Theoretical Framework
CHAPTER 3

THEORITICAL FRAMEWORK

3.1 E-BANKING IN INDIA

For Delivery of Banking Services and as business development strategic tool, Online Banking is acting as medium. With many number of banks entering into the online segment, it has obtained greater acceptance worldwide and infact catching up with good pace in India. India is almost on the verge of a bigger revolution in banking as online banking as already was revealed. Precisely, to NRIs (Non-Resident Indians) and HNIs (High Networth Individuals) having one or more accounts with banks, it is fascinating, as the comfort of account access from any place in the globe through their desktop or laptop.

Normally costs incurred in the traditional banking methods are much higher than the cost incurred through online banking services. Hence, the cost awareness makes banks of the nation pushed to make full utilization of Online as a channel of medium for giving services. With good management of client base, banks are in a strong position to sell all banking products through online banking channel, as all banks will become fully computerized. We can say Online banking market is somewhat developed compared to the early phase. However, precisely it has to be told, that still public sector banks has to develop themselves in terms of website development compared to public sector banks and cooperative banks.
3.2 CLASSIFICATION OF PRESENT INTERNET BANKING SERVICES

- **Entry level**: In this level, only basic details are provided. It is a brochure glorified with nil interaction factors in it. For example, Basic information about the products, news about the company, releases from press.

- **Basic level**: In this level, functionality is improved, providing entire entry level things and in addition to that regular interaction things and few capabilities of origination. For example, account applications downloading and mailing to client service.

- **Intermediate level**: Permitting access to accounts, viewing, tracking etc. Have all the required things for a comprehensive online bank. For example, checking online balances, electronic submission of account applications including reporting.

- **Advanced level**: Full Online Banking provides complete security and functionality. Client can safely transfer funds between the accounts through online activity. For example, transfer between the accounts, trading etc.

3.3 E-BANKING COMPONENTS IN BANKS

Online Banking systems can differ meaningfully based on numerous factors in its configuration. Normally, Online Banking system has to be selected by Financial Institutions.
Generally, services of E-Banking are chosen by the financial institutions internally. It can also happen that, all or any of the activities of E-Banking can be outsourced to third parties.

**E-Banking related services for financial institutions:**

- As an “online service provider”.
- As a vendor / processor for online banking software.
- As a vendor / processor for Core banking.
- As a “security service provider”.
- As a “Bill payment provider”.
- As a “Credit bureau”.
- As a “Credit scoring company”.

Online Banking systems depend on numerous similar processes / components. The below list contains some of the components potentially seen along with the processes witnessed in institutions which are typical:

“Website design and hosting, Firewall configuration and management, Intrusion detection system or IDS (network and host-based), Network administration, Security management, Internet banking server, E-commerce applications (e.g., bill payment, lending, brokerage), Internal network servers, Core processing system, Programming support and Automated decision support systems”
Outsourcing relationship is based on below-mentioned four factors:

Figure 1.3: Outsourcing Relationship

All the above-mentioned components work with each other to disburse services of E-Banking. Control point is getting represented in each and every component for consideration. With combo of external and internal solutions, the bank management is having several replacements when arriving at the complete configuration of the system for the multiple components of a system of E-Banking.

E-Banking applications along with too many components associated with network can be hosted by more than one technology service providers. Under this setup, the service provider of the institution will host the website of the institution, server of the Internet Banking, intrusion of the detection system including firewall. Institutions are not required to administer daily about the component systems, administration which is responsible for everything including performance, content and security of E-Banking.
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3.4 ONLINE BANKING AND THEIR SERVICES

E-Banking permits clients to perform transactions in a safe portal operated by the bank (retail or virtual). E-Banking solutions are having some common features. But it has some application specific details also traditionally. E-Banking enables to execute transactions including payment of bills through the Internet.

We should thank the technology, particularly internet, as we do not have to go out of our residence. All activities including shopping, communication and banking can be done online in E-Banking. It enable us to transfer funds, paying bills, making deposits etc. through our desktop, laptop or smartphone, which is found to be more convenient than traditional banking.

