CHAPTER 1: INTRODUCTION

The transition in banking sector with globalization and deregulation has made the banks highly competitive. Banks have got multiple channels for making the consumer satisfied. With advanced technology and sophistication it is quite challenging for the banks to consider the use of technology for their continuously changing requirements.

Internet banking is a process where a customer accesses the bank account via the Internet using personal computer, mobile phone or Web browser. With the use of Internet banking has progressed heavily in India and looking forward to increase the adoption by Indian consumers. Indian Government started Information Technology (IT) Act 2000 from October 17th, 2000 which had given the due authority and power to the online transactions and Internet banking. The working committee of Reserve bank of India aimed to examine key areas of Internet banking.

The objectives of the committee are issues of IT and security, law related issues and governing and regulatory issues. The working group’s sanctions have been accepted and brought the guidelines for Internet banking execution for Indian banks. In the last two and a half decades there has been a paradigm shift in innovations like computerization, satellite banking, distribution channels, ATM, biometrics, Internet banking, mobile banking, online banking, and card based delivery system, RTGS, cheque truncation services, electronic fund transfer.

Subsequently it is visible that the consumers of Internet banking are gaining popularity in the world because of so much innovations and convenience in Internet banking. The in-depth study of Internet banking services is made to enhance the current scenario. The Internet act as delivery media and include all form of traditional services like enquiry of balance, statement printing and transfer of funds, paying of bills and other banking services like Internet bill payment etc. is called Internet banking (Frust et al., 2000).
The tradition bank branch visit is not required in Internet banking (Mukherjee et al., 2003). Further the advent of Internet banking happened in early 1990 (Srivastava et al., 2007). There have been researches made in Internet banking and various factors affecting the Internet banking adoption in India have been explored in past. Still the users of Internet banking are less in numbers.

1.1 Evolution of Internet Banking

Internet Banking has evolved out of a project, ARPANet developed by a US Department of Defence. The full name of ARPANet is Advanced Research Project Administration Network and development was made in 1960s and early 1970s in WAN. Back in 1969 when Arpanet was created, it connected five sites: UCLA, Stanford, UC Santa Barbara, the University of Utah and BBN. Arpanet was renamed the Internet in 1984, when it linked 1,000 hosts at university and corporate labs(http://networkworld.com).

TCP/IP is the protocol used for communication between the interconnected computers and their networks. Internet banking includes the integration of individual computers and networks all over the world and communication protocol has significant role. Internet or inter network is formed when two or more computers are connected. Internet is also called ‘Information Superhighway’ and this is a means to reach unlimited potential destinations. This is the structure of Internet banking.

The original design was the defence network and in few years the use of this network was limited to communication and scientific studies. In 1980 the independent networks from US and outside were linked and it became out of control of pentagon. National network was formed in 1986 by US National Science Foundation (NSF) and was based on the protocol of ARPANet with connectivity of commercial telephone lines. Larger scientific community, commercial networks and general users were made available by the network and host computers also started growing.

With the passage of time, today’s Internet is more governed by NSFNet than ARPANet as it was withdrawn in 1990. The scope of Internet has broadened with
the exchange of information and the definition of business with the added channel has also changed for information exchange. This is the information based strategy and model.

Internet banking has evolved with these technologies and communication medium has expanded with passage of time. The banks have been transformed with Internet banking.

1.2 E-banking and Internet Banking

The past research has defined Internet banking as a process where a customer access the bank account via the Internet using personal computer, mobile phone or Web browser (Arunachalam and Sivasubramanian, 2007). Another definition states that Internet banking is a practice of bank which allows the customers in accessing and performing financial transactions on bank accounts from web (Ongkasuwan and Tantichaltonon, 2002).

The process of e banking has started primarily with the use by defence researchers and scientific community, the World Wide Web evolved in early 1990s; the banking had started using Internet. The growth of Internet banking was started. E-banking includes exchange of information between individuals and banking organizations over electronic media using computers, telephones and other telecommunication equipments. Internet banking involves the use of Internet only in exchanging information between banks and customers.

The business model is a plan for the successful operation of a business, identifying sources of revenue, the intended customer base, products, and details of financing. The business model has four areas of focus where the business operates- first is competitors and customers, second is the market, third is products and services and fourth is channels of distribution. This study has incorporated the customer side of Internet banking. The customers of Internet banking have huge expectations from the technology which motivates them either to use or not to use.

3
The distribution channel is the medium for sale and supply of its products and the revenue-expenditure sources with its effects. The strategy of Internet banking is largely impacted by the business models. The market size has become higher and any one can access the products and services from any part of the world.

