

1.3.2 PHASE II

After Independence, the Government of India took major steps in the Indian Banking Sector Reform. During 1955, the Government of India nationalized Imperial Bank of India with banking facilities served extensively on big scale particularly in semi urban and rural areas. The Government of India formed State Bank of India to function as the agent of principal for Reserve Bank of India and also to manage banking transactions of both State and Union Governments all over India.

State Bank of India formed with seven bank subsidiary was nationalized during 1960. Precisely on 19th July 1969, major process of nationalization by the Government of India was carried out. Due to the effort of our late Mrs. Indira Gandhi, Prime Minister of India, fourteen major commercial banks were nationalized in our country.
1.3.3 PHASE III

Many more products and facilities had been introduced in this phase as a reforms measure. During 1991, Mr. M. Narasimhan, under his championship, one committee was formed in his name and it worked for the banking practices liberalization. More foreign banks and its ATM stations got flooded in the country.

For providing satisfactory services to clients, more efforts were being put. Introduction of Phone Banking and Net Banking happened in this phase. The complete banking system had then become more swift and convenient. This phase had provided importance to time rather than money.

A great deal of resilience was shown by the financial system of India in this phase. Many East Asian countries suffered due to the crises triggered by the external macroeconomic shock, which got sheltered during this phase. This may be due to the exchange rate regime flexibility, keeping of foreign reserves at high level, not yet completely convertible capital account, limited forex exposure of banks and their clients.

1.4 CURRENT SCENARIO

Banking Industry of India is adopting the technological advancement fast, to keep pace of the consistent modifying worldwide environment. This has brought in fresh features, namely, Online Banking, ATM, and Phone Banking etc. On account of fresh technology, banks are providing financial products and services which are cumbersome in the traditional banking mode. Though adequate technological advancement has happened, banks in India have still a long way to go for becoming technology savvy.
Comparing to the world standards in terms of size as well as services and its products, Indian Banking is still way below, even though, banking scenario in India is vastly developed.

The banking sector demands are set to raise equivalent to the expectations of the economy and it is also consistently growing, as the growth of the economy proceeds at a brisk pace. Wholesale, Retail and E-Banking are invigorated in India due to the growth of economic activities.

In the E-Banking environment, household’s higher income level, increased spending on white goods which was due to lifestyle change have attributed to off take in credit and improved the activities. The introduction of fresh financial products and greater client friendly approach through E-Banking introduction are due to comprehensive demand for banking products and services.

Retaining the clients and remaining more competitive are the increasing pressure of the present day banks due to the sustaining demand. Technological advancements made it imperative for the banks to provide fresh products and services as part of present day banking, which also warrant substantial investments. On account of the above, the small banks are finding it cumbersome to invest in the projects focusing on enhancing their delivery of services and distribution mechanisms. The above wholesome has brought in the mergers and consolidations issues in the banking industry. Banks in India have started to enter into big league for the quest for international recognition and size.
1.5 PROS OF E-BANKING

It is no longer a remote possibility, banking around the clock. It is not necessary for the banks to open the branch for 24 hours in a day for providing the services. This is considered as one of the largest merits of the Online Banking.

No people, for want of financial statement, have to go to their respective bank’s branch. He may get it downloaded from his own online account, which will show the up-to-date precise figures.

One of the major merits of online banking is considered to be cost effectiveness. Millions of clients can be dealt at a single stance. Many Clerical and Cashiers are not required to have their presence for this.

With the Internet Banking, the administrative work gets reduced to a greater extent. Expenses related to papers, bank stationary and even forms have got reduced substantially, which has helped to increase the bank’s profit margin by a big number with surprise.

Account information can be obtained round the clock, irrespective of the location, as far as client is concerned. The client can schedule their future payments from their account maintained with the bank, sitting across boundaries. They can transfer their funds electronically from the account maintained with the banks or receive funds in their accounts within minutes.

It is not necessary to visit a local bank branch for applying any loan, rather, it can be done by sitting at home and get the same easily. By using our accounts maintained with banks, we can sell or buy shares and other securities.
Also closure of old accounts and opening of new accounts can be done without doing exhaustive paperwork’s. Particularly, with the enhanced acceptance of digital signature across the world, online banking has made the life simple and easy. Also banking is more pleasant and much faster, for clients as well as bankers. Banking has evolved from a long way by gradually moving away from and other manual filing systems. The present day banks are having much sophisticated electronic system to deal with the humongous volume of daily transactions of retrieving information, processing and storage. Whether the banks have been automated or not, it’s by the nature, the banks are consistently involved in all streams of information handling on a regular basis.

Of Course, computers are the established equipment for reaching an edge over the competitors and comprehensive allocation of resources. Nothing to mention, the most required application of banking of computers is providing service to clients.

Computerization enabled banks to respond quickly to all requests from their clients like Statement of Accounts, Enquiry of Account Activities and Checking of Account Balances. Due to Image verification and Signature verification modules in the systems established, the time required to provide typical services of cashier like paying, receiving funds are minimized much.

\[\text{Figure 1.2: Merits of Internet banking to different segments}\]
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Due to the arrival of Online related services, conveniences of technology and advances have made their path in our day to day life and have become a major portion of us.

Hence, it will come with no big surprise to us that the industry of banking has also grown into a big presence over the Online as well. But the apprehension among customers is whether online banking is safe and secure.

Due to gaining popularity of Internet, which is also steadily increasing, many of the industries are identifying new interesting ways to utilize the fresh and equal interesting medium so that they can keep with the consistently modifying client’s preferences across over. Present days, we can do nearly anything across the Internet ranging from grocery shopping, to make free calls to a friend residing abroad through our computer. Of course, the Internet has borderless opportunities and the Indian Banking Industry has concluded in response that it will not leave behind the pack of the rest.