Any client who has performed E-Banking activity will rate the convenience factor on a high scale. Gone are those days for a client to patiently wait to get the required period bank statement. Presently it can be downloaded in our desktop, laptop or smartphone in seconds from the online portal of the bank.

Apart from downloading or checking banking transactions, the client can find out any errors in the statement and can get it rectified quickly. The good thing is E-Banking can be executed 24X7 and at any place. All people having access to the Internet can perform E-Banking activity. As the bill payment process are done through E-Banking activity, issuing cheques and sending the same through post is no longer. As soon as the E-Banking activity is performed including entering the amount and payee details for payment of bills, the amount will get deducted from the account instantly.
Both cost to the bank and cost to the client is very minimal in case of E-Banking. Though there will be fees for E-Banking activity, it will normally be very low. Everybody who is executing E-Banking activity will agree that cost of the same is very less. Particularly, gone are those days, waiting in queue on Saturday morning in banks which is very crowded, is getting eliminated through E-Banking. Precisely, as already told above, postage costs and fees for utilizing ATM services are getting reduced through E-Banking.

**The following are observed to be the common consolidated features:**

Data Import to our accounting software maintained personally which is called personal financial management support is one of the common feature of Internet Banking. Account aggregation for enabling the clients to browse all of his/her accounts in a single place is also one of the main features which are getting supported by online banking platforms.

**3.4.1 BILL PAYMENT SERVICE**

All the banks are having network with multiple service providers, multiple utility companies, multiple insurance companies spread across the nation. It prompts the Mobile Bill payment, Credit Card Payment, Electricity Payment and Insurance Bills Payment.

For payment of recurring bills, standing instructions can be provided to banks. It will ensure that the payment of bills will not get delayed due to want of time. Moreover, for making bill payment through online mode, banks are not charging clients. For the above said process, a normal one time process registration is enough.
3.4.2 FUND TRANSFER

The clients can transfer funds from one account to another of his/ her account of same bank, or another bank, or to third party account of same bank or another banks. The said transfer can be done across the nation. Normally, account number of payee, payee’s bank name, payee’s bank branch is required to be provided after account login.

The fund transfer will happen instantly or within the batch hours based on the nature of transfer, wherein conventional banking system, it will take more than 3 working days. For most of the banks, funds transfer and bill payments are the popular mode of online banking activities for many banks.

3.4.3 CREDIT CARD CUSTOMERS

On account of E-Banking, clients not only make payment for their credit card bills, they also get loans through their credit cards. It is not limited to this, the client can make application for add-on card, credit line increase request, and also if we lose our credit card, it can be reported online immediately.

3.4.4 INVESTING THROUGH INTERNET BANKING

Nothing can be easy than this, for opening a fixed deposit. By means of funds transfer, a Fixed Deposit can be opened online. Particularly, for lazy investors, internet banking will be great friend for them. Presently investors having demat and bank account interlinked with each other can begin their trading in the capital market very easily and the funds they trade can be automatically transacted from the bank accounts they maintain.
Further, many banks are also giving facilities to buy mutual funds as well directly in E-Banking. Hence, it is clear the amount of work involved in filling large forms for buying mutual funds, which can be done very easily through few clicks. Presently, many of the banks provide online demat account and online banking account. Moreover, if the client is having Demat account with share brokers and by signing a form, all the accounts can be interlinked.

3.4.5 RECHARGE YOUR PREPAID PHONE

People who are using mobile phone in prepaid card scheme have to go to retail outlets for recharge if the talk time runs out. Currently, there will be no necessity to go to the vendors to do the recharge.

It can be done by easily logging into the net banking portal and recharge the prepaid cards. Through selecting the appropriate operator, keying in mobile number, amount to be recharged, the prepaid card will get recharged instantly.

3.4.6 SHOPPING AT YOUR FINGERTIPS

Many of the leading banks are having tie-ups in different shopping portals. As there are number of products available online, anyone can do the shopping online and payment for the same can be done comfortably through the bank account maintained. Also buying train tickets and flight tickets can be done through online banking.
3.5 CHALLENGES AND OPPORTUNITIES OF E-BANKING

E-Banking is generally a word used to mention about banking products and services delivery with the help of electronic channels like telephone, internet and mobile phone etc. E-Banking can be termed as still evolving concept. Delivery speed of banking services to a greater extent by means of facilitating an efficient and effective accounting and payment system is enabled by E-Banking.

Though E-Banking is having convenience and efficiency to a greater extent, it also throws many challenges for the supervisors and regulators. Many steps taken by the Reserve Bank of India and Government of India has eased the E-Banking development in our country.

Through Information Technology Act 2000, the Indian Government has provided recognition legally for transactions done electronically and all other forms of electronic commercial activity. Reserve Bank of India, by itself is upgrading himself to act as a regulator of the financial system dominated technologically. It has already issued many circulars to address the risks involved in E-Banking activity and control measures needed to all banks.
Also advised the banks for risk evaluation existed in the present system. The entire current framework for regulatory compliances over all banks is also broadened to E-Banking activity as well. It includes all concerns that come under the technology framework, standards of security, regulatory and legal issues.

E-Banking is the upsurge for the future. It gives large benefits for the clients measurable in the factors of easiness and transactions cost. Same way, it also throws fresh challenges for nation officials for supervision and regulation of the financial system and implementation and design of economic policy which is macro in nature.

E-Banking was there earlier for some-time in terms of ATMs and Telephonic transactions. It has now been changed through Internet, which is fresh channel for banking services delivery that provides benefits for banks and clients. E-Banking access is convenient, speedy and available 24X7.

E-Banking enables the clients to match one bank’s products and services with other bank’s products and services easily, which can also enhance competition, and makes banks to enter into fresh markets and hence enlarge geographical reach.

Many people visualize E-Banking as a chance for many nations which are still underdeveloped in terms of their financial systems and leaping to develop. Clients in those nations can access banks services very easily from banks abroad and with the help of wireless systems, which is also developing with pace compared to conventional wired networks.
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The other side of prosperous in technology is that E-Banking is not only vulnerable, but will worsen some risk governance, reputation, operational aspect inbuilt in convenient banking. That apart, it will also throw many fresh challenges.

The regulatory authorities of our country have modified the regulations already to reach the core objectives viz.

- To ensure soundness and safety of the banking system.
- To promote market discipline.
- To protect client rights and public trust.

The large potential impact of economic policy on capital movements are getting to known by the policy makers.

CHALLENGES OPEN DOORS TO OPPORTUNITIES

Though many reforming activity has been done by banks on E-Banking, still many things has to be done in terms of modifying the policies. Currently, they are addressing some external and internal challenges, which are affecting the banks performance.

But the banks can also change the issues to opportunities with few modifications. On account of globalization and technology change, across the world, financial markets are integrated closely. Clients can access from anywhere their accounts and client base of the banks is spread world over across. Liberalization and Globalization has thrown fresh opportunities for many banks and at the same time competition pressure leading to spread narrowing, margins shrinking, restructuring and consolidation.
Figure 1.5: Challenges of E-Banking

More banks are working on competencies which are core for them, strengths synchronization and activities shedding which are not remunerative. The changes happening across the world markets are impacting India as well and the financial sector of India has started to visualize the transformation tremendously in the upcoming years to come. The complete banking face will start to get modify as soon the banks are starting for technology adoption for bringing the costs down and broaden the range of products for client convenience and to administer risks. Increased market penetration of abroad banks will enhance competition and when the banks are starting to proceed to complete capital account conversion, it has to equip itself to deal with big and volatile capital flows sensitiveness.
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COMPETITION: To beat the competition, banks need to do the technology leverage for product development innovation which includes development of financial products with sophistication. Some of the banks have already started to develop various products which are tech-savvy for beating the competition. The public sector banks particularly have to put their efforts in a greater degree in this arena.

GREATER CUSTOMER ORIENTATION: For staying ahead in the competition, improved client orientation is the main path to sustain client loyalty. In case of banks having market driver strategy, client preference is of utmost importance for development. It is only during the old age, the clients had the practice to walk in bank branches for any request and now the banks have to look for new client and for retention of existing clients.

Hence, banks which are focused on client preference and needs will only get benefited and there is a greater degree of training has to be given for modifying the banks mindset across all levels.

Apart from making client orientation in products and services offered, banks should also make the strategies and policies as client focused. The Banks should understand that client is revenue source and all other aspects are expenses. Identifying clients generating profitability, getting to know about their preferences and needs, enhancing the delivery system and bringing the transactions costs down are the key strategic aspects of banks for enabling them to sustain in the competitive environment, which is aggressive in nature. Apart from the above, improving the client base, products and services cross selling and client relationship strengthening are also the key important aspects.
TECHNOLOGY: In an environment, which is deregulated, administering a large variety of products on thin margins in a competitive environment, which is aggressive in nature and providing premium service to clients will pose fresh challenges. Under this connection, technology is the important factor for transaction cost reduction, providing products which are customized and risks management. Improving client acceptance of electronic channels is pushing banks to give online banking facilities and on account of the same, clients are expecting speedy, comfortable and error free services.

When bank makes expansion in virtual environment, they have to make improved focus to guaranteed security preparation and systems to protect from frauds.

E-Banking Audit and supervision needs to be focused more and stepping up of increased watchfulness against hackers has to be made. Mostly Public sector banks are way behind the technology implementation compared to private sector and foreign banks. More essentiality is required in terms of strategy, focus, coordination and planning at every segment of the entity.

NEW CREDIT ASSESSMENT SKILLS: Till now, the point of focus in the current banking industry is providing loans to Small, Medium and Large Enterprises of Manufacturing vertical and agricultural sector. Apart from the same, the banks have started to focus on service enterprises as well. With the help of Information Technology, banks began to improve the skills of credit evaluation and stressed greater importance in extending finance to large variety of service sector activities.
MANAGEMENT OF NPAs: Currently, the NPA levels are very high in the Banking Industry of India, which is a serious issue and hence quick balance sheet cleaning of banks is absolutely essential. NPAs need to be brought down exorbitantly and considerably provisions have to be set aside for bad debts have to be made.

For addressing the above issue, long term way out is required to overcome the same. Particularly, control systems established internally, administration of risks systems and EWS (Early Warning Signal) Identification systems for NPAs have to be focused by banks. Apart from the above, legal reforms for reducing the NPA Levels is critical for quick clearance and speedy realizations of dues. Further, DRT (Debt Recovery Tribunal) strengthening and enabling banks to lift their rights without intervention of court will also make speedy bad debts recovery.

NEW BASEL CAPITAL ACCORD: Basel III norms to change the current capital adequacy ratio have been framed. As per Basel III norms, banks have to provide for credit risk, operational risk and market risk. As the government is planning to look for a cut in their shareholding of nationalized banks from the current level, this may put additional strain to banks in maintaining adequate capital adequacy.

Banks which are having strong balance sheet will be able to raise additional equity through capital markets, whereas banks which are weak will have to address serious problems to meet capital adequacy norms. Overall, all the banks have to makeup themselves to meet the capital adequacy norms as per Basel III accord. Profitability of the banks will improve and high dividends can be paid to stakeholders.
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Shares of banks will attract good market prices by means of showing good profitability in the books, as capital market perception will have concentrated impact on the shares valuation.

**WTO AND INDIAN BANKING INDUSTRY:** Nations like India have to give large market reach to other nations by eradicating QR (Quantitative Restrictions), with respect to tariff barriers and liberalization of the market for financial services. On the diversified sectors of the economy of India, this developments impact will be very critical.

With respect to specific developments of the sectors happening in the globe, the banks have to make themselves updated, specifically in nations like India, to suggest company clients for addressing the competition of multinational corporates.

**CORPORATE GOVERNANCE:** Self-regulation and De-regulation should proceed together. Committees like Risk Management Committee, Compensation Committee, Audit Committee, Narasimham Committee etc. have been formed by Reserve Bank of India for ensuring the highest standards of Corporate Governance and best practices development.

Clear Cut policies and proper management of fiscal deficits impacting diversified sectors of economy, can endorse corporate governance. Foreign Banks, Private Sector Banks and Public Sector Banks must make sure corporate governance in all their doings and to gain the confidence of stakeholders.
ISSUE OF HRM: Retaining committed and talented employees and providing training along with developments are the key tasks placed in front of Public Sector Banks. As of today, employees key result areas (KRAs) assessment and review systems are neither transparent nor objective.

No major differentiation is been done between innovation, risk taking and high performing abilities shown by the employees among the total strength of executives. Currently, the need for calculating the human capital value and take immediate steps for complying the optimum level of performance.

LACK OF RISK MANAGEMENT: In the present day environment, banks are not managing the risks and only risk is managing the bank. A thorough clarity of the risk versus return of the every activity profile of the banks is critical for ensuring the solvency and soundness of the entity. Upgrading the skills and arranging a vertical for the risks management is a key task for the public sector banks, precisely in the light of huge staff turnover.

LACK OF ACTIONABLE PLANNING: Planning lack or not planning the activities effectively is very much abstract for the public sector banks. Even though majority of the banks already begin detailed performance measurement system and also created MIS for the same, it is not meeting the present requirements of the management.

Mainly, the complete process of planning is even today, credit and deposit oriented and without yield and cost linking. To address this issue, strategic plans which are actionable and are broken up systematically as plans for annual and strict review of performance with respect to accountability and targets are to be fixed for measuring nonperformance.
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NON-ACCOUNTABILITY: Profit generation from each specific activity and at the branch level is not concentrated in major public sector banks. The banks may fix the specific responsibility for the same and performing employees in this regard have to be honored.

PUBLIC PERCEPTION: The Public Sector Banks must improvise by every means their perception and should remain focused on remaining competitive in the market. Client’s perception about the public sector banks is not up to mark even today. Ultimately, it is only the client perception can change the public sector banks future.

CUSTOMERS’ EXPECTATION: The client’s expectations have increased significantly in the age of E-Banking and serious competition. On account of this, the banks must provide a wide variety of investment products, deposit products and loan products by means of varied channels of distribution inclusive of branches upgrading.

To accomplish this, the banks must:

- Be client specific, providing variety of product through varied channels of delivery.

- Be conversant in administering liabilities and assets with respect to risk versus return.

- Give large focus to generating profit inclusive of reducing the cost and improving other income which are fee based.
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The above-said changes need determination, vision and broad communication at all organization levels, so that the mission and vision is conveyed and known even by lower management and get comprehensive support.

3.6 MOBILE-BANKING

Tremendous modification / change are happening in the Banking systems in India. In line with the technology, banking industry is proceeding by utilizing latest development for banking for transactions facilitation and wants to be client oriented.

Both Internet and Mobile Banking are getting popularity like anything. Mobile Banking is used to define the account balance checking, fund transfers etc. executed through a mobile device such as smartphones. While Internet took the banking to one level as online banking, it is the next era, the mobile banking.

Figure 1.6: Utility of Mobile Banking
As most of the people can visualize that the online banking, for its execution, a desktop or laptop is needed with Internet connection, which is found to be biggest barrier for any people to sit and work in a single place, when they are outside of their residence or office for some work. Mobile Banking emerged as the satisfactory factor to address this requirement and developed like anything.

Figure 1.7: Mobile Banking Business Model

All the activities of Banking can be performed, simply by having a mobile phone and it can be done, even standing under a Bus stand or sitting in a coffee shop. The critical identifiable difference between Mobile Banking and Internet Banking is “Anytime Anywhere Banking”. Increase in usage of smartphone has also attributed to the success of Mobile Banking.

Services of Mobile Banking vary from One Bank to another. As the mobile banking platform is relatively new and still evolving, Reserve Bank of India has set guideline for all public and private sector Banks.
Figure 1.8: Challenges in front of mobile Technology

MOBILE BANKING SERVICES

Mobile banking offer services under the following variants:

<table>
<thead>
<tr>
<th>ACCOUNT INFORMATION</th>
<th>Account History checking, Blocking of lost card etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAYMENTS, DEPOSITS, WITHDRAWALS AND TRANSFERS</td>
<td>Fund Transfers, Mobile Recharging etc.</td>
</tr>
<tr>
<td>INVESTMENTS</td>
<td>Portfolio Management, Stock Quotes etc.</td>
</tr>
<tr>
<td>SUPPORT</td>
<td>Cheque Book Requests, ATM location etc.</td>
</tr>
<tr>
<td>CONTENT SERVICES</td>
<td>Loyalty related offers, Location based services etc.</td>
</tr>
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</table>
3.7 OTHER SPECIAL SERVICES OFFERED THROUGH E-BANKING

3.7.1 ONLINE BROKERAGE

Before going into concept of online brokerage we need to understand what brokerage is. A brokerage in context of financial institutions is a firm which acts as stock broker. These firms are actually clientele of investors who trade public stocks and other securities.

To help this process of brokerage there are expertise people who handle queries from the customers end and help them to buy and sell securities, these people are brokers.

Online brokerage is buying and selling of securities online with the help of online brokerage house. Investing money online is now a fashion and now many online brokers offer their service online with the help of unique trading platforms.

In the past, investors had to call up their brokers and place an order on the phone. The broker would then enter the order in their system which was linked to trading floors and exchanges.

Online brokers are most often referred to as discount brokers, due to their lower fees as opposed to full service brokers who also give advice to clients. Before choosing to invest or trade online it is important for investors to research the online brokers that they plan to employ, assuring that they are licensed within their state or provincial jurisdiction. This step will help to protect investors from falling victim to unlawful or illegal securities schemes (e.g. Boiler Room Scams).
Investors must also fully understand the potential risks of investing without the help of a trained Stock Broker or Investment Advisor. These professionals are experienced both in trade and education and forgoing their advice could be costly. For this reason, most online brokers offer a number of investment tools.

3.7.2 STOCK TRADING

During the traditional period, stock trading normally happens with the help of reaching stock brokers personally or through landlines. Since many people started to trade in stock market during the previous years, concerns like telephone lines being busy, communication mismatch etc. arisen. Development in Technology enables the stock brokers to solve these issues by means of online stock trading, which is an internet oriented facility. Investors may trade their shares by means of a portal instead of stock broker manual intervention.

**Figure 1.9:** Various Financial Products

![Diagram showing various financial products: Shares, Annuity, Bonds, Certificate of deposits, Treasury Bills, Mutual Funds, Options]
Under these circumstances, Stock Brokers are the Online Stock Trading entities for the investors. All the Online Stock Trading entities have to register themselves in Stock Exchanges (One or More). BSE and NSE are the stock exchanges with which these Online Trading Portals deal with. Apart from trading in Stocks, Investors can deal with various financial products like Mutual Funds, Options and Futures etc. through online mode.

3.8 CUSTOMER IDENTITY THEFT: E-MAIL RELATED ASPECTS

Phishing is a term used to mention about Internet fraud happening in common. It consists of sending emails to clients asking information about their accounts, passwords and all other security information. The emails getting received will be as like we are getting it from the banks for misleading the clients, by portraying bank logos and other graphics. The perpetrator objective is to get the unauthorized access of the client bank account for doing illegal acts.

RISK MITIGATION FOR E-MAIL RELATED FRAUDS

<table>
<thead>
<tr>
<th>PREVENTION</th>
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<tbody>
<tr>
<td>✗ Displaying boxes in Portal stating that the bank will not ask security information through email.</td>
</tr>
<tr>
<td>✗ Displaying boxes in client statements as warning messages to prevent the email related frauds.</td>
</tr>
<tr>
<td>✗ Enhancing the procedures to authenticate the username and passwords while the client uses online banking portal.</td>
</tr>
<tr>
<td>✗ Consistent review to improve the practices and procedures to protect the client’s information.</td>
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<table>
<thead>
<tr>
<th>DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Account monitoring like checking change of address and phone numbers, high volume transactions and unusual activities. Monitoring of the fraud web sites.</td>
</tr>
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REFERENCES:

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