*Figure 1.1: Electronic Banking and Internet Banking*

(Source: IMF, 2003)
The mode to access the customers, receive the response and offer the services has become simple because of Internet. Internet banking adoption models have two types in operation: the adoption of electronic medium for brick and mortar companies to improve their existing products and services and offering of new products and services through pure play companies who have no physical presence.

The difference in operation of the two Internet banking adoption model has wider consequences than just visibility with respect to customer’s trust issues, brand equity, ability to serve the customers, new business culture adoption and cost. Internet banking features have been included in the chapter. E-banking is a larger concept than Internet banking. This is the mode when a person has to log on to his bank account for financial transactions. The use of Automated Teller machines (ATM’s) is one where a person can access his bank account by swapping his debit or ATM card in a machine and entering the Personal Identification Number allotted to him by the bank.

E-banking is also called as Electronic Fund Transfer (EFT) where financial transactions are possible without logging on to Internet. The use of trade machine where you make payments to a merchant for products using your ATM, debit or credit card is another case of e-banking where the information of your acquisition reaches your bank electronically and the amount is debited in customer’s account that you have used from the account for making purchases.

The use of technology in Internet banking and e-banking has been made secure for all purposes, but the instances of forgery and hacking where people with malicious intentions crack the password and code of other person’s account and harm him financially. This is why Internet banking has to be used with caution by following all the rules and guidelines issued by the bank for one’s own safety.

Growth and popularity of the Internet has produced great opportunities and threats to companies in many business sectors and this endorses and delivers their products and services using distribution channel i.e. Internet (Chau et al., 2003). The banks have employed IT to acquire, process and to deliver the information to customers with the rise of new digital technology (Munuswami et al., 2012).
Banks have to be innovative and update themselves for providing the reliable, useful and convenient services with customer’s changing expectations. Customers are value driven and banks have started using its distribution channel in the form of Internet which is driven by the competition among banks in order to capture a larger share of the banking market (Munuswami, et al., 2012). The system of Internet banking enable financial institution customers, individuals or businesses for accessing accounts, business transaction and obtaining information on financial products and services through the Internet.

Although there is a significant growth of Internet users in India, the number of financial transactions carried out over the Internet remains very low. This trend however is the same globally and it has been observed that potential users either do not adopt Internet banking or do not use it continually after adoption (Jayaraman, 2012). Multiple benefits are offered to banks and customers. Online users in India are not high as compared with USA and China. Although the population of USA is less than India but the Internet penetration is more than 80% in USA. China has high population and Internet penetration in comparison to India (Source: indialivestats.com). There are several reasons of same. The first is that customers must have access to the Internet in order to utilize the service. The challenge is present for new online users that they have to learn to use the effective service.

The criticism comes from non-users that social acceptability is not there with Internet banking and there is big difference between online and face to face branch banking and customers are quite bothered with privacy and security issues. ICICI bank became the first bank which used the Internet banking services in India (Srivastava et al., 2007). Today large numbers of Indian banks are attempting to leverage on Internet banking system to provide online banking solution. ICICI became the foremost bank to begin the expansion of Internet banking revolution in India in 1997 under 'Infinity'. This bank started Internet banking in 1996. The phase between 1996-1998 is called adoption phase and the use of Internet got high in 1999 owing to low charges of Internet and more diffusion of Internet.
The improvement of services in Internet banking is done by exploring and exploiting the Internet. Banks have rivals in traditional banking services and have the broader scope of the competition in digital market with Internet services. Internet banking has been introduced by banks as an assurance to their customers and they will keep maintaining the quality services, their determination to avoid losing their customers to other banks. The relationship with customers have been built and maintained easily with the aid of Internet banking, and this reduces operating and fixed costs as a result of which financial performance is enhanced.

The benefits of Internet banking are easier to operate, reliable, hassle free, and safer to use (Jayaraman et al., 2012). In a large country like ours where a majority of population still lives in rural areas that do not have presence of formal banking providing banking facility has been a major challenge. Of the 0.6 million villages in India, the total number of villages with banking services through brick and mortar branches and alternate banking channels stands at approximately 0.14 million villages as on March 2012. India has around 145 million households which are highest and still not have adopted Internet banking (http://rbi.org.in).