Majority of the people would not have tried online banking services, though most of them have heard about it. It is mainly because, most of them are feeling comfortable to deal with real people with respect to money, instead of dealing through virtual network, since executing transactions across the Internet will be very much impersonal. Though we list many reasons, there are still numerous merits and demerits for Internet services offered by banks. This thesis will portray both the positives and negatives of Internet Banking, thereby justifying that Internet Banking is a safe path to deal with the monetary transactions, or thus ruling out fears. Internet banking is much convenient and comfortable, first and foremost. It enables us to make the bills payment and undertake transactions at any time of the day and week.
We can access banking services through our desktop / laptop, as the banks will never get closed in online mode. So, there is no point of worry, and we can deal with our finances online, from any point of the world.

Next, Internet Banking is very fast with precise effectiveness and efficiency. Across the Online Banking, we can execute transactions which are typically undertaken at very much speed pace compared to ATM’s. Internet Banking services also provide the alternative of dealing multiple accounts of bank from one portal itself.

Many of the Internet banking portals is following advanced robust programs which enables asset management with greater effective. Also with Internet Banking keeping up the transaction pace, all of them shows interest to ride the same.

**In this context listed below are few of the merits of Electronic Banking:**

- **Information related to accounts:** Instant balance confirmation and list of any particular day’s transaction can be known. The comprehensive database which banks have about accounts maintained with them is available in detail in the online portal.

- **Transfer of Funds:** Supply-Chain management network can be done efficiently by utilizing the mechanism of online transfer. We can execute transfer of funds on instant basis across the location of banks.

- **Request:** All requests related to banking activities can be made through online mode.
We can download the statement of accounts either as a text file or excel file. Integration of statements for auto-reconciliation through ERP systems.

Between the two linked accounts, we can easily transfer the funds from one account to another.

**Transfer of funds in Bulk:** For transferring the funds in bulk, we can upload a single file consisting of collated payment information. The systems will take care of the activities of processing the complete file and upon being processed to ERP, auto reconciliation happens.

In the module of net banking based funds transfer, multi-level signatories and individual wise limits can be mapped in real life situation. Individual use restriction for transferring the funds and the approval numbers are required for every fund transfer. The transfer of funds will not happen until the expected number of signature authority approve the same.

Time and money will be saved through online funds transfer by means of linking the accounts of dealer’s with our accounts, with POA (Power of Attorney) obtained from the dealers, compared with cheques collections systems. Also, the respective dealer can credit the funds in the account through this type of channel. Also, we can also execute vendor’s payment online along with other payments.

Following are the requests which can be placed by the clients online: Statement of Accounts, Demand Draft, Pay Order, Fixed Deposit etc.
Letter of Credit Opening: Companies desirous of opening LC do not have to spend extra to avail this facility. Overall it requires the connectivity of internet. This product actually makes the company to manage the cash flows proactively, reconciliation efforts ease and also MIS reports will be available at mouse click.

Efficiency: Most of the Internet Banking portals provide tools which are sophisticated in nature inclusive of aggregation of accounts, quotes of the stock, alert of the rates, managing the portfolio to help and administer all of our investments more securely and effectively.

Payment of Bills in Electronic Banking: Online Banking has guided the conceptual framework of anywhere, anytime banking. Instead of visiting various places for making bill payments like water, telephone, electricity etc. can be done by sitting at single place through Electronic Banking Bill Payment services which the bank provides. All the above said tasks can be executed by sitting in front of desktop or laptop. Deadlines cannot be missed and no loss of interest will happen. The client can schedule the bill payment in advance and avoid forgetting the bill payment due dates, which will also enable them to get additional interest for his funds.

Shopping through Online Mode: The clients can do their payment for shopping with the Bank’s portal securely with no worries for security, as the banks give online instant shopping services with the help of shopping portals of partners.
Making Investments in Online Banking: Portals of the Banks enables the clients for making investments in stocks, mutual funds and various other financial products.

Comfort: Internet banking portals available across 24 hours of a day; 7 days of the week and all at the mouse click. It provides great comfort unlike our physical bank.

Available: When we are not in station or even not in country and in case of any fund crisis, we can log in immediately and do the internet banking and look after the businesses, 24X7.

Speed of the transaction executed: Internet banking portals normally perform and finalize transactions at much faster pace compared to processing done by ATMs.

Effectiveness: We can deal and administer our complete accounts maintained with the banks inclusive of Securities and Deposits etc. from one secured portal.

One more merit of online banking is the facility to compare easily the products and services provided by many banks.

1.6 CONS OF E-BANKING

As like everything, there are demerits for Internet banking services also. The main issue is most of the people are not having trust on security issues. By means of printing the transaction receipt every time, we can surely overcome any fear of security. The printed receipt will provide the surety and confirmation, whether the transaction has happened right or wrong.
For a Beginner, online banking is very cumbersome to learn and at times portal will take more time for starting. Few of the portals will seek identification proof, which are found to be not convenient. But, many internet banking portals give guidelines, FAQs for doing online banking effectively. Fraudulent activities in Internet banking are very low so we do not have to feel or worry with respect to security and safety of the funds.

With great clarity, the complete gamut of Internet banking is having decent share of merits as well as demerits. For few persons, Internet banking make the life simple, and for many it is very different and having complexity. Considering all these connotations, many banks has begun to provide Internet banking services as a good alternative for their customers.

Few individuals will always feel happy to talk to any individuals in case of any issues. They want the “individual touch” feature of the client service. In case we are of this nature of individual, we will never sense comfortable with greater probability in Online Banking. You cannot beat online banking if your main priority is getting not restricted access to the accounts maintained with the banks and if you feel convenience is graded as the highest in your list of priorities while doing bank activities.

Client can access their accounts maintained with the banks at any point of time from any place he situates or from any devices like desktop, laptop or smartphone, which is allowed in Online Banking. On account of internet commercialization and e-payment services, during the previous years, we saw a major change by many banking/financial organizations providing multiple online services.
Majority of the banks are presently providing all types of online banking services which includes checking the accounts in various percepts and execute various activities.