1.3 Opportunities with Internet Banking

The opportunities with Internet banking are unlimited. Internet has given banks growing market in the case of their customers and geographical expansion. The development in technology has made the customers to reach the banks with Internet in cheaper way. The people in all over the world can access the Internet banking either through PCs or other devices. The buying power of consumers has increased and the desires for quality services have also been grown higher by virtue of Internet banking. The count of potential customers has increased. Thus, every bank target final consumers, they have to accept the immense potential of Internet (https://www.rbi.org.in).

The Internet provides huge prospects to banks in order to show their presence in international market. The efficiency of banks using Internet mode is in spreading of information on their product, services in cost effective ways. The critical information of banks has become simpler and faster to share with the medium of
Internet. A planned virtual market delivers the actual and real image of banking information. The dissemination of information is made by the use of multimedia capabilities like sound, picture, and movies, etc. However, the potential customers can be increased with the help of other media (https://www.rbi.org.in).

The quality of the kinds of services is the key feature of any Internet banking venture. The satisfaction of customers can be made efficient by selling the product via Internet. The Internet has given the opportunity, and the time zone and geographical expansion do not limit the expansion of business. The queries of customers can be handled by e-mail, by frequently asked questions, by providing helpline. The complaint of the client are taken up online throughout day are the features of Internet banking which lead to better service quality given to customers (RBI, 2001).

The Internet is the easy way to reach the customer and if not used effectively, they tend to lose them too. The switching from one site to another is quite convenient for the customer. The factor of cost has a critical place in Internet banking. The cost incurred in providing banking services through Internet is less when compared to traditional mode of banking. Internet provides a considerable advantage in cost as it is one of the driving forces for more number of traditional banks and this difference of variation depends on the type of operations and the estimates (http://rbi.org.in).

World Wide Web has the least cost of communication than any other medium (RBI, 2012). The banks must have proper plans to address the opportunities with the help of Internet as it has huge impact. Internet banking gives opportunities for customers to perform the online transactions and it is far efficient than the traditional form of banking.

The banks have the multiple communication channels with the advent of technology which may lead to numerous options to customers. The customers in today’s scenario are willing to save time and money and Internet banking becomes the choice. The banks perform the multi-task which is the need of current competitive age.
The basic services of Internet banking are viewing account balances and transaction histories, paying bills, fund transfer between accounts, requesting credit card advances and arranging checks for faster services which can be provided by domestic and foreign bank. The growth of online banking sites in different continents are worth studying. The growths of online banking sites in figure 1.2 are shown by % reach for the period of 2011-12. The growth is the indication of acceptance of Internet banking in all across the world. The following Figure 1.2 shows that Internet banking usage in Asia is growing. India is also indicating the rise of Internet banking users.

A conceptual model is a representation of a system, made of the composition of concepts which are used to help people know, understand, or simulate a subject the model represents. Various researchers have given conceptual models on Internet banking factors (Refer to Chapter 3)

This study has an applied bias as findings are expected to help banks in converting non-users into users of Internet banking.

**Figure 1.2: Growth by (%) Reach of Online Banking Sites**

(Source: Com Score MMX, 2012)
1.4 Impact of Internet on Banking Industry

The study is based on secondary sources of data like Reserve Bank of India (RBI) and other banking journals. The impact of Internet banking on banking industry has been tremendous. The study was conducted in USA which had shown the number of banks offering Internet banking and analyzed their structure and performance (Egland et al., 1998). It had shown the differences in banks in terms of both Internet banking activities and those who do not offer services in efficiency and profitability. The Internet banks based on transaction are different from others by size.

The impact of Internet has increased after the economic liberalization of 1991. The increase in use of computers in the banking sector in India has taken place. The growth in Indian banking is clearly visible. The competition between Indian banks is increasing faster.

The results of study made by the researchers (Egland et al., 1998) and (Furst et al., 2000a; Furst et al., 2000b; Furst et al., 2002; Furst et al., 2002b) are contradictory. The banks of different sizes which offer Internet banking have more profits and show trustworthiness than banks with traditional business. Broadly speaking, Internet banks are significant, more cost efficient and are more capable than traditional banks. Higher asset quality is the feature of Internet banks and is used to reduce building and equipment expenses.