With most banking services made online, there are quite a few expected downturns that we should see before finalizing on a longer term solutions for bank services in online mode. This style of banking has various merits to its name, namely 24X7 monitoring of accounts, the facility for anywhere banking and speedy transactions. Nevertheless, this methodology has few unique demerits as well.

- **Starting may take some time:** For registering through online mode of bank, will have to probably use one ID, which will be provided by the bank, and for this we have to sign a form at the respect branch of the bank. We can administer our investments online, either for single or including your spouse, provided a durable POA (Power of Attorney) has been signed.

- **Initial difficulties in Learning:** Portals of the Bank are cumbersome at times especially at the first instance. We can devote some period for reading the FAQs (Frequently asked questions) or Tutorials for the internet banking to become comfortable for us in the virtual world.

- **Changes in the Bank Portals:** Large Banks are also regularly upgrading the online facilities offered in their portals, which at times will become unfamiliar to handle. In few situations, we have to input the account details once again.
1.7 ONLINE BANKING VERSUS OFFLINE BANKING

Net Banking works in a similar manner to standard banking, the predominant distinction being the manner is making payments, accessing account and personal information, and reconciling statements, rather than traveling to the local branch of the respective bank. The client makes use of his PC to finish transactions. Internet and Traditional Banking have their pros and cons to remember. The selection of Online versus Offline banking is primarily based on one’s lifestyle and priorities.

As a major benefit of Net Banking, the consumer can accomplish multiple duties inside the consolation of his domestic performance is what makes online banking appealing to clients: they could make payment, circulate money among distinct accounts, take a look at more than one account, and lots extra. Banking is fast and saves clients precious time. Transactions are completed in seconds and you may print out the receipts for personal statistics. The patron may additionally access his account at any given part of the day, even all through weekends and holidays. Furthermore, the online account may be accessed from any region and around the sector, furnished that net connection is available.

Online Financial Institution accounts makes banking expedient, convenient, and inexpensive. Many banks price fewer costs for the online banking services they provide.

Furthermore, banks have higher interest prices on financial savings accounts and certificates of deposit, and offer extra financial products and services. Clients don’t need to shop for envelopes and stamps, run to the post office at the last minute, and threat being past due on their bills.
Monthly Bank statements and bills can be accessed electronically. Ultimately, Online Banking employs sophisticated equipment that helps control one’s cash and accounts conveniently. Notwithstanding multiplied security features and the availability of anti-virus and anti-adware packages, identification theft continues to be a problem. Other threats related to online banking consist of phishing and hacking of online accounts.

Particularly for Multi-tasking individuals, time is one of the most precious items. On the other hand, some individual wants to visit their nearest bank and communicate with the bank manager in person. They want to talk to either the respective relationship manager or even to the chief of the bank. Customers want a physical feel of cash handed to them.

1.8 FUTURE OF E-BANKING

E-Banking future will be very nearly attached to the Internet spread among the population. Normally, more than government ordinance, penetration will only get driven through technology. Rapid developments can be taken place through access of a simple telephone line. Any single client centric banker providing ATMs and Kiosks can make a great revolution in Banking. Various ranges of products on several platforms can be provided through Technology and also offer a shift in paradigm for banking services delivery to the people. Digital Technology and Telecommunication systems have grown with rapid advancement. Hence, it is cumbersome to estimate how online banking will spread and improve in the upcoming periods. For instance, Online Banking through smartphone with the help of WAP (Wireless Application Protocol) or services of banking through Television Screen (new interactive TV Channels) may get implemented.
As more number of clients began to use internet banking, this has enabled all banks to provide specialized services and premium client care activities. In order to fight crime in computers and improve levels of security, all banks will think of fresh measure of security viz. voice recognition, electronic signatures, fingerprint recognition etc.

However, in the Banking Sector, delivery of services electronically is becoming very popular rapidly with computer numbers increasing every year. Also with the International counterparts, the E-Banking Indian Experiences is getting merged gradually. As the Multi-national and Private Sector Banks have been the initial people who implemented the Internet Technology expeditiously for servicing the clients, which has push in turn the public sector banks gradually along with various co-operative banks to proceed in the similar path. Security assistance and policy support mix must ensure E-Banking adoption is being pushed in India on a larger scale.

1.9 NEED OF ONLINE BANKING

With the issues and impediments related with manual banking methods as seen in most places nowadays, complied with the issues related with the existing application programs indeed much more in the nearness of genuine innovative progresses pointed at moving forward information system. It is moreover pointed at shedding light upon the requirement for change in accounting exercises and the implied of accomplishing its productivity, adequacy, unwavering quality and victory promising future through computer intervention. Internet Banking distinguishes a specific set of technological arrangements for the advancement and the dissemination of financial administration, which depend upon the open design of the Web.
With the execution of a Web Banking framework, the banks keep up a coordinate relationship with the end clients by means of the internet and are able to supply an individual characterization to the interface, by advertising extra customized administrations.

1.10 INTERNET BANKING: ISSUES

The primary issues in Web banking nowadays relate to security, verification, non-repudiation, security, belief, web banking trade continuation arrangement, security mindfulness and security breach discovery and detailing etc. they are not as it were pertinent for the banks but for the fulfillment and certainty of the clients. The objective must be to supply a vigorous and solid innovative stage, which guarantees confirmation, non-disavowal, accessibility of administrations, keenness and privacy of information and exchange, believe and security.

- **Security**: In Web Banking, data is considered as a resource and so commendable of security. Security concerns in the Web situation show in the utilization of open network and related security dangers online. The bank ought to put in place appropriate and tried IT framework and computer program.

- **Authentication**: Client verification accepts an incredible centrality in Web banking as client log on to the framework from distinctive areas without any physical implies of verification. Hence, legitimate distinguishing proof and confirmation methods ought to be set up to avoid unauthorized people from picking up access to the frameworks. This can be accomplished through, passwords or smart tokens etc.
 **Non-Repudiation:** The non-repudiation issue is one of the most critical issues in Internet Banking. No client ought to afterward claim that any specific transaction was not executed by him/her. Hence legimate verification and authorization instrument utilizing encryption and digital signature need to be built up.

 **Privacy:** The bank ought to give protection of the information and the transaction in all circumstances but in cases when instructed by the competent legitimate specialist or the government to uncover the same. Indeed in the event that the site or database upkeep is outsourced, the bank ought to take essential obligation of avoiding breach of secrecy. Hence, protection not as it were covers privacy of the banks information but moreover ensures the data’s level of protection, which is being utilized by diverse administrations at distinctive levels of authorization.

 **Availability:** The Web banking services ought to be accessible round-the-clock to the clients or else the goodwill and notoriety of the bank will take a beating coming about in financial loss as well as losing out steadfast clients. The framework ought to be up and running in solid way when required and convenient access to resources ought to be guaranteed all the time.

 **System Engineering and Plan:** The choice of technological foundation for the most part decides the victory of Web banking in the long run. A correct framework design and plan will offer assistance in overseeing operational and security dangers to a more noteworthy extent.
Belief: In case of Online Banking, it is absolute essential to establish trust among the parties. It can be done through a believed third party named as CA (Certification Authority). For non-repudiation and authentication of the user’s ad transactions in Online Banking, the digital certificates passed by the certification authority to multiple entities with minimum two factor mechanisms of identification can be trusted.

Planning for Business Continuance: In the Internet Banking Policy of the bank, continuity planning of business must be a core segment of the banks. This will make the bank to restrict interruptions, and resume execution and recover in case of complete/partial distractions to online banking or availability of services. A lengthy lag in showing services availability to the clients while online banking system disruption may evade the goodwill and credibility of banks along with confidence of the clients in the internet banking services of banks.

Awareness of Security, Education and Training: The need of forming awareness related to security of information in the field of online banking with the help of training and education is vital for studying the requirement of security of information, password protection, knowledge about multiple spywares and codes of malicious.

Detailed training for administrators of system can also be executed to execute optimally the system of internet banking and upgrade them with respect to recent threats located now in the domain of Internet banking.
Detection of Breach of Security and System of Incidence response:
Single vital location of issues currently in online banking is the security breach detection at the correct time and mechanism of incident response to execute the required exercise of damage control. Reporting of exception items and ensurance through follow-up of logs namely log of audit, log of systems, log of users etc. being vital tasks. Demarcation of accountability and responsibility should be defined with clarity of the important officials apart from other employee members.

1.11 E-BANKING RISKS

Most common variant of risk linked to E-Banking is Operational risk, which is also defined to as Transactional risk. Operational risk consists of the following form of actions, namely, not precise transactions processing, contracts non-enforceability, data integrity compromises, confidentiality and privacy of data, access or intrusion to transactions and systems of banks in an unauthorized manner etc.

These types of risks may come out of the design weakness, monitory and implementation of banks weakness, information system weakness. Apart from the above, technology inadequacies, individual criteria like clients negligence including staffs, employees fraudulent actions and hackers or cracker etc. may also become the probable cause of operational risk.

Facilitating flow of information or data and for which there is no access restriction is called Internet, which happens through a network of computer. Appropriate Technology and systems should be in place for building an environment with security, if the banks start to use this as a medium for executing financial transactions.
Due to unauthorized access to the bank’s vital information segments, namely, accounting, risk management and portfolio management systems, security risk arises.

Direct monetary loss to the bank will arise in case of the breach of security. For instances, internet operated through hackers, will access, take and utilize secret client data’s. It may conclude in data loss, tampering or theft of client data, notable part disabling of internal bank’s computer system, which destroys service, repairing cost etc.

Other identifiable risks are reputation loss, client’s privacy intriguing and related implications in legal etc. Hence, ultimate importance is access control. Controlling access to banks’ framework has gotten to be more complex in the Web environment which is an open space and endeavors at unauthorized access could radiate from any source and from any place in the world with or without criminal aim.

Attackers could be hackers, deceitful vendors, displeased workers or indeed immaculate thrill searchers. Too, in an organized environment, the security is constrained to its weakest interface. It is, hence, fundamental that banks fundamentally survey all interrelated frameworks and have access control measures input of each of them.

1.11.1 EXTERNAL ATTACKS

Employee fraud (Internal sources) is one of the security risks faced by banks, apart from the external attacks. In a loosely controlled environment, potential security threats are staffs familiar with various systems and their related weaknesses.
They could be able to access the data authentication for acquiring client accounts resulting in losses for the bank, unless protected specifically. The employees can be able to obtain the data authentication for accessing the client accounts which may cause losses to the bank. Unless and until protected specifically, all information or data transfer across the internet can be tracked by any unauthorized persons.

Certain programmes like sniffers can be fixed at the servers of the web or any other important locations for collection of data like account numbers, credit card numbers and passwords. Secrecy and Privacy of data concerns are pertinent though data’s are not being transferred across the web. Data’s stored in the servers of web or internal systems of banks can be corruption susceptible, if the same is not correctly isolated with the help of Internet firewalls.

Data alternation risk, both intentionally / unintentionally, however, unauthorized is factual in an environment which is networked, both when information is being stored and transmitted. Accurate control access and tools of technology for ensuring integrity of data is of primary importance for banks. One more vital factor is whether the system is placed to trace fast any such alternation and set appropriate alert for the same.

Individual’s Identity of anybody placing a request for service or any transaction as a client is critical to transactions legal validity and is a risk source for a bank. Internet Protocol is the identity of any computer connected to the Internet. IP Spoofing is normally known as methods available to masquerade one computer as another. As like, identity of the user can be misrepresented.
Therefore, control authentication is a requisite security procedure in any E-Banking system. Creating a communication proof between two parties, say the bank and its client, which neither can later deny, involves non-repudiation. System of the banks should be equipped with technology for handling these things which are abstract risk sources.