The research has been made that Internet banking in India depends significantly on deposits which are the traditional source of financing as compared to developed countries (Malhotra et al., 2009). Internet banking has attained general status as a mode of banking services delivery and also as a strategic tool for developing business. These are catching up in India with the addition of more banks. The growth potential is, therefore, immense. The top 20 countries with Internet penetration show that India has the lowest penetration of 19% and it has the highest yearly growth rate. Further, the inducements given by banks are so enticing that customers do not visit physical branches and get connected to the convenience of Internet banking. Non-resident Indians have fascination on the facility to access online accounts by using Internet (Kaptan, 2003).
The research has found that the newly developed concept adopted by banks is core banking. In future, the technological updates will lead to smooth operation of banks. Indian banking system is one of the largest in the world today (Subbiah et al., 2008). IT has extensive potential for branch banking. Several benefits of core banking are reduced transaction costs, increased customer satisfaction, rapid implementation of e-banking services, ever increasing transaction management and better security. In India, Internet as the delivery channel was offered by ICICI for the first time and they kicked off their online services in 1996. Citibank, IndusInd Bank and HDFC and Times bank (now part of HDFC bank) have begun to offer Internet services in 1999. In 2001 SBI launched online services and subsequently PNB also introduced Internet banking. Internet banking accounts for more than half of HDFC Bank's transaction volumes and this signifies that Internet user will increase largely by 2018. India’s economy can be transformed by digital population. This leads to growth in landscape of business, governance and society beyond recognition.

Internet has given the huge economic growth to interrelated activities of banks. The impact of Internet banking has led to remarkable initiatives by banks to allure the customers. If we examine the Internet users during 2012-15, the data clearly shows that the penetration in urban areas is more than the countryside. The increased usage of Internet banking has given the direction to further research so that to achieve maximum penetration.

The Internet users in urban areas are positive indicators of growth, and this shows that efforts are taken by Indian banks to spread the awareness of Internet banking in this area. The usage of Internet is also increased in rural areas. The following Figure 2.2 shows that Internet users in India have growth in period of 2012-2015. Further the urban users percentage is higher that rural percentage user of Internet. The overall growth of Internet has impacted the banking also. The banks like SBI, HDFC show the expansion in their banking with the usage of information technology.

The sheer rise in usage of Internet banking and mobile banking is attributed to advanced information technology usage implemented in most of the banks in India. RBI has ensured the online consumption of banking products by necessitating the
ensured infrastructure in banks. The banks have started their operations online but the problem is the consumer adoption of such services via electronic media. The banks need to understand the gaps in consumption of their banking products.

Punjab National Bank is second public sector banks in India because it has over 5800 branches, 6000+ ATM’s. It has assets worth 90.9 billion USD. In category of Private sector banks ICICI is top as it has about 3540 branches, 11200 ATM’s and over 82000 employees. The bank manages assets worth 99 billion USD. HDFC is another private sector bank due to its over 3200 branches, 12000+ ATM’s, Net Profit of 1.1 billion USD. The assets managed by this bank are valued at 66.7 billion USD. HDFC bank has assets worth more than 390 billion USD (http://investologic.com, 2014).

1.5 Rationale of Study

The customer has the significant influence in Internet banking (Pikkarainen et al., 2004). The proper use of Internet banking can enhance the efficiency of banks. There have been studies made in the past on factors knowing the adoption of Internet banking, but the holistic approach to adoption and non-adoption of Internet banking have not been taken so far in the past studies. There is a need for the in-depth research in knowing the reasons for the consumer not choosing Internet banking for transactions. The old functions of business were just to give loans, advances and to accept deposits. In the current scenario, the business format is quite innovative and expansive with the use of information technology. Most of the researchers have taken one aspect of Internet business; this study will bring forth the holistic view of Internet banking i.e. adoption and non-adoption by consumers in India.

New innovations have been created from information technology in the designing of product and the prime work of banks is delivery, customer services and customer satisfaction. The customers get access to services linked with a smart electronic device such as personal computer, Automated Teller Machine etc. Consequently registered Internet banking users are able to make common banking transactions such as writing checks, bill payments, funds transfer, printing statements, and
account balances enquiry. The factors like reliability, accessibility, security, knowledge and support affects the Internet banking as per the undertaken research (Hosein, 2010). There is a need to study the factors which influence the Internet banking adoption and factors which impact non-adoption of Internet banking.