1.1.2 SYSTEM ARCHITECTURE AND DESIGN

For administering multiple kinds of operational and security risks, appropriate system architecture and control are vital factors. Wrong pick of technology, improper system design and not adequate control process are the risks faced by the Bank.

Protocols which are unlimited are utilized for communication in the Internet. Each and every protocol is specifically articulated for particular type of transfer of data. More frequent to get attacked are the system permitting interaction with every protocols, namely Hyper Text Transfer Protocol (HTTP), File Transfer Protocol (FTP), Telnet etc. compared to the one designed for permitting only Hyper Text Transfer Protocol.

1.1.3 APPROPRIATE TECHNOLOGY

Banks normally face the probable risk with respect to selection of suitable technology. Outdated technology, not measurable or not established could place the banks in loss of investment, a susceptible system and services which are incompetent in nature with operational attendant and risks of security and also risks the business loss as well. Various banks dependent on outsourced service providers for implementation, execution and for uphold the online banking system.
Even though, it may be necessary, when banks are not having requisite expertise, in addition, to the operational risk. The service providers are getting access of the critical information of business and technical system of the banks, which makes the systems so vulnerable.

1.11.4 LEGAL RISK

Any violation of or non-conformity with the law, regulations and rules or defined practices or when the rights and duties of legal parties for a transaction are not established well, legal risk arises. Legal risk is caused by uncertainty or ambiguous and applicability of laws and rules of E-Banking, as it is relatively new in nature. Other causes of legal risks are not certain about the few agreements validity created through electronic media with respect to client privacy protection and disclosure.

With the enjoyment of broadening the client service, banks may connect their online portal to various other portals as well. It may cause legal risk. Apart from the same, a hacker may utilize the linked site for defrauding the bank client.

For this, digital signatures are used presently, which will ensure that the provided signature has been generated by the respective signer. On account of this, the bank certifying the said signature will be fully responsible for the monetary losses incurred by the client dependent on the digital signature/certificate.
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1.11.5 Money Laundering Risk

Since E-Banking activities are performed on remote, banks are finding it cumbersome to place traditional practices for finding and safeguarding against unwarranted criminal practices. For some verticals of electronic payments, money laundering rules application will also not be appropriate.

Hence money laundering risk gets exposed themselves for banks, which may get resulted in non-compliance with KYC (Know your customer) laws of legal sanctions.

For defeating this, banks have to design correct screening techniques and identification of customer, audit trails development, regular compliance reviews conducting, policy framing and practices including procedures to plot and publish activities having suspiciousness in transactions conducted through online.

1.11.6 Cross-Border Risks

Online Banking depends on technology which has been framed for extensions of boundary application of clients and banks. These types of field extension may go out of countries limits, which may lead to multiple risks.

Legal and regulatory risks will arise in E-Banking because many countries will have different legal expectation and uncertainties in the jurisdiction in relation to the errands of various country officials. In such cases complication issues of various country laws and rules may get exposed to legal risks for banks, which includes client safeguard laws, book keeping and publishing needs, rules of confidentiality and money laundering rules.
Suppose a bank utilizes a need provider situated in a different nation, which will be extensively cumbersome to track the same, hence it is exposed for operational risk. On account of socio-economic or political factors, if the abroad service provider is unable for comply their duties, it became a source of country risk.

Credit Risk also gets accentuated for any across the border transactions, as it is very cumbersome for appraising a loan application for any loan requirement from client located in different nation compared with a client of a popular client database. Further market risk also gets attracted as banks will accept cross currencies for any payment made in online banking, mainly due to fluctuations in forex rates.

1.12 BOOM OF INTERNET BANKING

In the present day environment, people are becoming tech savvy, as there is a regular phased development in all verticals of Information Technology with great speed. All Business establishments presently begin in web by creating their own business online site. Under this setup, the correct time to embellish online banking where the execution of banking will be executed from portals, instead of going directly to the bank itself and executing.

Banking relationships are getting impacted as the present banking field is getting modernized by the Internet, with the help of Information Technology revolution. With reference to a quote in Internet research conducted by Morgan Stanley, Online banking is there for utilization of online services for providing products of banking and services.
It will perform a vital part in the financial retail sectors development and also play greater crucial role instead of comparing to any others. Online Banking behaves as the element for client delivery of the products, for example, Bills transfer, Bills Payable and also EMI payments of the loans availed. In online banking, browsing account details maintained in a bank is not a difficult aspect. Any Online Banking client can access all the details of his account maintained with the bank through the software of the respective bank working on WWW (World Wide Web) server and not on the client’s personal computer.

Online Banking client explains that a real internet bank is one that gives balances of the accounts maintained along with capabilities of transactions execution to retail clients over the WWW (World Wide Web). Online Banking is also called as cyber, virtual, interactive, web or net banks.

We should thank the technology and more particularly internet access, as we do not have to go out of our residence for anything related to banking. We can place order for anything, including bill payment, food, flight booking, train booking, investments etc. To be particular, there is no end to this list, as anything can be done at the click of the mouse or through our smartphone by residing at our home itself.

In short words, we can interact, do the shopping and complete the banking activities online. It can be looked that online is future and all at the mouse click or through smartphone is fascinating. Traditional Banking is getting replaced with Internet Banking, as it can be witnessed by us. All the regular transactions can be done through Online Banking itself.
We can say that online banking throws more convenience. It is mainly due to Internet Power, the banking industry has gone through a disruption. Banking makes full utilization of Internet Power for giving E-Banking services, which is more advantageous for both the clients and the banks. It is because of this, all the banks have started to offer online banking.

Online banking is nothing but utilization of desktop or laptop or smartphone for executing transactions in the accounts maintained by banks across the internet. We all know that World Wide Web is changing the globe like anything. World Wide Web is an amazing technology which makes anything possible that everybody is dreaming. In the present day environment, for all works, going to banks is very much time consuming.

All activities like parking our vehicle, running to banks before the closing house and after getting in, completion of all paperwork and finally standing in queues will get defeated through online banking and all of them can bring back our smile which we lost in traditional banking while performing the above activities. We can appreciate the online banking revolution as its implementation in online banking is really a wonder to say.

Currently the banking field is getting into disruption and in this phase, there will be huge challenges from nbfc’s (non-banking traditional institutions), as it has begun to provide various solutions in the Internet. The deregulations crossed in the field of banking has resulted in the population of fresh and technological advancement, which will increase the pace and enhance the competitor’s numbers in banking field fast, effectively and efficiently.
Yes, banking sector of India has entered into retail banking in a large way. Many things have to be done, as the milestone to be reached is very high. Online Banking has got developed to a greater utilized platform for the average client. Over the previous years, internet banking has been seeing as a path of appealing to more affluent and younger customers says David Escher, Gartner research director of United States.

What is becoming clear is that the overall level of Client Internet usage and the increasingly narrow segment of non-users particularly in the United States are shifting the dynamics of who is using internet banking and what they want from it. Most of the people blame security as the main critical reason for not using banking across the web.

From the report obtained from a firm involved in research named Forrester, the bill payment is proved to be effective tool in online banking. The client can administer and make the bills payment clearly through online mode.

As per Forrester, these types of portals are beginning to attract more persons. Any bank which offer better bill payment online module, will attract more market share is what the research firm believe.

Relationship Managers at banks need to work to establish earlier and stronger bill payment relationships with young affluent and adults says Forrester senior analyst Edward Kountze. To stabilize and sustain their place and better support these client, banks need to add many payment options, establish online and mobile alerts with greater visibility, and continue to strike the message about free online bill payment.
One in five Britons did most of their transactions online, as per report from Lloyds TSB Online banking, and the boom is set to continue. The findings as per their report show that 20% of the population has used the internet more often to manage their funds.

As per their report, Young people aged 25 to 34 are most likely to do their banking on the Internet-27%, but 22% of those aged between 35 to 44 also utilize the internet to administer their funds as do 20% of those aged 45 to 54. Men are slightly more interested to utilize the web-20% than women-15%.

WHAT CAUSES ONLINE BANKING CHEAP AND IT IS ENCOURAGED BY BANKS?

- **Only small space is required:** As the establishment required in online banking is digital and hence very small space is required, wherein physical presence is not expected.

- **Less number of employees required:** Since the client will utilize online mode, the requirement of employees will come down and the banks will be expected to keep less employees. This will bring down the number of salaried executives.

- **Decrease in the money spent for paper works:** Many forms and much stationery of the banks are not required in online banking. As all the things will be paperless and only softcopy is going to replace with all the hardcopy works, and hence, very little use of paper will reduce the overall time and energy spent.
Not necessary to keep the banks open for 24X7: As Internet banking services will be available for 24 hour, which will happen with the help of software of the bank, it is not necessary to keep the banks open for 24X7. These types of savings will enable the banks to provide good rate of interest for savings bank accounts and less rates for lending and less charges for other activities, as the operational cost will come down by making the client utilize the internet banking activities.

WILL IT BE SAFE AND SECURE TO PERFORM BANKING ACTIVITIES ACROSS WEB?

Online Banking is not always secure only because of hacker’s intervention. Our accounts maintained with the banks will get hacked and all data’s can be mis-utilized. It can also be said that the account balance can get transferred to hackers or others account.

ONLINE BANKING TIPS:

- We should not record, or tell, or give our personal info’s to anyone across the web, until and unless we are linked to the secured portal.

- Record all your information for accessing in a safe place. Consistently have a complete check of your desktop or laptop or smartphone about viruses/spyware as to whether it protects the info’s.

- Please have it in your mind that some process will get effected only during the banking hours, even-though we transfer funds at 9 p.m., it will not show in your bank accounts till the next working hours of the business of the bank.
1.13 RESEARCH DESIGN AND METHODOLOGY

Descriptive nature of study conducted in this research, includes analytical methodologies. Descriptive Study explains the characteristics of the population or the subjects beneath the study.

It will investigate about the things which will best describe the phenomenon. It will also try to answer the questions like who, what, where, when etc. It will not state about the facts of the study.

It will try to establish the relationship between the various factors of the study and the effects behind the phenomenon. Normally, descriptive research starts with the statement of the problem, information mainly required to solve the problem and define the process, procedures about how the research needs to be conducted. Generally, after the study is conducted, analysis of the data collected is done and findings, suggestions including conclusions research are made.

RELIABILITY OF THE STUDY:

Reliability of an instrument refers to the degree of consistency between multiple measurements of variables. It is extent to which an experiment tests or any measuring procedures yield, the same result on repeated attempts. Reliability was estimated through internal consistency method which is applied to measure the consistency among the variables in a summated scale.

In the present study, the Cronbach’s Alpha co-efficient of reliability was found based on primary data of the present study and the details are as follows:
1.14 NEED AND IMPORTANCE OF THE STUDY

The basic thing that all Public Sector and Private Sectors needs to have on record is automation. This consists of culminating core banking solution and centralized operations of banking. Further the Public Sector and Private Sector Banks have to think beyond automating the services to sustain and to be really competitive.

Hence in this conjuncture, it is essential to study about the client’s behavior and satisfaction while availing the E-Banking services offered by public sector and private sector banks.

Also, automation of services will enables banks to operate with less manpower and also enable them to serve 24 X 7. Basis above, the researcher wants to pursue the study related to clients’ satisfaction and behavior of various E-Banking services offered by public and private sector banks, with special reference to Chennai city.