The Table 1.1 shows that although the penetration of Internet is highest in the USA in the world, China’s share of Internet users in world is highest owing to its largest population. The countries like India and China need to bring effective measures to increase Internet penetration in their respective country. The factors of Internet banking adoption and non-adoption in India have been the rationale behind the study. The reasons of Internet banking non-adoption need to be explored and Internet banking model need to be suggested so that Indian banks practitioners get inputs for the execution of such model in their operation of banks.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Internet Users</th>
<th>Penetration (% of Population with Internet)</th>
<th>Country’s share of World Population</th>
<th>Country’s share of World Internet Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>641,601,070</td>
<td>46.03%</td>
<td>19.24%</td>
<td>21.97%</td>
</tr>
<tr>
<td>2</td>
<td>United States</td>
<td>279,834,232</td>
<td>86.75%</td>
<td>4.45%</td>
<td>9.58%</td>
</tr>
<tr>
<td>3</td>
<td>India</td>
<td>243,198,922</td>
<td>19.19%</td>
<td>17.50%</td>
<td>8.33%</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>109,252,912</td>
<td>86.03%</td>
<td>1.75%</td>
<td>3.74%</td>
</tr>
</tbody>
</table>

(Source: http://www.Internetlivestats.com/Internet-users, 2014)

1.6 Problem Statement

The successful banks which offer Internet banking serve only relatively small share of their consumer base with IT channels. The features of web based services are access, convenience, updated content, format, design, easy browsing, effective interactivity, multimedia access, more non-textual information, many languages and lower transaction cost, trust and the critical factors like intention, beliefs, subjective norms, trust attitude, perceived utility and perceived comfort.
The present study aims at identifying the factors of the acceptance and resistance of Internet banking among Indian consumers and their perception. The study would also attempt to explore the relationship between demographic variables like age, gender and education and acceptance of Internet banking.

The findings of research are expected to help in identifying causes of the Internet banking adoption by customers in the Indian context. Internet banking studies shows that the strategy of consumer banking is effective and profitable with the help of Internet. The success of Internet banking can be determined by the number of users. The Internet use in private households in India is rising rapidly and the users have seen a growth over last years (http://iamai.in).

India has added 69 million Internet users during 2008-2011 and had 121 million Internet users in 2012 with a population penetration rate of 10%, recording a 38% YoY growth (http://medianama.com). Modern technology has been adopted by many banks which lower costs. The service quality of customers and its delivery has enhanced. Additionally non-banking companies offered products and financial services by entering in banking industry.

Customers are given many options in banking transactions. The different intricate process in this has made the banks to develop the technology to influence customers. The satisfaction of bank customer is the principal challenge for today’s banks. The needs to reduce the gap between banks and clients have enabled the banks to innovate in their services offering.

There has been quite low adoption level in Internet banking in Indian consumers (Goyal, 2014). The consumer adoption level is low and its usage has not contributed any significant change in the association of banks with customers. No significant effort has been made to understand upon the factors which make the customers more concerned towards not adopting Internet banking and the factors which lead them to adopt the Internet banking.

There are 19% Internet users in India (http://indialivestats.com, 2014). There is a huge gap in technology and its users. The users are unaware of the advantages which
Internet banking has for them. 7% of people in the country who have the account in banks use the Internet for banking transactions. 15% reduction has taken place in branch banking. McKinsey, Global Consultancy Firm has reported this information (Business Standard, 2011).

The problems of non-adoption and factors of satisfaction in adoption of Internet banking need to be addressed. The above information clearly indicates that the Internet banking has huge potential and need to be accelerated in order to exploit its potential. Through this work an attempt has been made to address the following questions:

- What are the factors related to non-adoption of Internet banking?
- What are the factors which lead to increase in users?
- What are the different measures of satisfaction level of consumers of Internet banking?
- What are the customers’ expectations from Internet banking?

1.7 Research Objectives

The objectives of the study are as follows-

1. To identify factors of adoption and non-adoption of Internet banking.
2. To measure satisfaction levels of customers of Internet banking.
3. To explore consumer expectation from Internet banking.
4. To suggest an Internet banking adoption model of users in India

1.8 Plan of Thesis

The research work done is organized as follows. Chapter 2 gives the overview of banking industry in current scenario and future scenario. This further elaborates on Internet users and banking, evolution of Internet banking. Chapter 3 provides the review of literature from the study of Internet banking adoption and non-adoption made by earlier researchers. This has discussed on core concepts, factors of Internet banking, gaps in research, conceptual framework, objectives, and hypothesis development. Chapter 4 covers the research design, sample design, sampling technique, sample size. This has sections on constructions of questionnaire and experience survey. The primary data and secondary data are explained. Chapter 5
presents the analysis of factors of Internet banking adoption and non-adoption. The factors of customer satisfaction in public sector and private banks in the case of Internet banking adoption have been analyzed. The factors of concerns in both types of banks for Internet banking non-adoption have also been analyzed. Findings are shown and Internet banking adoption model is proposed. Chapter 6 gives the conclusions and managerial implications. Chapter 7 provides the limitations and future research directions of the study.