Besides, the following factors also influenced the researcher to go-ahead with this study:

- Clients are the differentiating factor in the Banking Industry.
- Understanding the clients expectation and to improve performance to satisfy is a difficult task.
- Cutting Operational costs and tackling competition is one of the key thrust areas in the today’s arena in Banking Industry.
Chapter One

- Increasing penetration and improving productivity, efficiency and effectiveness, providing cost effective products and services are also the main avenues which the Banking Industry has to deal with in the current environment.

- Demographic variables such as age, marital status, education, level of income plays a critical role in evaluating the level of satisfaction on online banking services.

- As many of the Banks offer similar products, it is only is premium services that will prove to be the differentiating factor among the other banks.

- Despite advanced technological implementation, there are issues related to portal performance, transaction related issues, service issues like refund etc. which are also vital factors in evaluating the clients’ satisfaction in E-Banking services.

1.15 SCOPE OF THE STUDY

This study tries to focus on the trending information related to client’s perception and Behaviour towards Online Banking Services, particularly with special reference to Chennai city. The Study covers all important services of Internet Banking in the present day environment, viz. Checking Account Statement, Transfer of Funds, Opening Fixed Deposit, Paying Utility Bills like Electricity Bills etc., Applying a Loan, Recharging prepaid mobile / DTH, Buying General Insurance, Paying Taxes, Ordering Cheque Book and Applying for an IPO.
It can also be claimed that this is one of the major study conducted in conjunction with the client perception and behavior towards online banking services, with special reference to Chennai City, particularly, with huge competition among the Banking streams; the requirement in the present day environment is to provide premium customer service.

The respective study of this nature will provide great impetus to the Banking Industry to adopt any appropriate strategy which will enable them to offer premium services to the clients. The study results may be made applicable to any banks offering such services.

1.15.1 RESEARCH GAP

Banking services have undergone profound changes during the past decades. In order to improve the quality of customer service delivery and reduce transaction cost, banks have invested to a great extent in ICT for delivering a wide range of banking products and services. Banks all over the world have embraced innovative E-banking technologies in recent years. Although E-banking offers many advantages to both individual and corporate clientele, undoubtedly electronic banking is not without certain challenges and issues in terms of security and interest of customers and unfortunately there has not been much research undertaken in this subject precisely in Chennai. Hence the researcher has made an attempt to conduct his research in this topic.
1.16 OBJECTIVES OF THE STUDY

The Statement of Problem, Need and Importance of the Study and Scope of the Study has directed the researcher to frame and analyze the following objectives in the present study.

- To brief about the evolution and overview of E-Banking.
- To mention in detail the complete system of E-Banking precisely.
- To explain the challenges and opportunities of E-Banking.
- To broadly present the Risks involved in E-Banking including Client Identity Thefts.
- To analyze the complete perception of bank clients and Behaviour towards E-Banking.

1.17 STATEMENT OF THE PROBLEM

The technological improvement in the Indian banking Industry has earned benefits with various costs resultants to the clients and bankers. The several influencing and improvement factors namely fast, comfort, efficiency, effectiveness, safety and security etc. of E-Banking services shifted, ‘traditional to virtual clients’. The client satisfaction level related to these influencing factors has to be calculated. The demands, requirements and expectations of clients have to be fulfilled by E-Banking Services without locational and time restrictions.
This can be fulfilled only when the research works points out ‘the measure to enhance the effectiveness and efficiency of E-Banking is carried over on the E-Banking services and the client satisfaction levels thereon consistently by the bankers and the researchers. Those research works only will help E-Banking service providers to introduce more innovative products and premium services to clients at fast basis by implementing new delivery channels. Only then, most of the banks will be able to survive in the Banking Industry for long period.

Therefore, survival is the key mantra to be envisioned for promoting various E-Banking Services with due care. Hence, the problem on hand now with the researcher is that, ‘to get into a deep and to assess the Satisfaction and Behaviour of various clients while availing various E-Banking services, obtaining the views / opinions / suggestions of customers pertaining to selected variables for measuring their satisfaction level, analyzing client's understanding on E-Banking services and analyzing the impact factor of E-Banking on customer satisfaction.

**STATISTICAL PACKAGE USED:**

The validity, reliability and analysis of the data in this study were analyzed using Statistical package for social sciences (SPSS v 21.1). Analysis of Moment Structure (SPSS AMOS v.21.1) was used to perform structural equation modeling.

**VALIDITY OF THE STUDY:**

Face, Content and Construct validities were established in the study. The face validity was done by the investigator and the content validity was established by the experts in the field of investigation. Face validity, it
appears to measure whatever the author had in mind, namely, what he thought he was measuring. The rationale behind content validity is that to examine the extent to which a measuring instrument provides adequate coverage of the topic under study.

1.17.1 METHODOLOGY

Primary Data collected from various sources is involved in the study. However sources of information presented in the thesis are collected from the leads of various banks, RBI recent circulars and notifications, exhibits from the portals of all leading banks who offers online services etc. The Primary Data has been collected from various factors viz. General Public footfall in various retail liabilities branches of the Banks, Colleagues, Relatives and Friends etc.

1.17.2 DATA COLLECTION INSTRUMENT

The Questionnaire used for collecting primary data from various factors consists of Five Sections starting from Section A to Section F.

**Section-A:** This Section explains the particulars about the respondent’s demographic profile including Age, Education, remuneration etc.

**Section-B:** This Section explains the particulars about Online Banking Experience of the respondents with reference to various products offered by the Banks.

**Section-C:** This Section explains about the opinion about Online Services of the respondents which includes various products offered by the Banks.
Section-D: Opinions about dimensions related to Internet Banking Services offered by various Banks are explained in this section including influencing factors.

Section-E: Feedback about Individual Experiences of the transactions handled with the bank is explained in this Section.

Section-F: Various Issues in Internet Banking is explained in this section. These issues includes portal performance, transactions related, services related etc.

PILOT STUDY

A pilot study on a sample of 40 clients who banked electronically was conducted in order to determine the reliability and validity. The main purpose of the pilot study was to ensure the general feasibility of the data collection method along with assessing the validity and reliability of the research instruments. The pilot study was also conducted to test whether the Questionnaire administered, assisted in obtaining the required information from the clients. This study did focus on all important factors or variables identified for conducting the research.

STATISTICAL TOOLS USED:

- Percentage analysis
- One-sample t-test
- One way ANOVA
- Exploratory Factor analysis
- Confirmatory Factor analysis
- Bi-variate correlation
- Multiple regression analysis
- Structural equation modeling

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SAMPLE SIZE DETERMINATION:

The sample size for the survey is determined by applying the following formula:

Sample size \( n = (ZS/E)^2 \)

Where

\( Z = 1.96 \) (Standardized value corresponding to 95% confidence interval)
\( S \) = Sample standard deviation from pilot study = 0.59
\( E \) = Acceptable error = 0.05 (5%)

\[
\text{Sample size (n)} = (ZS/E)^2 \\
= (1.96*0.59/0.05)^2 \\
= 534.9 \sim 535
\]

Well-structured questionnaires were circulated to 535 respondents. 501 respondents have returned the questionnaire after filling it; however 14 questionnaires were rejected due to inadequate data. Hence the sample size chosen for the study is 487.
### Table 1.1

Reliability measures for the study

<table>
<thead>
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<th>S.No.</th>
<th>Variables</th>
<th>Number of items</th>
<th>Alpha</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Dimensions relating to Internet Banking</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>a. Relative Merits</td>
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<td>0.82</td>
</tr>
<tr>
<td></td>
<td>b. Similarity</td>
<td>4</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>c. Tangible</td>
<td>2</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>d. Complex</td>
<td>4</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>e. Risk</td>
<td>6</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>f. Subject items</td>
<td>5</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>g. Self-Effectiveness</td>
<td>3</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>h. Technology Related</td>
<td>5</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>i. Portal efficiency and safety</td>
<td>7</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>j. Portal services</td>
<td>4</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>k. Responsiveness</td>
<td>4</td>
<td>0.83</td>
</tr>
<tr>
<td>2</td>
<td>Quality of Bank portal</td>
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<td>3</td>
<td>Empathy</td>
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<td>4</td>
<td>Government connect</td>
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<td>5</td>
<td>Satisfaction towards E-Banking</td>
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<td>0.78</td>
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<td>6</td>
<td>Issues faced in E-Banking</td>
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<tr>
<td></td>
<td>a. Issues related to Internet Banking Portal</td>
<td>7</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>b. Issues related to Internet Banking Transactions</td>
<td>11</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>c. Issues related to Internet Banking Services</td>
<td>5</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td><strong>Overall Reliability of the study</strong></td>
<td><strong>98</strong></td>
<td><strong>0.84</strong></td>
</tr>
</tbody>
</table>
### Chapter One

#### 1.18 HYPOTHESIS

| $H_01$ | There is no significant influence of respondent’s occupation, marital status, education, gender, age, annual income on liking towards E-Banking. |
| $H_02$ | There is no significant influence of (a) e-Banking experience (b) Regularity of doing banking (c) usage of e-banking services on satisfaction towards E-Banking. |
| $H_03$ | Respondent’s opinion about e-banking services does not differ with the average score. |
| $H_04$ | The perception level of respondents towards Portal efficiency and safety factor of e-banking services in e-banking services does not differ with the average score. |
| $H_05$ | There is no significant relationship between quality of Bank portal and satisfaction towards e-banking. |
| $H_06$ | The perception level of respondents towards Issues related to Internet Banking Portal does not differ with the average score. |
| $H_07$ | There is no significant relationship between Issues related to Internet Banking transactions and satisfaction towards e-banking. |
| $H_08$ | The model fit for satisfaction towards e-banking in Chennai is good. |


1.19 LIMITATIONS OF THE STUDY

The Limitations of present study have been given below:

- The findings of this research cannot be applied for PAN India, as the study is conducted in the city of Chennai only. Hence, adequate care needs to be exercised in applying the result to other areas and products.

- Primary data is only collected based on questionnaires and hence the output of the research will have all the limitations of the Primary Data.

- The data were collected from the clients who are enjoying the E-Banking Services of all Public and Private Sector Banks and residents of the Chennai City. Hence the number of respondents is relatively small.

1.20 STRUCTURE OF THE THESIS

CHAPTER I – INTRODUCTION

This chapter explains about the overview of E-Banking, Definition of E-Banking and History of E-Banking in India, Merits and Demerits of E-Banking, Risks of E-Banking. Further the need for the Study, Objectives, Statement of the problem, Scope and Limitations of the Study are stated.

CHAPTER II – REVIEW OF LITERATURE

This chapter analyzes the previous studies conducted both at India and other countries on Online Banking, Customer Satisfaction towards E-Banking, prospects of E-Banking etc. and highlights the outcome of such studies. This has helped the researcher to identify the gaps in the areas of research in previous studies.
CHAPTER III – THEORITICAL FRAMEWORK

This chapter briefs about the E-Banking in India, Various Services offered in E-Banking, Challenges and Opportunities in E-Banking including Macro Economic Challenges, Complete Coverage about Mobile Banking and various other special products offered under E-Banking Gamut.

CHAPTER IV – ANALYSIS AND INTREPRETATION

The research methodology used for this study is explained in detail in this chapter with particulars about sources of data, sample design, tools of analysis and research model. The analysis results are provided in tabulated form and explained in detail with precise charts and diagrams to connect to the objectives of the study. The interpretations connected to the study are discussed in detail. This has enabled to bring the exhaustive findings of the study.

CHAPTER V – SUMMARY OF FINDINGS OF THE STUDY, SUGGESTIONS AND CONCLUSION:

In this chapter, appropriate suggestions and conclusions and summary of detailed findings of the study are presented.
REFERENCES:


