RESEARCH REPORT

ON

"A STUDY OF AWARENESS OF E-BANKING SERVICES IN INDIA"

For the partial fulfillment of the requirement for the award of

BACHELOR OF BUSINESS ADMINISTRATION

Submitted by:

SOUMYA KUMARI(19GSOB1090019).

ABHISHEK GUPTA (19GOB1090021)

PRASHANT PANDEY (19GSOB1090022)

BBA 6th SEM

Under the Guidance of:

Ms.Ritu Sangwan

Bachelor of business administration

2019-2022

GALGOTIAS UNIVERSITY

SCHOOL OF BUSINESS

GALGOTIAS UNIVERSITY

CERTIFICATE FROM FACULTY GUIDE

This is to certify that the project report (A STUDY OF AWARENESS OF E-BANKING IN INDIA) has been prepared by Soumya Kumari under my supervision and guidance. The project report is submitted towards the partial fulfillment of 3 year, fill time Bachelor of Business Administration

Name-Ms.Ritu Sangwan

Signature-

Date-

DECLARATION

I SOUMYA KUMARI**,** 19GSOB1090019, student of BBA(Business Analytics) of School of Business **GALGOTIAS UNIVERSITY, Gr. NOIDA,** hereby declare that the Research Report on "A STUDY OF AWARENESS OF E-BANKING SERVICES IN INDIA" In partial fulfillment of **Degree of Bachelor of Business Administration** is the original work conducted by me. The information and data given in the report is authentic to the best of my knowledge.

This Research Report is not being submitted to any other University for award of any other Degree, Diploma and Fellowship.

PREFACE

"Give a man a fish, he will eat it. Train a man to fish, he will feed his family. The above saying highlights the importance of Practical knowledge. Practical training is an important part of the theoretical studies. It is of an immense importance in the field of management. It offers the student to explore the valuable treasure of experience and an exposure to real work culture followed by the industries and thereby helping the students to bridge gap between the theories explained in the books and their practical implementations Research Project plays an important role in future building of an individual so that he/she can better understand the real world in which he has to work in future. The theory greatly enhances our knowledge and provides opportunities to blend theoretical with the practical knowledge. I have completed the research based Project on **"A STUDY OF AWARENESS OF E-BANKING SERVICES IN INDIA"** I have tried to cover each and every aspect related to the topic with best of my capability. I hope research would help many people

ACKNOWLEDGEMENT

I wish to thank the persons who helped to get in depth knowledge of Internet Banking in India. The valuable cooperation and guidance, directly or indirectly of various people has contributed a lot to the successful completion of the Research Report undertaken. I would like to thank Ms.Ritu Sangwan for providing me his advice and guidance whenever needed, suggestions and support provided to me during the Research Report completed. Help and co-operation received by everyone are thankfully acknowledged.

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Executive Summary

"E-banking"- The execution of financial services via internet, reducing cost and increase in convenience for the customer to access the transaction. **e- Banking** is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. The following terms all refer to one form or another of electronic banking: personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking. PC banking and Internet or online banking is the most frequently used designations. It should be noted, however, that the terms used to describe the various types of electronic banking

The ever increasing speed of internet enabled phones & personal assistant, made the transformation of banking application to mobile devices, this creative a new subset of electronic banking i.e. mobile banking. In 1999 & 2000 mobile banking as an established channels, still seems to be a distant prospect.

The internet is revolutionizing the way the financial industry conducts business online, has created new players who offer personalize services through the web portals. This increase to find new ways and increase customer loyalty to add the value to this product and services.

Banks also enables customers lifestyle needs by changing and increasing preference for speed and convenience are eroding the traditional affinity between customer and branch offices as a new technology disinter mediates traditional channels, delivering the value proposition hinges on owing or earning the customer interface and bringing the customer a complete solution which satisfies their needs. Smart card is a new trend which provides the opportunity to build an incremental revenue stream by providing an ideal platform for extended application and services. Banks are well positioned to play central role unit in future M-commerce market. Banks have strong relationships with corporate and business customers and a wide experience in providing them with corporate banking services. Bank provides a multimedia of small and large retailers with acquiring functionality in credit card transactions. Customers have trusted relationships with banks and a lower propensity to switch banking providers.

INTRODUCTION

Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value added products and services. The delivery channels include direct dial – up connections, private networks, public networks etc and the devices include telephone, Personal Computers including the Automated Teller Machines, etc. With the popularity of PCs, easy access to Internet and World Wide Web (www), Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers. This form of banking is generally referred to as Internet Banking, although the range of products and services offered by different banks vary widely both in their content and sophistication.

Broadly, the levels of banking services offered through INTERNET can be categorized in to three types:

(i) The Basic Level Service is the banks' websites which disseminate information on different products and services offered to customers and members of public in general. It may receive and reply to customers' queries through e-mail,

(ii) In the next level are Simple Transactional Websites which allow customers to submit their instructions, applications for different services, queries on their account balances, etc. but do not permit any fund-based transactions on their accounts,

(iii) The third level of Internet banking services are offered by Fully Transactional Websites which allow the customers to operate on their accounts for transfer of funds, payment of different bills, subscribing to other products of the bank and to transact purchase and sale of securities, etc.

The above forms of Internet banking services are offered by traditional banks, as an additional method of serving the customer or by new banks, who deliver banking services primarily through Internet or other electronic delivery channels as the value added services. Some of these banks are known as 'virtual' banks or 'Internet only' banks and may not have any physical presence in a country despite offering different banking services.From the perspective of banking products and services being offered through Internet, Internet banking

is nothing more than traditional banking services delivered through an electronic communication back bonevia, Internet. But, in the process it has thrown open issues which have ramifications beyond what a new delivery channel would normally envisage and, hence, has compelled regulators world over to take note of this emerging channel.

Some of the distinctive features of I-banking are:

1. It removes the traditional geographical barriers as it could reach out to customers of different countries / legal jurisdiction. This has raised the question of jurisdiction of law / supervisory system to which such transactions should be subjected,
2. It has added a new dimension to different kinds of risks traditionally associated with banking, heightening some of them and throwing new risk control challenges,
3. Security of banking transactions, validity of electronic contract, customers' privacy, etc., which have all along been concerns of both bankers and supervisors have assumed different dimensions given that Internet is a public domain, not subject to control by any single authority or group of users,
4. It poses a strategic risk of loss of business to those banks who do not respond in time, to this new technology, being the efficient and cost effective delivery mechanism of banking services,

5. A new form of competition has emerged both from the existing players and new players of the market who are not strictly banks.

The Regulatory and Supervisory concerns in i-banking arise mainly out of the distinctive features outlined above.

These concerns can be broadly addressed under three broad categories, vise,

(i) Legal and regulatory issues,

(ii) Security and technology issues and

(iii) Supervisory and operational issues.

Legal issues cover those relating to the jurisdiction of law, validity of electronic contract including the question of repudiation, gaps in the legal / regulatory environment for electronic commerce. On the question of jurisdiction the issue is whether to apply the law of the area where access to Internet has been made or where the transaction has finally taken place. Allied to this is the question where the income has been generated and who should tax such income. There are still no definite answers to these issues. Security of i-banking transactions is one of the most important areas of concerns to the regulators. Security issues include questions of adopting internationally accepted state of- the art minimum technology standards for access control, encryption / decryption (minimum key length etc), firewalls, verification of digital signature, Public Key Infrastructure

(PKI) etc. The regulator is equally concerned about the security policy for the banking industry, security awareness and education.

The supervisory and operational issues include risk control measures, advance warning system, Information technology audit and re-engineering of operational procedures. The regulator would also be concerned with whether the nature of products and services offered are within the regulatory framework and whether the transactions do not camouflage money-laundering operations.

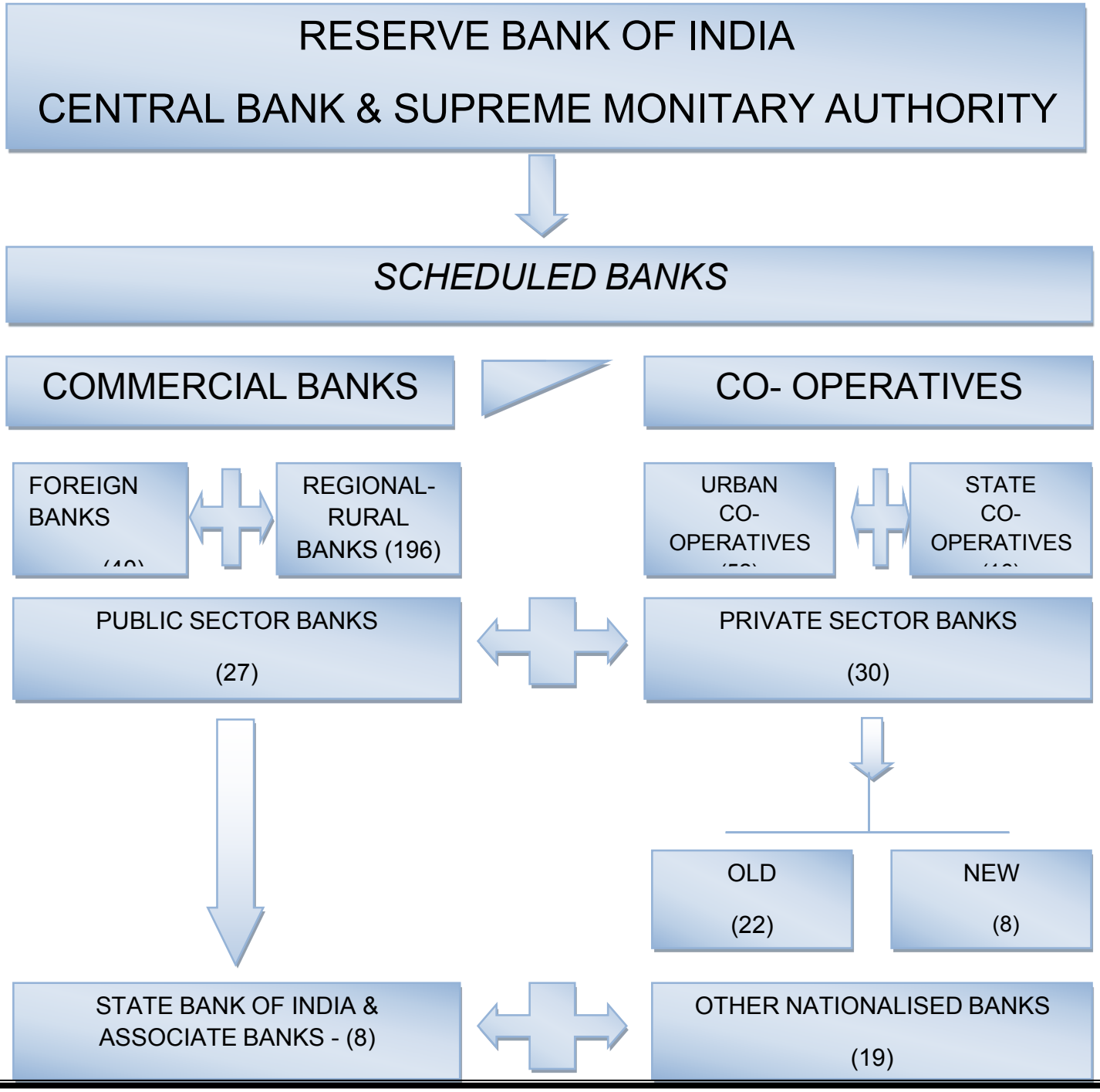
The Central Bank may have its concern about the impact of Internet banking on its monetary and credit policies. As long as Internet is used only as a medium for delivery of banking services and facilitator of normal payment transactions, perhaps, it may not impact monetary policy. However, when it assumes a stage where private sector initiative produces electronic substitution of money like e-cheque, account based cards and digital coins, its likely impact on monetary system cannot be overlooked. Even countries where i-banking has been quite developed, its impact on monetary policy has not been significant. In India, such concern, for the present is not addressed as the Internet banking is still in its formative stage.

The world over, central bankers and regulators have been addressing themselves to meet the new challenges thrown open by this form of banking. Several studies have pointed to the fact that the cost of delivery of banking service through

Internet is several times less than the traditional delivery methods. This alone is enough reason for banks to flock to Internet and to deliver more and more of their services through Internet and as soon as possible. Not adopting this new technology in time has the risk of banks getting edged out of competition. In such a scenario, the thrust of regulatory thinking has been to ensure that while the banks remain efficient and cost effective, they must be aware of the risks involved and have proper built-in safeguards, machinery and systems to manage the emerging risks. It is not enough for banks to have systems in place, but the systems must be constantly upgraded to changing and well-tested technologies, which is a much bigger challenge. The other aspect is to provide conducive regulatory environment for orderly growth of such form of banking. Central Banks of many countries have put in place broad regulatory framework for i-banking.

Soon, still higher level of online services will be made available. Other banks will sooner than later, take to Internet banking.

BANKING STRUCTURE IN INDIA



OBJECTIVES OF THE STUDY:-

The main objectives of the study are:

- To study the awareness level of service class people regarding E-Banking.
- To find out the frequency and the factors that influences the adoption of E-Banking services.
- To measure the satisfaction level of people.
- To understand the problems encountered in by service class people while using E-Banking services(ATM, Phone banking, etc.)

LIMITATIONS OF THE STUDY

Every research is conducted under some constraints and this research is not an exception.

Limitations of this study are as follows:-

1. There were several time constraints.
2. The study is limited to areas of service class people only.
3. The sample size of only 100 was taken from the large population for the purpose of study, so there can be difference between results of sample from total population.
4. The study is related to service class people only.
5. People were reluctant to go in to details because of their busy schedules.
6. Merely asking questions and recording answers may not always elicit the actual information sought.
7. Due to continuous change in environment, what is relevant today may be irrelevant tomorrow.

BANKING INDUSTRY PROFILE

BANKING

The word "BANK" is derived from the 'Baucus' or 'Banque', which means a bench. In the early days the European moneylenders and moneychangers used to sit on the benches and exhibit coins of different countries in big heaps for the purpose of changing and lending money,

Definition:

A Banking company is defined as a company, which transacts the business of banking in India.

As per Banking Regulation Act 1949 Section 5(b)

"Banking means, accepting for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise, and withdrawal by cheque, draft, or otherwise."

According to Sir John Paget

"No person or body, corporate or otherwise can be a banker who does not, (a) take deposits accounts, (b) take current accounts, (c) issue and pay cheques, (d) collect cheques, crossed and uncrossed, for his customers."

In simple words we can say that bank is a financial institution which deals in money and credit by obtaining deposits from public and giving loans and credit to trade and industrial respectively. "

Constitution of the Working Group

In the above background Reserve Bank of India constituted a Working Group to examine different issues relating to i-banking and recommend technology, security, legal standards and operational standards keeping in view the international best practices. The Group is headed by the Chief General Manager–in–Charge of the Department of Information Technology and comprised experts from the fields of banking regulation and supervision, commercial banking, law and technology. The Bank also constituted an Operational Group under its Executive Director comprising officers from different disciplines in the bank, who would guide implementation of the recommendations.

Internet – its basic structure and topology

Internet is a vast network of individual computers and computer networks connected to and communicate with each other using the same communication protocol – TCP/IP (Transmission Control Protocol / Internet Protocol). When two or more computers are connected a network is created; connecting two or more networks create ‘internetwork’ or Internet. The Internet, as

commonly understood, is the largest example of such a system. Internet is often and aptly described as ‘Information Superhighway’, a means to reach innumerable potential destinations.

The destination can be any one of the connected networks and host computers.

Internet has evolved to its present state out of a US Department of Defiance project Arpanet (Advanced Research Project Administration Network), developed in the late 1960s and early 1970s as an experiment in wide area networking. A major perceived advantage of Arpanet was that the network would continue to operate even if a segment of it is lost or destroyed since its operation did not depend on operation of any single computer. Though originally designed as a defense network, over the years it was used predominantly in areas of scientific research and communication. By the 1980s, it moved out of Pentagon’s control and more independent networks from US and outside got connected to it. In 1986, the US National Science Foundation (NSF) established a national network based on ARPA protocol using commercial telephone lines for connectivity. The NSFNet was accessible by a much larger scientific community, commercial networks and general users and the number of host computers

Grew rapidly. Eventually, NSFNet became the framework of today’s Internet. Arpanet was officially decommissioned in 1990.

It has become possible for innumerable computers operating on different platforms to communicate with each other over Internet because they adopt the same communication protocol, vise, TCP/IP. The latter, which stands for ‘Transmission Control Protocol / Internet Protocol’, is a set of rules which define how computers communicate with each other. In order to access Internet one must have an account in a host computer, set up by any one of the ISPs (Internet Service Providers). The accounts can be SLIP (Serial Line Internet Protocol) or PPP (Point to

Point Protocol) account. These accounts allow creating temporary TCP/IP sessions with the host, thereby allowing the computer to join the Internet and directly establish communication

With any other computer in the Internet. Through this type of connection, the client computer does not merely act as a remote terminal of the host, but can run whatever programs are available on the web. It can also run several programs simultaneously, subject to limitations of speed and memory of the client computer and modem. TCP/IP protocol uses a unique addressing scheme through which each computer on the network is identified.

TCP / IP protocol is insecure because data packets flowing through TCP / IP networks are not normally encrypted. Thus, anyone who interrupts communication between two machines will have a clear view of the data, passwords and the like. This has been addressed through Secured Socket Layer (SSL), a Transport Layer Security (TLS) system which involves an encrypted session between the client browser and the web server.

FTP or File Transfer Protocol is a mechanism for transferring files between computers on the Internet. It is possible to transfer a file to and from a computer (ftp site) without having an account in that machine. Any organization intending to make available to public its documents would normally set up a ftp site from which any one can access the documents for download. Certain ftp sites are available to validated users with an account ID and password.

e-mail: The most common and basic use of Internet is the exchange of e-mail (electronic mail). It is an extremely powerful and revolutionary result of Internet, which has facilitated almost instantaneous communication with people in any part of the globe. With enhancements like attachment of documents, audio, video and voice mail, this segment of Internet is fast expanding as the most used communication medium for the whole world. Many websites offer e-mail as a

free facility to individuals. Many corporate have interfaced their private networks with Internet in order to make their email accessible from outside their corporate network.

World Wide Web (WWW)-

Internet encompasses any electronic communication between computers using TCP/IP protocol, such as e-mail, file transfers etc. WWW is a segment of Internet, which uses Hyper Text Markup Language (HTML) to link together files containing text, rich text, sound, graphics, video etc. and offers a very convenient means of navigating through the net. It uses hypertext transfer protocol (HTTP) for communication between computers. Web documents, which are referred to as pages, can contain links to other related documents and so on, in a tree like structure. The person browsing one document can access any other linked page. The web documents and the web browsers which are the application programs to access them are designed to be platform independent. Thus any web document can be accessed irrespective of the
Platform of the computer

Accessing the document and that of the host computer. The programming capabilities and platform independence of Java and Java applets have further enriched the web. The 'point and click' method of browsing is extremely simple for any lay user of the net. In fact, the introduction of web since early 1990 has made Internet an extremely popular medium and its use in business has been enhanced dramatically.

The next in the HTML genre is the Extensible Markup Language (XML), which allows automated two-way information flow between data stores and browser screens. XML documents

provide both the raw content of data and the data structure and is projected by its proponents as taking the web technology beyond the limits of HTML.

Wireless Application Protocol (WAP):

WAP is the latest industry standard which provides wireless access to Internet through handheld devices like a cellular telephone. This is an open standard promoted by WAP forum and has been adopted by world's all major handset manufacturers. WAP is supplemented by Wireless Application Environment (WAE), which provides industry wise standard for developing applications and services for wireless communication networks. This is based on WWW technology and provides for application for small screens, with interactive capabilities and adequate security. Wireless Transaction Protocol (WTP), which is the equivalent of TCP, sets the communication rules and Wireless Transport Layer Security (WTLS) provides the required security by encrypting all the session data. WAP is set to revolutionize the commercial use of net.

Security:

One of the biggest attractions of Internet as an electronic medium is its openness and freedom. It is a public domain and there is no restriction on who can use it as long as one adheres to its technical parameters. This has also given rise to concerns over the security of data and information transfer and privacy. These concerns are common to any network including closed

User group networks. But over the Internet, the dimensions of risk are larger while the control measures are relatively fewer. These issues are discussed in detail in Chapter–5 and Chapter–6 of

the report. It will be sufficient to say here that the key components of such concern are, (i) authentication, viz., assurance of identity of the person in a deal, (ii) authorization, viz., a party doing a transaction is authorized to do so, (iii) the privacy or confidentiality of data, information relating to any deal, (iv) data integrity, viz., assurance that the data has not been altered and (v) non repudiation, viz., a party to the deal cannot deny that it originated the communication or data.

E-Commerce:

Even though started as network primarily for use by researchers in defense and scientific community, with the introduction of WWW in early 1990s, use of Internet for commerce has grown tremendously. E-commerce involves individuals and business organizations exchanging business information and instructions over electronic media using computers, telephones and other telecommunication equipment's. Such form of doing business has been in existence ever since electronic mode of data / information exchange was developed, but its scope was limited only as a medium of exchange of information between entities with a pre-established contractual relationship. However, Internet has changed the approach to e-commerce; it is no longer the same business with an additional channel for information exchange, but one with new strategy and models.

A business model generally focuses on (i) where the business operates, that is, the market, the competitors and the customers, (ii) what it sells, that is, its products and services (iii) the channels of distribution, that is, the medium for sale and distribution of its products and (iv) the sources of revenue and expenditure and how these are affected. Internet has influenced all the four components of business model and thus has come to influence the business strategy in a profound way. The size of the market has grown enormously as technically, one can access the

products and services from any part of the world. So does the potential competition. The methods of reaching out to customers, receiving the response and offering services have a new, simpler and efficient alternative, now, that is, Internet. The cost of advertisement, offer and delivery of services through Internet has reduced considerably, forcing most companies to rework their strategies to remain in competition.

A research note by Paul Timers of European commission had identified eleven business models, which have been commercially implemented. These are e-shop, eprocurement, e-auction, e-mall, Third-party market place, Virtual communities, Value chain service providers, Value chain integrators, Collaboration platforms and Information brokers. He classified business models along two dimensions, i.e., degree of innovation and extent of integration of functions. The innovation ranged from the electronic version of a traditional way of doing business (e-shop) to more innovative ways by offering functions that did not exist before. The second dimension, i.e., extent of integration ranges from a single function business model (like e-shop) to fully integrated functionality (value chain integrator). In the top end of the graph are models, which cannot be implemented in a traditional way and are critically dependent upon information technology and creating value from information flow. Business models, in between these two limits are a combination of both dimensions in different degrees and have some degree of analogy in traditional firms.

There are two types of e-commerce ventures in operation: the old brick and mortar companies, who have adopted electronic medium, particularly Internet, to enhance their existing products and services, and / or to offer new products and services and the pure e-ventures who have no visible physical presence. This difference has wider ramifications than mere visibility when it comes to issues like customer's trust, brand equity, ability to service the customers, adopting

new business culture and cost. These aspects of e-commerce will be touched upon in the following discussions.

Another way of classifying the e-commerce is by the targeted counterpart of a business, viz, whether the counterpart is a final consumer or another business in the distribution chain. Accordingly, the two broad categories are: Business-to-Consumer (B2C) and Business-to-Business (B2B).

Business-to-Consumers (B2C):

In the B2C category are included single e-shops, shopping malls, e-broking, auction, e-banking, service providers like travel related services, financial services etc., education, entertainment and any other form of business targeted at the final consumer. Some of the features, opportunities and concerns common to this category of business irrespective of the business segment, are the following.

Opportunities:

Internet provides an ever-growing market both in terms of number of potential customers and geographical reach. Technological development has made access to Internet both cheaper and faster. More and more people across the globe are accessing the net either through PCs or other devices. The purchasing power and need for quality service of this segment of consumers are considerable. Anybody accessing Internet is a potential customer irrespective of his or her

location. Thus, any business targeting final consumers cannot ignore the business potential of Internet.

Internet offers a unique opportunity to register business presence in a global market. Its effectiveness in disseminating information about one's business at a relatively cost effective manner is tremendous. Time sensitive information can be updated faster than any other media. A properly designed website can convey a more accurate and focused image of a product or service than any other media. Use of multimedia capabilities, i.e., sound, picture, movies etc., has made Internet as an ideal medium for information dissemination. However, help of other media is necessary to draw the potential customers to the web site.

The quality of service is a key feature of any e-commerce venture. The ability to sell one's product at anytime and anywhere to the satisfaction of customers is essential for e-business to succeed. Internet offers such opportunity, since the business presence is not restricted by time zone and geographical limitations.

Replying to customers' queries through e-mail, setting up (Frequently Asked Questions) FAQ pages for anticipated queries, offering interactive help line, accepting customers' complaints online 24 hours a day and attending to the same, etc. are some of the features of ebusiness which enhance the quality of service to the customers. It is of crucial importance for an e-venture to realize that just as it is easier to approach a customer through Internet; it is equally easy to lose him. The customer has the same facility to move over to another site. Cost is an important issue in an e-venture. It is generally accepted that the cost of overhead, servicing and distribution, etc.

Through Internet is less compared to the traditional way of doing business. Although the magnitude of difference varies depending on the type of business and the estimates made, but there is unanimity that Internet provides a substantial cost advantage and this, in fact, is one of

the major driving forces for more number of traditional business adopting to e-commerce and pure e-commerce firms to sprout.

Cost of communication through WWW is the least compared to any other medium. Many a time one's presence in the web may bring in international enquiries, which the business might not have targeted. The business should have proper plans to address such opportunities.

Concerns:

There are a number of obstacles, which an e-commerce venture needs to overcome. Trust of customers in a web venture is an important concern. Many customers hesitate to deal with a web venture as they are not sure of the type of products and services they will receive. This is particularly true in a B2C venture like e-shop, e-mall or auction site. Traditional business with well established brands and goodwill and having a physical presence face less resistance from customers in this regard than a pureeventure. Many B2C ventures have ultimately to deliver a product or service in physical form to the customer for a deal contracted through Internet. This needs proper logistics, an efficient distribution network, and control over quality of product or service delivered. These issues are not technology related and any let off in this area can drive the customer away to the competitor or from e-commerce.

The privacy of information on the customer's preferences, credit card and bank account details etc. and customers' faith in a system where such privacy is stated to be ensured are important issues to be addressed. These are mainly technological issues, but human factor is important both at the business and at the customers' end and also in building the trust in the system.

Security of a transaction, authenticity of a deal, identification of a customer etc. are important technological and systems issues, which are major sources of concern to ecommerce. Equally important are questions of repudiation of a deal, applicability of law, jurisdiction of tax laws etc. These are important to all forms of e-commerce, whether B2C or B2B and all segments of business, i.e., manufacturing, services and finance and are addressed in different chapters of this report.

Accessibility to Internet by the consumers is an important issue in B2C domain. This is particularly so in countries like India where penetration of PCs and other devices to households for access to Internet is minimal. Also important are availability of bandwidth and other

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Business to Business (B2B):

As opposed to B2C e-commerce, in B2B domain, the parties to a deal are at different points of the product supply chain. Typically, in a B2B type domain, a company, its suppliers, dealers and bankers to all the parties are networked to finalize and settle all aspects of a deal, online. Perhaps, only the goods in different stages of processing physically move from the supplier to the dealer.

This scenario can be extended to include the shipper, providers of different ancillary services, IT service provider and the payment system gateway, etc., depending on the degree of sophistication of the available systems.

Another important feature of a B2B domain, as distinct from B2C, is that business information / data is integrated to the back office systems of parties to a deal and the state of straight through processing (STP) or near STP is achieved. This is a very significant aspect of B2B model of e-commerce, which results in improved profits through lowering cost and reducing inventories.

For example, in a B2B environment, typically, the back office system of a company controls inventory requirement with reference to the order book position updated regularly on the basis of orders received from dealers through Internet. At the optimum level of inventory it raises a purchase order with the supplier, whose system in turn, processes the order and confirms supply. Buyer company's system issues debit instructions on its bank account for payment to the supplier. The buyer's bank credits seller's bank with the cost of sale though a payment gateway or through RTGS system. Similar series of transaction processes are also initiated between the company and its dealers and their respective banks. Once e-commerce relationship is established between the firms, the transactions of the type shown above can be processed with minimal human intervention and on 24 hours a day and 7 day a week basis.

New business models are emerging in B2B domain. There are portals which offer a meeting ground to buyers and sellers of different products in supply chain, more like a buyer-seller meet in international business. This has enabled relatively smaller companies to enter the global market. Banks in the portal offer financial services for deals settled through the portal.

Technology and networking are important constituents of a B2B type of business domain. Earlier, only large firms could have access to such technology and they used private networks with

interface to each other for information flow and transaction processing. A major concern used to be compatibility of EDI platforms across different B2B partners. Internet with WWW and other standard technology have offered opportunity to relatively smaller and medium sized firms to integrate their operations in B2B model and take advantage of the benefits it offers. It has also led to standardization of software platforms.

Other new forms of business models in B2B domain are Application Service Providers (ASP) and Service Integrators. ASPs offer application software online to ecommerce companies who pay for the same according to the use without owning it. Often entire back office processing is taken care of by ASPs and other service integrators. However, the utility of such service providers will to a large extent depend on the business strategy of the e-venture.

The concerns of B2B e-commerce are similar to those of B2C, discussed earlier. The security issues are more pronounced because of high value transfers taking place through the net. So also are the issues relating to privacy of information, law, tax repudiation etc. The other issues of importance to a B2B firm are the choice of appropriate technology, the issue of build or outsource maintenance and training of personnel, etc., since they involve large investments and are critical to success.

Several studies have attempted to assess the relative importance of B2B and B2C business domains. There is wide difference in estimates of volume of business transacted over Internet and its components under B2C and B2B. However, most studies agree that volume of transactions in B2B domain far exceeds that in B2C. This is expected result. There is also a growing opinion that the future of e-business lies in B2B domain, as compared to B2C. This has several reasons some of which are already discussed earlier, like low penetration of PCs to households, low bandwidth availability etc., in a large part of the world. The success of B2C

ventures depends to a large extent on the shopping habits of people in different parts of the world. A survey sponsored jointly by Confederation of Indian Industries and Infrastructure Leasing and Financial Services on e-commerce in India in 1999 made the following observations. 62% of PC owners and 75% of PC non-owners but who have access to Internet would not buy through the net, as they were not sure of the product offered. The same study

Estimated the size of B2B business in India by the year 2001 to be varying between Rs.250 billion to Rs.500 billion. In a recent study done by Arthur Anderson, it has been estimated that 84% of total e-business revenue is generated from B2B segment and the growth prospects in this segment are substantial. It has estimated the revenues to be anywhere between US $ 2.7 trillion to over US $ 7 trillion within the next three years (2003).

The Growth of Internet Banking and common products:

Internet Banking (Fig. 1) is a product of e-commerce in the field of banking and financial services. In what can be described as B2C domain for banking industry, Internet Banking offers different online services like balance enquiry, requests for cheque books, recording stop-payment instructions, balance transfer instructions, account opening and other forms of traditional banking services. Mostly, these are traditional services offered through Internet as a new delivery channel. Banks are also offering payment services on behalf of their customers who shop in different e-shops, emails etc. Further, different banks have different levels of such services offered, starting from level-1 where only information is disseminated through Internet to level-3 where online transactions are put through. These aspects have been dealt with in brief in the introductory and in the following paragraphs I-banking concerns in B2B domain are discussed.

Considering the volume of business e-commerce, particularly in B2B domain, has been generating, it is natural that banking would position itself in an intermediary role in settling the transactions and offering other trade related services. This is true both in respect of B2C and B2B domains. Besides, the traditional role of financial intermediary and settlement agents, banks have also exploited new opportunities offered by Internet in the fields of integrated service providers, payment gateway services, etc. However, the process is still evolving and banks are repositioning themselves based on new emerging e-commerce business models.

In B2B scenario, a new form of e-commerce market place is emerging where various players in the production and distribution chain are positioning themselves and are achieving a kind of integration in business information flow and processing (STP or near STP) leading to efficiencies in the entire supply chain and across industries. Banks are positioning themselves in such a market in order to be a part of the financial settlements arising out of transactions of this market and providing wholesale financial services. This needs integration of business information flow not only across the players in the supply chain, but with the banks as well.

Indian Scenario

With the integration of business information flow and higher degree of transparency, the banks and other financial services institutions have lost some of the information advantage they used to enjoy and factor in to pricing of their products. However, such institutions have the advantage of long standing relationships, goodwill and brand, which are important sources of assurance in a virtual market. Banks are in fact, converting this goodwill into a business component in e-commerce scenario in providing settlement and other financial services. Some banks have also moved to providing digital certificates for transactions through e-markets.

Banks' strategies in B2B market are responses to different business models emerging in e-commerce. A recent study by Arthur Andersen shows that banks and financial service institutions generally adopt one of three business models to respond to e-business challenges. In the first place, they treat it as an extension of existing business without any significant changes other than procedural and what technology demands. The second strategy takes the same approach as the first but introduces structural changes to the underlying business. In the third approach banks launch e-business platform as a different business from the existing core business and as a different brand of product. There is no definite answer as to which approach is appropriate. Perhaps it depends on the type of market the bank is operating, its existing competencies and the legal and regulatory environment. It is, however, sure that e-banking is evolving beyond the traditional limits of banking and many new products / services are likely to emerge as ecommerce matures.

The entry of Indian banks into Net Banking

Internet banking, both as a medium of delivery of banking services and as a strategic tool for business development, has gained wide acceptance internationally and is fast catching up in India with more and more banks entering the fray. India can be said to be on the threshold of a major banking revolution with net banking having already been unveiled. 11 banks in India are providing Internet banking services at different levels, 22 banks propose to offer Internet banking in near future while the remaining 13 banks have no immediate plans to offer such facility.

At present, the total Internet users in the country are estimated at 9 lakh. However, this is expected to grow exponentially to 90 lakh by 2005. Only about 1%

Onlinein1998. This increased to 16.7% in March 2003.* the growth potential is, therefore, immense. Further incentives provided by banks would dissuade customers from visiting physical branches, and thus get 'hooked' to the convenience of arm-chair banking. The facility of accessing their accounts from anywhere in the world by using a home computer with Internet connection, is particularly fascinating to Non-Resident Indians and High Net worth Individuals having multiple bank accounts.

Costs of banking service through the Internet form a fraction of costs through conventional methods. Rough estimates assume teller cost at Re.1 per transaction, ATM transaction cost at 45 paisa, phone banking at 35 paisa, debit cards at 20 paisa and Internet banking at 10 paisa per transaction. The cost-conscious banks in the country have therefore actively considered use of the Internet as a channel for providing services. Fully computerized banks, with better management of their customer base are in a stronger position to cross-sell their products through this channel.

Products and services offered.

Banks in India are at different stages of the web-enabled banking cycle. Initially, a bank, which is not having a web site, allows its customer to communicate with it through an e-mail address; communication is limited to a small number of branches and offices which have access to this e-mail account. As yet, many scheduled commercial banks in India are still in the first stage of Internet banking operations.

With gradual adoption of Information Technology, the bank puts up a web-site that provides general information on the banks, its location, services available e.g. loan and deposits products, application forms for downloading and e-mail option for enquiries and feedback. It is largely a marketing or advertising tool. For example, Vijay a Bank provides information on its web-site about its NRI and other services. Customers are required to fill in applications on the Net and can later receive loans or other products requested for at their local branch. A few banks provide the customer to enquire into his demate account (securities/shares) holding details, transaction details and status of instructions given by him. These web sites still do not allow online transactions for their customers. Some of the banks permit customers to interact with them and transact electronically with them. Such services include request for opening of accounts, requisition for cheque books, and stopPayment of cheques, viewing and printing statements of accounts, movement of funds between accounts within the same bank, querying on status of requests, instructions for opening of Letters of Credit and Bank Guarantees etc. These services are being initiated by banks like ICICI Bank Ltd., HDFC Bank Ltd. Citibank, Global Trust Bank Ltd., UTI Bank Ltd., Bank of Madura Ltd., Federal Bank Ltd. etc. Recent entrants in Internet banking are Allahabad Bank (for its corporate customers through its ‘All net’ service) and Bank

of Punjab Ltd. State Bank of India has announced that it will be providing such services soon. Certain banks like ICICI Bank Ltd., have gone a step further within the transactional stage of Internet banking by allowing transfer of funds by an account holder to any other account holder of the bank.

Some of the more aggressive players in this area such as ICICI Bank Ltd., HDFC Bank Ltd., UTI Bank Ltd., Citibank, Global Trust Bank Ltd. and Bank of Punjab Ltd. offer the facility of receipt, review and payment of bills on-line. These banks have tied up with a number of utility companies. The 'Infinity' service of ICICI Bank Ltd. Also allows online real time shopping mall payments to be made by customers. HDFC Bank Ltd. has made e-shopping online and real time with the launch of its payment gateway. It has tied up with a number of portals to offer business-to-consumer (B2C) ecommerce transactions. The first online real time e-commerce credit card transaction in the country was carried out on the Easy3shoppe.com shopping mall, enabled by HDFCBank Ltd. on a VISA card.

Banks like ICICI Bank Ltd., HDFC Bank Ltd. etc. are thus looking to position themselves as one stop financial shops. These banks have tied up with computer training companies, computer manufacturers, Internet Services Providers and portals for expanding their Net banking services, and widening their customer base. ICICI Bank Ltd. has set up a web based joint venture for on-line distribution of its retail banking products and services on the Internet, in collaboration with Satyam Info way, a private ISP through a portal named as icicisify.com. The customer base of www.satyamonline.com portal is also available to the bank. Setting up of Internet kiosks and permeation through the cable television route to widen customer base are other priority areas in the agendas of the more aggressive players. Centurion Bank Ltd. has taken up equity stake in the teauction.com portal, which aims to bring together buyers, sellers, registered brokers, suppliers

and associations in the tea market and substitute their physical presence at the auctions announced.

Banks providing Internet banking services have been entering into agreements with their customers setting out the terms and conditions of the services. The terms and conditions include information on the access through user-id and secret password, minimum balance and charges, authority to the bank for carrying out transactions performed through the service, liability of the user and the bank, disclosure of personal information for statistical analysis and credit scoring also, non-transferability of the facility, notices and termination, etc.

The race for market supremacy is compelling banks in India to adopt the latest technology on the Internet in a bid to capture new markets and customers. HDFC Bank Ltd. with its 'Freedom- the e-Age Saving Account' Service, Citibank with 'Suvidha' and ICICI Bank Ltd. with its 'Mobile Commerce' service have tied up with cell phone operators to offer Mobile Banking to their customers. Global Trust Bank Ltd. has also announced that it has tied up with cellular operators to launch mobile banking services. Under Mobile Banking services, customers can scan their accounts to seek balance and payments status or instruct banks to issue cheques, pay bills or deliver statements of accounts. It is estimated that by 2003, cellular phones will have
Become the premier Internet access device, outselling personal computers. Mobile banking will further minimize the need to visit a bank branch.

The Future Scenario

Compared to banks abroad, Indian banks offering online services still have a long way to go. For online banking to reach a critical mass, there has to be sufficient number of users and the sufficient infrastructure in place. The 'Infinity' product of ICICI Bank Ltd. gets only about

30,000 hits per month, with around 3,000 transactions taking place on the Net per month through this service. Though various security options like line encryption, branch connection encryption, firewalls, digital certificates, automatic signoffs, random pop-ups and disaster recovery sites are in place or are being looked at, there is as yet no Certification Authority in India offering Public Key Infrastructure which is absolutely necessary for online banking. The customer can only be assured of a secured conduit for its online activities if an authority certifying digital signatures is in place. The communication bandwidth available today in India is also not enough to meet the needs of high priority services like online banking and trading. Banks offering online facilities need to have an effective disaster recovery plan along with comprehensive risk management measures. Banks offering online facilities also need to calculate their downtime losses, because

Even a few minutes of downtime in a week could mean substantial losses. Some banks even today do not have uninterrupted power supply unit or systems to take care of prolonged power breakdown. Proper encryption of data and effective use of passwords are also matters that leave a lot to be desired. Systems and processes have to be put in place to ensure that errors do not take place.

Users of Internet Banking Services are required to fill up the application forms online and send a copy of the same by mail or fax to the bank. A contractual agreement is entered into by the customer with the bank for using the Internet banking services. In this way, personal data in the applications forms is being held by the bank providing the service. The contract details are often one-sided, with the bank having the absolute discretion to amend or supplement any of the terms at any time. For these reasons domestic customers for whom other access points such as ATMs, talebanking, personal contact, etc. are available, are often hesitant to use the Internet banking services offered by Indian banks. Internet Banking, as an additional delivery channel, may,

therefore, be attractive / appealing as a value added service to domestic customers. Non-resident Indians for whom it is expensive and time consuming to access their bank accounts maintained in India find net banking very convenient and useful.

The Internet is in the public domain whereby geographical boundaries are eliminated. Cybercrimes are therefore difficult to be identified and controlled. In order to promote Internet banking services, it is necessary that the proper legal infrastructure is in place. Government has introduced the Information Technology Bill, which has already been notified in October 2000. Section 72 of the Information Technology Act, 2000 casts an obligation of confidentiality against disclosure of any electronic record, register, correspondence and information, except for certain purposes and violation of this provision is a criminal offence. Notification for appointment of Authorities to certify digital signatures, ensuring confidentiality of data, is likely to be issued in the coming months. Comprehensive enactments like the Electronic Funds Transfer Act in U.K. and data protection rules and regulations in the developed countries are in place abroad to prevent unauthorized access to data, mala fide or otherwise, and to protect the individual's rights of privacy. The legal issues are, however, being debated in our country and it is expected that some headway will be made in this respect in the near future.

Notwithstanding the above drawbacks, certain developments taking place at present, and expected to take place in the near future, would create a conducive environment for online banking to flourish. For example, Internet usage is expected to grow with cheaper bandwidth cost. The Department of Telecommunications (Dot) is moving fast to make available additional bandwidth, with the result that Internet access will become much faster in the future. This is expected to give a fillip to Internet banking in India.

The proposed setting up of a Credit Information Bureau for collecting and sharing credit information on borrowers of lending institutions online would give a fillip to electronic banking. The deadline set by the Chief Vigilance Commissioner for computerization of not less than 70 percent of the bank's business by end of January 2001 has also given a greater thrust to development of banking technology. The recommendations of the Vasudevan Committee on Technological Up gradation of Banks in India have also been circulated to banks for implementation. In this background, banks are moving in for technological up gradation on a large scale. Internet banking is expected to get a boost from such developments.

Reserve Bank of India has taken the initiative for facilitating real time funds transfer through the Real Time Gross Settlement (RTGS) System. Under the RTGS system, transmission, processing and settlements of the instructions will be done on a continuous basis. Gross settlement in a real time mode eliminates credit and liquidity risks. Any member of the system will be able to access it through only one specified gateway in order to ensure rigorous access control measures at the user level. The system will have various levels of security, viz., Access security, 128 bit cryptography, firewall, certification etc. Further, Generic Architecture (**see fig.)** both domestic and cross border, aimed at providing inter-connectivity across banks has been accepted for implementation by RBI. Following a reference made this year, in the Monetary and Credit Policy statement of the Governor, banks have been advised to develop domestic generic model in their computerization plans to ensure seamless integration. The abovementioned efforts would enable online banking to become more secure and efficient. With the process of dematerialization of shares having gained considerable ground in recent years, banks have assumed the role of depository participants. In addition to customers' deposit accounts, they also maintain demat accounts of their clients. Online trading in equities is being allowed by SEBI.

This is another area which banks are keen to get into. HDFC Bank Ltd., has tied up with about 25 equity brokerages for enabling third party transfer of funds and securities through its business-to-business (B2B) portal, 'e-Net'. Demat account holders with the bank can receive securities directly from the brokers' accounts. The bank has extended its web interface to the software vendors of National Stock Exchange through a tie-up with NSE.IT – the InfoTech arm of the exchange. The bank functions as the payment bank for enabling funds transfer from its customers' account to brokers' accounts. The bank is also setting up a net broking arm, HDFC Securities, for enabling trading in stocks through the web. The focus on capital market operations through the web is based on the bank's strategy on tapping customers interested in trading in equities through the Internet. Internet banking thus promises to become a popular delivery channel not only for retail banking products but also for online securities trading.

An upcoming payment gateway is being developed by ICICI and Global Tele System, which will enable customers to transfer funds to banks which are part of the project. Transfer of funds can be made through credit/debit/ smart cards and cheques, with the central payment switch enabling the transactions. Banks are showing interest in this new concept, which will facilitate inter-bank funds transfers and other e-commerce transactions, thus highlighting the role of banks in e-commerce as intermediaries between buyers and sellers in the whole payment process.

WAP (Wireless Application Protocol) telephony is the merger of mobile telephony with the Internet. It offers two-way connectivity, unlike Mobile Banking where the customer communicates to a mailbox answering machine. Users may surf their accounts, download items and transact a wider range of options through the cell phone screen. WAP may provide the infrastructure for P2P (person to person) or P2M (person to merchant) payments. It would be ideal for transactions that do not need any cash backup, such as online investments. Use of this

cutting edge technology could well determine which bank obtains the largest market share in electronic banking. IDBI Bank Ltd. has recently launched its WAP- based mobile phone banking services (offering facilities such as banking enquiry, cheque book request, statements request, details of the bank's products etc.).

At present, there are only 2.6 phone connections per 100 Indians, against the world average of 15 connections per 100. The bandwidth capacity available in the country is only 3.2 gigabits per second, which is around 60% of current demand. Demand for bandwidth is growing by 350% a year in India. With the help of the latest technology, Indian networks will be able to handle 40

Gigabits of Net traffic per second (as compared to 10 gigabits per second in Malaysia). Companies like Reliance, Bharti Telecom and the Tata Group are investing billions of rupees to build fiber optic lines and telecom infrastructure for data, voice and Internet telephony. The online population has increased from just 500,000 in 1998 to 5 million in 2000. By 2015, the online population is expected to reach 70 million. IT services is a $1.5 billion industry in India growing at a rate of 55% per annum. Every day sees new tie-ups, innovations and strategies being announced by banks. State Bank of India has recently announced its intention to form an IT subsidiary. A sea change in banking services is on the cards. It would, however, be essential to have in place a proper regulatory, supervisory and legal framework, particularly as regards security of transactions over the Net, for regulators and customers alike to be comfortable with this form of banking.

Risk involved in E-banking

A major driving force behind the rapid spread of i-banking all over the world is its acceptance as an extremely cost effective delivery channel of banking services as compared to other existing channels. However, Internet is not an unmixed blessing to the banking sector. Along with reduction in cost of transactions, it has also brought about a new orientation to risks and even new forms of risks to which banks conducting i-banking expose themselves. Regulators and supervisors all over the world are concerned that while banks should remain efficient and cost effective, they must be conscious of different types of risks this form of banking entails and have systems in place to manage the same. An important and distinctive feature is that technology plays a significant part both as source and tool for control of risks. Because of rapid changes in information technology, there is no finality either in the types of risks or their control

Measures. Both evolve continuously. The thrust of regulatory action in risk control has been to identify risks in broad terms and to ensure that banks have minimum systems in place to address the same and that such systems are reviewed on a continuous basis in keeping with changes in technology. In the following paragraphs a generic set of risks are discussed as the basis for formulating general risk control guidelines, which this Group will address.

Operational risk:

Operational risk, also referred to as transactional risk is the most common form of risk associated with i-banking. It takes the form of inaccurate processing of transactions, non-enforceability of contracts, compromises in data integrity, data privacy and confidentiality, unauthorized access / intrusion to bank's systems and transactions etc. Such risks can arise out of weaknesses in design, implementation and monitoring of banks' information system. Besides inadequacies in technology, human factors like negligence by customers and employees, fraudulent activity of employees and crackers / hackers etc. can become potential source of operational risk. Often there is thin line of difference between operational risk and security risk and both terminologies are used interchangeably.

Security risk:

Internet is a public network of computers which facilitates flow of data / information and to which there is unrestricted access. Banks using this medium for financial transactions must,

Therefore, have proper technology and systems in place to build a secured environment for such transactions.

Security risk arises on account of unauthorized access to a bank's critical information stores like accounting system, risk management system, portfolio management system, etc. A breach of security could result in direct financial loss to the bank. For example, hackers operating via the Internet could access, retrieve and use confidential customer information and also can implant virus. This may result in loss of data, theft of or tampering with customer information, disabling of a significant portion of bank's internal computer system thus denying service, cost of

repairing these etc. Other related risks are loss of reputation, infringing customers' privacy and its legal implications etc. Thus, access control is of paramount importance. Controlling access to banks' system has become more complex in the Internet environment which is a public domain and attempts at unauthorized access could emanate from any source and from anywhere in the world with or without criminal intent. Attackers could be hackers, unscrupulous vendors, disgruntled employees or even pure thrill seekers. Also, in a networked environment the security is limited to its weakest link. It is therefore, necessary that banks critically assess all interrelated systems and have access control measures in place in each of them.

In addition to external attacks banks are exposed to security risk from internal sources e.g. employee fraud. Employees being familiar with different systems and their weaknesses become potential security threats in a loosely controlled environment. They can manage to acquire the authentication data in order to access the customer accounts causing losses to the bank.

Unless specifically protected, all data / information transfer over the Internet can be monitored or read by unauthorized persons. There are programs such as 'sniffers' which can be set up at web servers or other critical locations to collect data like account numbers, passwords, account and credit card numbers. Data privacy and confidentiality issues are relevant even when data is not being transferred over the net. Data residing in web servers or even banks' internal systems are susceptible to corruption if not properly isolated through firewalls from Internet.

The risk of data alteration, intentionally or unintentionally, but unauthorized is real in a networked environment, both when data is being transmitted or stored. Proper access control and technological tools to ensure data integrity is of utmost importance to banks. Another important aspect is whether the systems are in place to quickly detect any such alteration and set the alert.

Identity of the person making a request for a service or a transaction as a customer is crucial to legal validity of a transaction and is a source of risk to a bank. A computer connected to Internet is identified by its IP (Internet Protocol) address. There are methods available to masquerade one computer as another, commonly known as 'IP Spoofing'. Likewise user identity can be misrepresented. Hence, authentication control is an essential security step in any e-banking system.

Non-repudiation involves creating a proof of communication between two parties; say the bank and its customer, which neither can deny later. Banks' system must be technologically equipped to handle these aspects which are potential sources of risk. .

Reputational risk

Reputational risk is the risk of getting significant negative public opinion, which may result in a critical loss of funding or customers. Such risks arise from actions which cause major loss of the public confidence in the banks' ability to perform critical functions or impair bank-customer relationship. It may be due to banks' own action or due to third party action.

The main reasons for this risk may be system or product not working to the expectations of the customers, significant system deficiencies, significant security breach (both due to internal and external attack), inadequate information to customers about product use and problem resolution procedures, significant problems with communication networks that impair customers' access to their funds or account information especially if there are no alternative means of account access. Such situation may cause customer-discontinuing use of product or the service. Directly affected customers may leave the bank and others may follow if the problem is publicized.

Other reasons include losses to similar institution offering same type of services causing customer to view other banks also with suspicion, targeted attacks on a bank like hacker spreading inaccurate information about bank products, a virus disturbing bank's system causing system and data integrity problems etc.

Possible measures to avoid this risk are to test the system before implementation, backup facilities, contingency plans including plans to address customer problems during system disruptions, deploying virus checking, deployment of ethical hackers for plugging the loopholes and other security measures.

It is significant not only for a single bank but also for the system as a whole. Under extreme circumstances, such a situation might lead to systemic disruptions in the banking system as a whole. Thus the role of the regulator becomes even more important as not even a single bank can be allowed to fail.

Legal risk

Legal risk arises from violation of, or non-conformance with laws, rules, regulations, or prescribed practices, or when the legal rights and obligations of parties to a transaction are not well established.

Given the relatively new nature of Internet banking, rights and obligations in some cases are uncertain and applicability of laws and rules is uncertain or ambiguous, thus causing legal risk.

Other reasons for legal risks are uncertainty about the validity of some agreements formed via electronic media and law regarding customer disclosures and privacy protection. A customer inadequately informed about his rights and obligations, may not take proper precautions in using

Internet banking products or services, leading to disputed transactions, unwanted suits against the Bank or other regulatory sanctions.

In the enthusiasm of enhancing customer service, bank may link their Internet site to other sites also. This may cause legal risk. Further, a hacker may use the linked site to defraud a bank customer.

If banks are allowed to play a role in authentication of systems such as acting as a Certification Authority, it will bring additional risks. A digital certificate is intended to ensure that a given signature is, in fact, generated by a given signer. Because of this, the certifying bank may become liable for the financial losses incurred by the party relying on the digital certificate.

Money laundering risk

As Internet banking transactions are conducted remotely banks may find it difficult to apply traditional method for detecting and preventing undesirable criminal activities. Application of money laundering rules may also be inappropriate for some forms of electronic payments. Thus banks expose themselves to the money laundering risk. This may result in legal sanctions for non-compliance with "know your customer" laws. To avoid this, banks need to design proper customer identification and screening techniques, develop audit trails, and conduct periodic compliance reviews, frame policies and procedures to spot and report suspicious activities in Internet transactions.

Cross border risks

Internet banking is based on technology that, by its very nature, is designed to extend the geographic reach of banks and customers. Such market expansion can extend beyond national borders. This causes various risks.

It includes legal and regulatory risks, as there may be uncertainty about legal requirements in some countries and jurisdiction ambiguities with respect to the responsibilities of different national authorities. Such considerations may expose banks to legal risks associated with non-compliance of different national laws and regulations, including consumer protection laws, record-keeping and reporting requirements, privacy rules and money laundering laws.

If a bank uses a service provider located in another country, it will be more difficult to monitor it thus, causing operational risk. Also, the foreign-based service provider or foreign participants in Internet banking are sources of country risk to the extent that foreign parties become unable to fulfill their obligations due to economic, social or political factors.

Cross border transaction accentuates credit risk, since it is difficult to appraise an application for a loan from a customer in another country compared to a customer from a familiar customer base. Banks accepting foreign currencies in payment for electronic money may be subjected to market risk because of movements in foreign exchange rates.

Strategic Risk

This risk is associated with the introduction of a new product or service. Degree of this risk depends upon how well the institution has addressed the various issues related to development of a business plan, availability of sufficient resources to support this plan, credibility of the vendor (if outsourced) and level of the technology used in comparison to the available technology etc.

For reducing such risk, banks need to conduct proper survey, consult experts from various fields, establish achievable goals and monitor performance. Also they need to analyze the availability and cost of additional resources, provision of adequate supporting staff, proper training of staff and adequate insurance coverage. Due diligence needs to be observed in selection of vendors,

Online opening of account:

The banks providing Internet banking service, at present are only willing to accept the request for opening of accounts. The accounts are opened only after proper physical introduction and verification. This is primarily for the purpose of proper identification of the customer and also to avoid byname accounts as also money laundering activities that might be undertaken by the

Customer. Supervisors world over, expect the Internet banks also to follow the practice of 'know your customer'.

As per Section 131 of the Negotiable Instruments Act, 1881 (the Act) a banker who has in good faith and without negligence received payment for a customer of a cheque crossed generally or specially to himself shall not, in case the title to the cheque proves defective, incur any liability to the true owner of the cheque by reason only of having received such payment. The banker's action in good faith and without negligence have been discussed in various case laws and one of the relevant passages from the judgment of Justice Chagla in the case of Bapulal Premchand Vs Nath Bank Ltd. (AIR 1946 Bom.482) is as follows:

"Primarily, inquiry as to negligence must be directed in order to find out whether there is negligence in collecting the cheque and not in opening the account, but if there is any antecedent

or present circumstance which aroused the suspicion of the banker then it would be his duty before he collects the cheque to make the necessary enquiry and undoubtedly one of the antecedent circumstances would be the opening of the account. In certain cases failure to make enquiries as to the integrity of the

proposed customer would constitute negligence".

Further the Supreme Court of India in Indian Overseas Bank Ltd. Vs. Industrial Chain Concern [JT1989 (4) SC 334] has stated that as a general rule, before accepting a customer, the bank must take reasonable care to satisfy himself that the person in question is in good reputation and if he fails to do so, he will run the risk of forfeiting the protection given by Section 131 of Negotiable Instruments Act, 1881 but reasonable care depends upon the facts and circumstances of the case. Similarly, the Delhi High Court was also of the view that the modern banking practice requires that a constituent should either be known to the bank or should be properly introduced. The underlying object of the bank insisting on producing reliable references is only to find out if possible whether the new constituent is a genuine party or an imposter or a fraudulent rogue [Union of India Vs. National Overseas Grind lays Bank Ltd. (1978) 48 Com .Cases 277 (Del)].Thus, the introduction of a new customer by a third party reference is a well-recognized practice followed by the banks before opening new accounts in order to prove the reasonable care and absence of any negligence in permitting the new customer to open the account. Further, in order to establish the reasonable care the banks have to make enquiries about the integrity/reputation of the Prospective customer. It is not a mere enquiry about the identity of the person. The Group, therefore, endorses the practice presently followed by the banks in seeking proper introduction before allowing the operations of the customers' accounts. In the context of Internet banking and after the coming into force of the Information Technology Act, 2000, it

may be possible for the banks to rely on the electronic signatures of the introducer. But this may have to wait till the certification machinery as specified in the Information Technology Act, 2000 comes into operation.

Authentication: One of the major challenges faced by banks involved in Internet banking is the issue relating to authentication and the concerns arising in solving problems unique to electronic authentication such as issues of data integrity, non-repudiation, evidentiary standards, privacy, confidentiality issues and the consumer protection. The present legal regime does not set out the parameters as to the extent to which a person can be bound in respect of an electronic instruction purported to have been issued by him. Generally, authentication is achieved by what is known as security procedure. Methods and devices like the personal identification numbers (PIN), code numbers, telephone-PIN numbers, relationship numbers, passwords, account numbers and encryption are evolved to establish authenticity of an instruction. From a legal perspective, the security procedure requires to be recognized by law as a substitute for signature. Different countries have addressed these issues through specific laws dealing with digital signatures. In India, the Information Technology Act, 2000 (the "Act") in Section 3 (2) provides that any subscriber may authenticate an electronic record by affixing his digital signature. However the Act only recognizes one particular technology as a means of authenticating the electronic records (vise, the asymmetric crypto system and hash function which envelop and transform the initial electronic record into another electronic record). This might lead to the doubt of whether the law would recognize the existing methods used by the banks as a valid method of authenticating the transactions, the approach in the other countries has been to keep the legislation technology neutral. The Group is of the view that the law should be technology neutral so that it can keep

pace with the technological developments without requiring frequent amendments to the law as there exists a lot of uncertainty about future technological and market developments in Internet banking. This however would not imply that the security risks associated with Internet banking should go unregulated.

Hence, Section 3 (2) of the Information Technology Act 2000 may need to be amended to provide that the authentication of an electronic record may be effected either by the use of the asymmetric crypto system and hash function, or a system as may be mutually determined by the parties or by such other system as may be prescribed or approved by the Central Government. If the agreed procedure is followed by the parties concerned it should be deemed as being an authenticate transaction. A clarification to this effect by way of an amendment of the aforesaid Act will facilitate the Internet banking transactions.

Further, the banks may be allowed to apply for a license to issue digital signature certificate under Section 21 of the Information Technology Act, 2000 and become a certifying authority for facilitating Internet banking. The certifying authority acts like a trusted notary for authenticating the person, transaction and information transmitted electronically. Using a digital certificate from trusted certificate authority like a bank shall provide a level of comfort to the parties of an Internet banking transaction. Hence, it is recommended by the Committee that the Reserve Bank of India may recommend to the Central Government to notify the business of the certifying authority under Clause (o) of Section 6(1) of the Banking Regulation Act, 1949, to permit the banks to act as such trusted third parties in e-commerce transactions.

Mode of Payment under the Income Tax Act, 1961:

Section 40A(3) of the Income tax Act, 1961, dealing with deductible expenses, provides that in cases where the amount exceeds Rs. 20,000/-, the benefit of the said section will be available

only if the payment is made by a crossed cheque or a crossed bank draft. One of the services provided by the banks offering Internet banking service is the online transfer of funds between accounts where cheques are not used, in which the above benefit will not be available to the customers.

The primary intention behind the enactment of Section 40 A of the Income tax Act, 1961 is to check tax evasion by requiring payment to designated accounts. In the case of a funds transfer, the transfer of funds takes place only between identified accounts, which serves the same purpose as a crossed cheque or a crossed bank draft. Hence, the Committee recommends that Section 40A of the Income Tax Act, 1961, may be amended to recognize even electronic funds transfer.

Secrecy of Customer's Account:

The existing regime imposes a legal obligation on the bankers to maintain secrecy and confidentiality about the customer’s account. The law at present requires the banker to take scrupulous care not to disclose the state of his customer's account except on reasonable and proper occasions.

While availing the Internet banking services the customers are allotted proper User ID, passwords and/or personal identification numbers and/or the other agreed authentication procedure to access the Internet banking service and only users with such access methodology and in accordance with the agreed procedure are authorized to access the Internet banking services. In other words a third party would not be able to withdraw money from an account or

access the account of the customer unless the customer had divulged his/her password in the first place.

However, if the password or the identification number is misplaced or lost or gets into the hands of the wrong person and such person procures details about the customer's account then the banker may be faced with legal proceedings on the grounds of violation of the obligation to maintain secrecy of the customer's accounts. This concern of the bankers is very high especially in the case of joint accounts where both the parties share one personal identification numbers or relationship numbers and operate the account jointly. Further, by the very nature of Internet the account of a customer availing Internet banking services would be exposed to the risk of being accessed by hackers and inadvertent finders.

The Internet banking services at present are being provided by most of the banks by 1 *Tournier v. National Provincial and Union Bank of England*, (1924) 1 K.B. 461 systems which are only accessible through "secure zones" or SSL (Secure Sockets Layer) to secure and authenticate the user through a secure browser. Most of the banks have adopted 128 Bit strong encryption which is widely accepted worldwide as a standard for securing financial transaction. To reduce the risk of the customers' account information being accessed by third parties, it is very important that the banks continue to be obliged to protect the customer account. However, it is equally important to note that the banks may still be exposed to the risk of liability to customers and
Hence they should adopt all reasonable safety controls and detection measures like establishment of firewalls, net security devices, etc. Further, banks should put in place adequate risk control measures in order to minimize possible risk arising out of breach of secrecy due to loss/ misplacement/ theft of customers' ID/PIN, etc.

Revocation and Amendment of Instructions:

The general revocation and amendment instructions to the banks are intended to correct errors, including the sending of an instruction more than once. Occasionally, a revocation or amendment may be intended to stop a fraud. Under the existing law, banks are responsible for making and stopping payment in good faith and without negligence. In Internet banking scenario there is very limited or no stop-payment privileges since it becomes impossible for the banks to stop payment in spite of receipt of a stop payment instruction as the transactions are completed instantaneously and are incapable of being reversed. Hence the banks offering Internet banking services may clearly notify the customers the time frame and the circumstances in which any stop payment instructions could be accepted**.**

Rights and Liabilities of the Parties:

Typically, the banker-customer relationship is embodied in a contract entered into by them. The banks providing the Internet banking services currently enter into agreements with their customers stipulating their respective rights and responsibilities including the disclosure requirements in the case of Internet banking transactions, contractually. A Standard format/minimum consent requirement to be adopted by the banks offering Internet banking facility, could be designed by the Indian Banks' Association capturing, inter alia, access requirements, duties and responsibilities of the banks as well as customers and any limitations on the liabilities of the banks in case of negligence and non-adherence to the terms of agreement by customers.

Internet Banking and Money Laundering:

One of the major concerns associated with Internet Banking has been that the Internet banking transactions may become untraceable and are incredibly mobile and may easily be anonymous and may not leave a traditional audit trail by allowing instantaneous transfer of funds. It ispertinent to note that money-laundering transactions are cash transactions leaving no paper trail**.** Such an apprehension will be more in the case of use of electronic money or e-cash. In the case of Internet Banking the transactions are initiated and concluded between designated accounts. Further Section 11 of the proposed Prevention of Money Laundering Bill, 1999 imposes an obligation on every Banking Company, Financial Institution and intermediary to maintain a record of all the transactions or series of transactions taking place within a month, the nature and value of which may be prescribed by the Central Government. These records are to be maintained for a period of five years from the date of cessation of the transaction between the client and the banking company or the financial institution or the intermediary. This would apply to banks offering physical or Internet banking services. This will adequately guard against any misuse of the Internet banking services for the purpose of money laundering. Further the requirement of the banking companies to preserve specified ledgers, registers and other records for a period of 5 to 8 years, as per the Banking Companies (Period of Preservation of Records) Rules, 1985 promulgated by the Central Government also adequately takes care of this concern.

Maintenance of Records

Section 4 of the Bankers' Books Evidence Act, 1891, provides that a certified copy of any entry in a banker's book shall in all legal proceedings be received as a prima facie evidence of the

existence of such an entry. The Banking Companies (Period of Preservation of Records) Rules, 1985 promulgated by the Central Government requires banking companies to maintain ledgers, records, books and other documents for a period of 5 to 8 years. A fear has been expressed as to whether the above details of the transactions if maintained in an electronic form will also serve the above purpose. The Group is of the considered opinion that that this has been adequately taken care of by Section 7 and Third Schedule of the Information Technology Act, 2000.

Inter-Bank Electronic Funds Transfer:

The Electronic Funds Transfer via the Internet, in its present form is provided only between accounts with the same bank. The transaction is effected by the originator who gives the electronic payment order to one branch of a bank offering the Internet banking facility ("the Sending Branch"). The electronic instruction is processed by the backend software of the branch to confirm the account number and the person's identification and instruction is issued by the Sending Branch to the branch having the account of the beneficiary ("Beneficiary Branch") to

Credit the account of the beneficiary. The Sending Branch debits the account of the originator at its end. At present there is no clearing mechanism in place for settlement of inter-bank electronic funds transfer. The entire gamut of electronic funds transfer and the legal issues and risks involved in the same are currently being examined by a committee set up by the Reserve Bank of India. The 4th Schedule to the Information Technology Act, 2000 has amended the Reserve Bank of India Act.1934 empowering the Reserve Bank of India to regulate electronic funds transfer between banks and banks and other financial institutions.

Miscellaneous

During the course of deliberations, the Group discussed certain issues where the legal position is not clear but has a bearing on Internet banking. Certain issues have also not been addressed by the Information Technology Act, 2000. Such issues are briefly discussed below. The Consumer Protection Act 1986 defines the rights of consumers in India and is applicable to banking services as well. The issues of privacy, secrecy of consumers' accounts and the rights and liabilities of customers and banks, etc. in the context of Internet banking have been discussed in earlier paragraphs. In cases where bilateral agreements defining customer's rights and liabilities are adverse to consumers than what are enjoyed by them in the traditional banking scenario, it is debatable whether such agreements are legally tenable. For example, whether a bank can claim immunity if money is transferred unauthorized by a hacker from a customer's account, on the pretext that it had taken all reasonable and agreed network security measures. In a traditional banking scenario, a bank has normally no protection against payment of a forged cheque. If the same logic is extended, the bank providing I-banking may not absolve itself from liability to the customers on account of unauthorized transfer through hacking. Similar position may obtain in case of denial of service. Even though, The Information Technology Act, 2000 has provided for penalty for denial of access to a computer system (Section-43) and hacking (Section – 66), the liability of banks in such situations is not clear. The Group was of the view that the banks providing Internet banking may assess the risk and insure themselves against such risks.

There was no specific enactment in India which protects privacy of customers. Bankers' secrecy obligation mostly followed from different case laws. In UK, the Data Protection Act 1984 specifically prohibits personal data from being disclosed for purposes other than for which the

data is held. This prohibits use of customer data relating to their spending habits, preferences etc., for any commercial purpose. The Office of the Comptroller of Currency have also issued

Directions to US banks enforcing customers' privacy. The Information Technology Act, 2000, in Section 72 has provided for penalty for breach of privacy and confidentiality. Further, Section 79 of the Act has also provided for exclusion of liability of a network service provider for data travelling through their network subject to certain conditions. Thus, the liability of banks for breach of privacy when data is travelling through network is not clear. This aspect needs detailed legal examination. The issue of ownership of transactional data stored in banks' computer systems also needs further examination.

The applicability of various existing laws and banking practices to e-banking is not tested and is still in the process of evolving, both in India and abroad. With rapid changes in technology and innovation in the field of e-banking, there is a need for constant review of different laws relating to banking and commerce.

Regulatory and Supervisory concern

Banking on the Internet provides benefits to the consumer in terms of convenience, and to the provider in terms of cost reduction and greater reach. The Internet itself however is not a secure medium, and thus poses a number of risks of concern to regulators and supervisors of banks and financial institutions. World over, regulators and supervisors are still evolving their approach towards the regulation and supervision of Internet banking. Regulations and guidelines issued by some countries include the following.

1. Requirement to notify about web site content
2. Prior authorization based on risk assessment made by external auditors
3. On-site examination of third party service providers
4. Off-site policing the perimeters to look for infringement.
5. Prohibition on hyperlinks to non-bank business sites
6. Specification of the architecture

In some countries supervisors have followed a 'hands-off' approach to regulation of such activities, while others have adopted a wait and watch attitude.
suggests approaches to supervision of Internet banking activities, drawing upon the best international practices in this area as relevant to the Indian context.

Broad regulatory framework

It would be necessary to extend the existing regulatory framework over banks to Internet banking also. Such an approach would need to take into account the provisions of both the Banking Regulation Act 1949 and the Foreign Exchange Management Act, 1999.

1. Only such banks which are licensed and supervised in India and have a physical presence here should be permitted to offer Internet banking products to residents of India.
2. These products should be restricted to account holders only and should not be offered in other jurisdictions.
3. The services should only offer local currency products and that too by entities that are part of the local currency payment systems.
4. The 'in-out' scenario where customers in cross border jurisdictions are offered banking services by Indian banks (or branches of foreign banks in India) and the 'out in' scenario where Indian residents are offered banking services by banks operating in cross-border jurisdictions are generally not permitted and this approach should be carried over to Internet banking also.
5. The existing exceptions for limited purposes under FEMA i.e. where resident Indians have been permitted to continue to maintain their accounts with overseas banks etc., would however be permitted transactions.
6. Overseas branches of Indian banks would be permitted to offer Internet banking services to their overseas customers subject to their satisfying, in addition to the host supervisor, the home supervisor in keeping with the supervisory approach outlined in the next section.

7. This extension of approach would apply to virtual banks as well. Thus, both banks and virtual banks incorporated outside the country and having no physical presence here would not, for the present, be permitted to offer Internet services to Indian depositors.

Network of SBI

Bank's Vision and Mission

The Bank has codified its ethos values, culture and aspirations in the following Vision and Mission statements:

"To be a values driven modern bank aspiring for excellence in customer service, perpetually enhancing shareholders' value and contributing to the economic development of society."

- **Mission**

  "To continue to be a premier bank of Rajasthan with all India presence, committed to empower its personnel for providing excellent, personalized and quality customer service by adoption of modern technology, achieving sustained and profitable growth in business thereby increasing shareholders' value and contributing to the welfare of the society."

E-banking services

1. Bill payment service

Each bank has tie-ups with various utility companies, service providers and insurance companies, across the country. It facilitates the payment of electricity and telephone bills, mobile phone, credit card and insurance premium bills. To pay bills, a simple one-time registration for each biller is to be completed. Standing instructions can be set, online to pay recurring bills, automatically.

One-time standing instruction will ensure that bill payments do not get delayed due to lack of time. Most interestingly, the bank does not charge customers for online bill payment.

2. Fund transfer

Any amount can be transferred from one account to another of the same or any another bank. Customers can send money anywhere in India. Payee's account number, his bank and the branch is needed to be mentioned after logging in the account.

The transfer will take place in a day or so, whereas in a traditional method, it takes about three working days. ICICI Bank says that online bill payment service and fund transfer facility have been their most popular online services.

3. Credit card customers

Credit card users have a lot in store. With Internet banking, customers can not only pay their credit card bills online but also get a loan on their cards. Not just this, they can also apply for an additional card, request a credit line increase and God forbid if you lose your credit card, you can report lost card online.

4. Railway pass

This is something that would interest all theaamjanta. Indian Railways has tied up with ICICI bank and you can now make your railway pass for local trains online. The pass will be delivered to you at your doorstep. But the facility is limited to Mumbai, Thane, Nasik, Surat and Pune. The bank would just charge Rs 10 + 12.24 percent of service tax.

5. Investing through Internet banking

Opening a fixed deposit account cannot get easier than this. An FD can be opened online through funds transfer. Online banking can also be a great friend for lazy investors.

Now investors with interlinked demat account and bank account can easily trade in the stock market and the amount will be automatically debited from their respective bank accounts and the shares will be credited in their demat account.

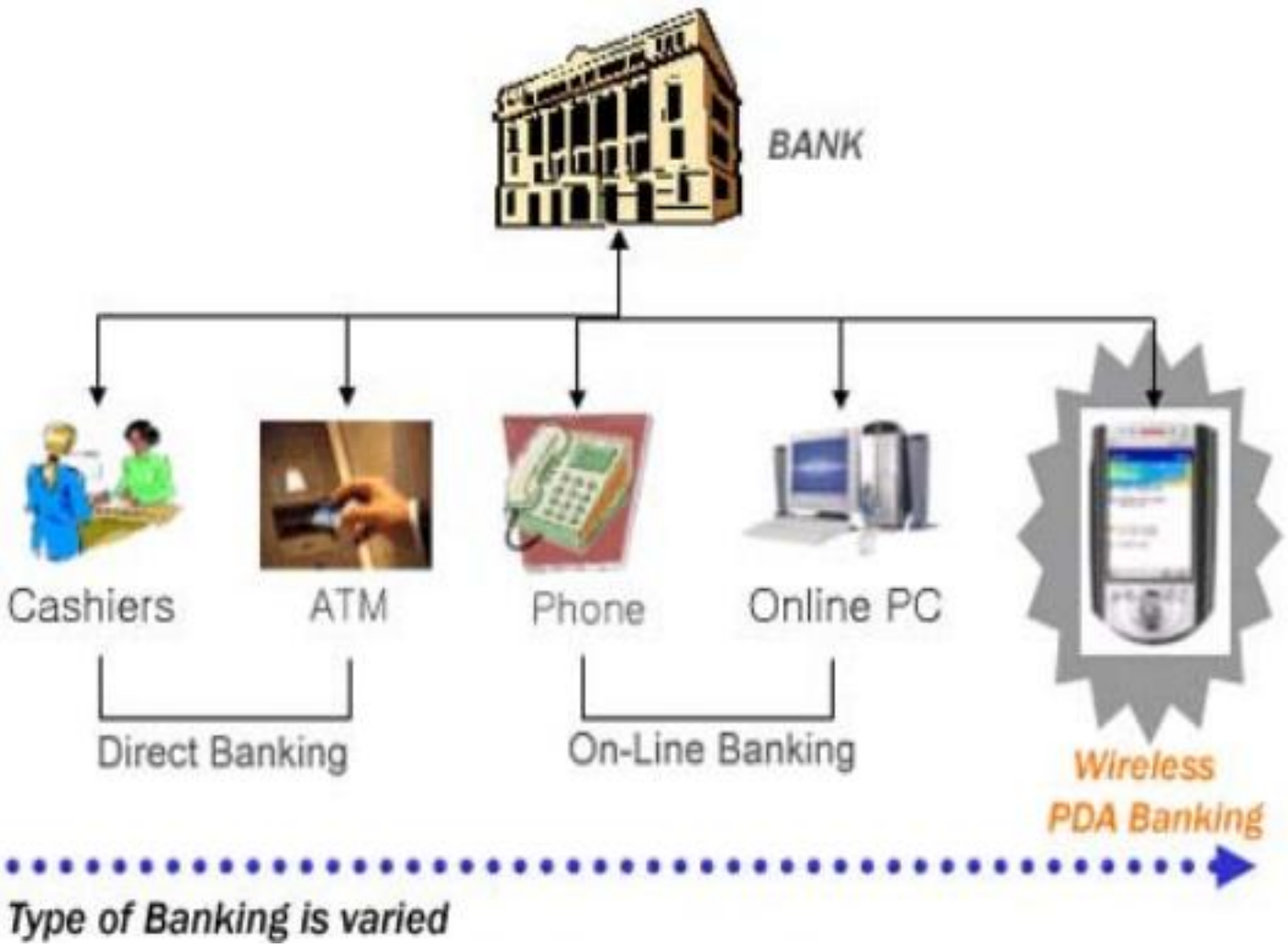
Moreover, some banks even give the facility to purchase mutual funds directly from the online banking system.

So it removes the worry about filling those big forms for mutual funds, they will now be just a few clicks away. Nowadays, most leading banks offer both online banking and demat account. However if the customer have theirdemat account with independent share brokers, then need to sign a special form, which will link your two accounts.

6. Recharging your prepaid phone Now there is no need to rush to the vendor to recharge the prepaid phone, every time the talk time runs out. Just top-up the prepaid mobile cards by logging in to Internet banking. By just selecting the operator's name, entering the mobile number and the amount for recharge, the phone is again back in action within few minutes.

7. Shopping at your fingertips

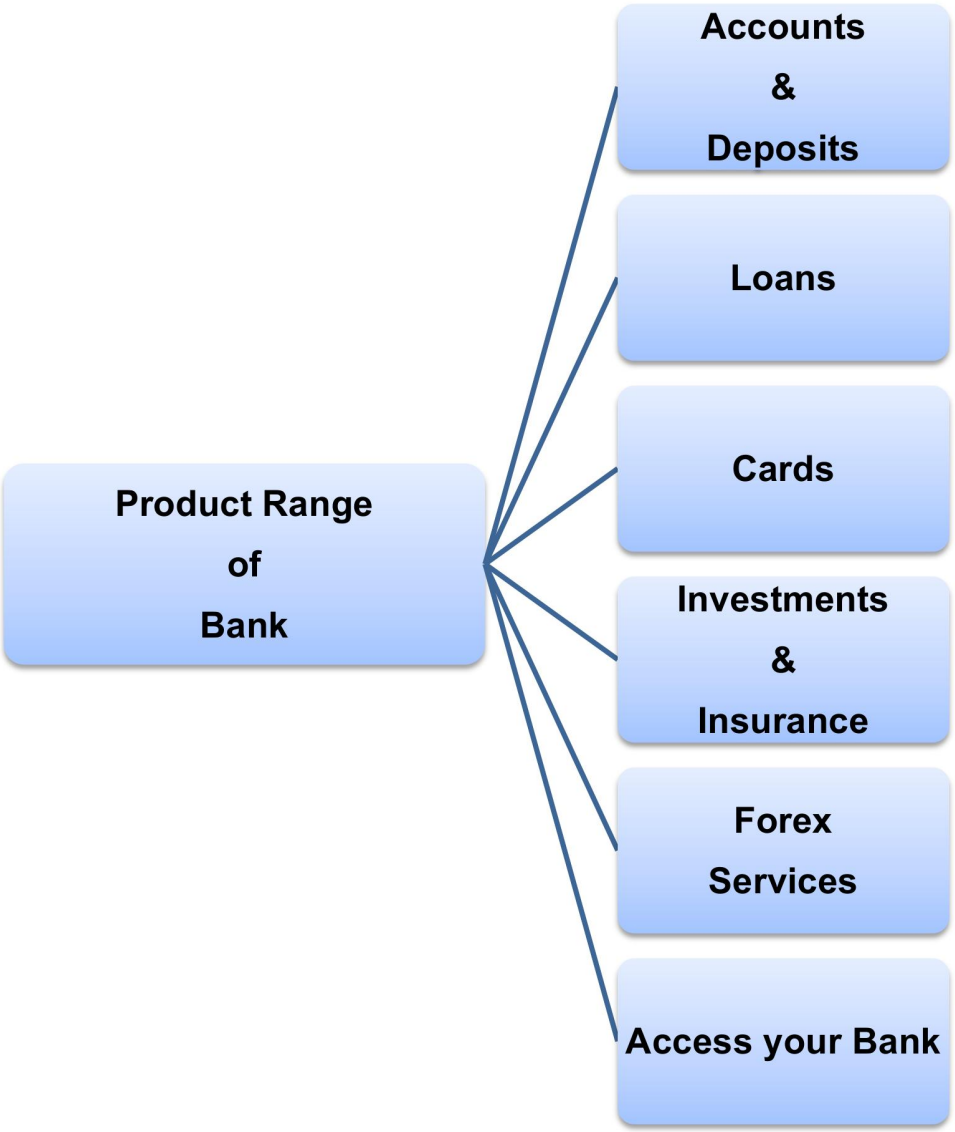
Leading banks have tie ups with various shopping websites. With a range of all kind of products, one can shop online and the payment is also made conveniently through the account. One can also buy railway and air tickets through Internet banking.

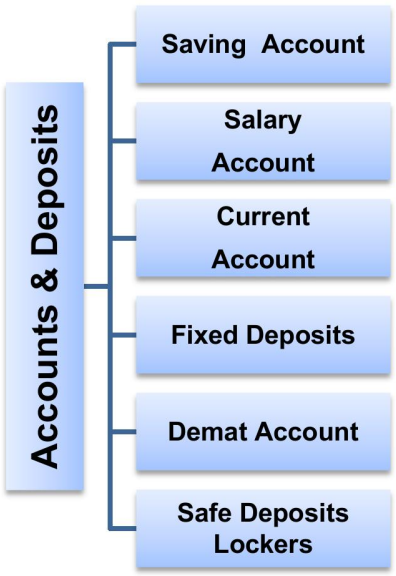


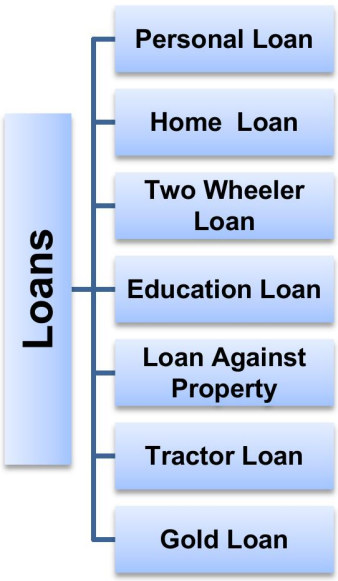
List of some banks operating E-Banking in India

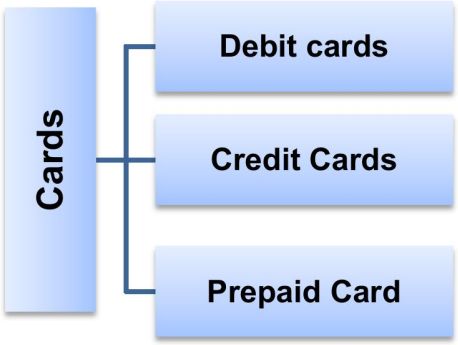
Bank Name	Technology Vendor	Service offering
ABN AMRO Bank	Infosys (Bank Away)	Net Banking
Abu Dhabi Commercial Bank	Infosys (Bank Away)	ADCB Net Link
Bank of India	I-flex	BOIonline
Citibank	Orbitech (now Polaris)	Citibank Online
Corporation Bank	I-flex	Corp.Net
Deutsche Bank		db. direct
Federal Bank	Sanchez	Fed Net
Global Trust Bank	Infosys (Bank Away)	ibank@gtb
HDFC Bank	i-flex/ Satyam	Net Banking
HSBC		Online@hsbc
ICICI Bank	Infosys, ICICI InfoTech	Infinity
IDBI Bank	Infosys (Bank Away)	i-net banking
IndusInd Bank	CR2	Indus Net
Punjab National Bank	Infosys (Bank Away)	Internet Banking
Standard Chartered Bank	In-House	Me Standard Chartered Online
State Bank of India	Satyam/Broad vision	onlinesbi.com

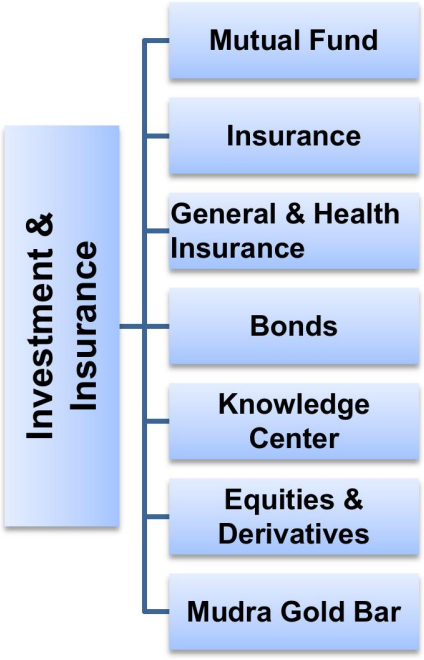
Product range

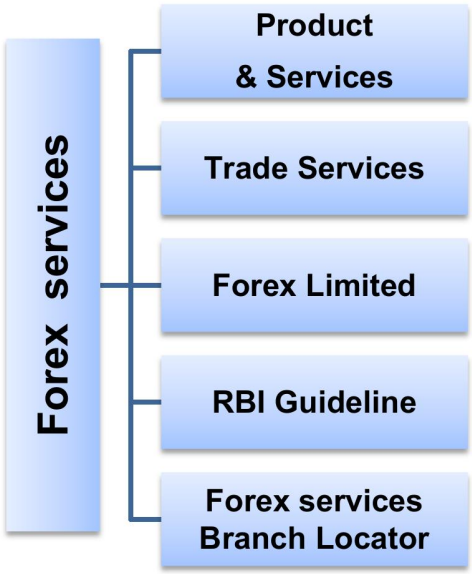


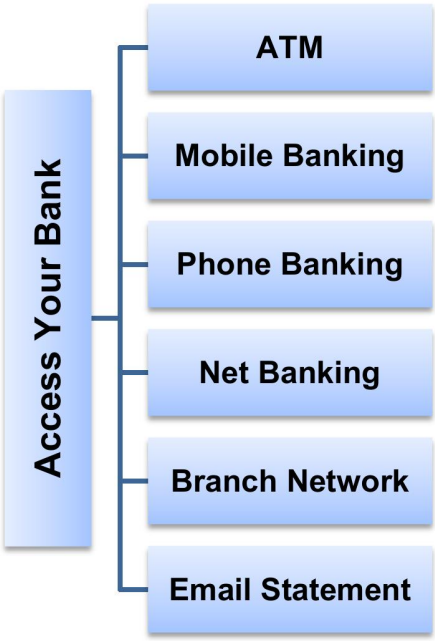

Accounts & Deposits
Saving Account
Salary Account
Current Account
Fixed Deposits
Demat Account
Safe Deposits Lockers


Loans
Personal Loan
Home Loan
Two Wheeler Loan
Education Loan
Loan Against Property
Tractor Loan
Gold Loan


Cards
Debit cards
Credit Cards
Prepaid Card


Investment & Insurance
Mutual Fund
Insurance
General & Health Insurance
Bonds
Knowledge Center
Equities & Derivatives
Mudra Gold Bar


Forex services
Product & Services
Trade Services
Forex Limited
RBI Guideline
Forex services Branch Locator


Access Your Bank
ATM
Mobile Banking
Phone Banking
Net Banking
Branch Network
Email Statement

To pay Direct Tax through the internet:

- Click the Direct Taxes (OLTAS) link. You are displayed Tax Information Network webpage of Income Tax Department.
- Click the Chillan No. applicable.
- Enter the PAN, name, address, assessment year, major head, minor head, type of payment etc.
- Select the Bank name list.
- You will be redirected to the SBI Online login page.
- Enter your Internet Banking user ID and password. If your credentials are valid, you can proceed to select the account from which you wish to pay tax.
- Enter the tax amount and submit the page.
- You are displayed a confirmation page indicating the status of the transaction.
- If you are a retail customer, you are also provided with a link to print the e-receipt for this payment, if the transaction is successful. You can also generate e-receipt subsequently from 'Status Enquiry' link under 'Enquiries' tab.
- If you are a corporate the transaction is pending for authorization. Contact the authorizer for the debit account to authorize and complete the transaction. On completion of successful transaction, the Chillan will be available in the 'Query by Account' or 'Query by Exchequer' link under 'Reports' tab.

1. **Indirect tax:** SBI online provides the facility to pay indirect taxes online. As a tax payer, you need to have a bank account enabled for net banking facility with transactions rights in anyone of our branches. Please find below the procedure for making payment.

To pay Indirect Tax online:

- Click the Indirect Taxes (CBEC) link. You are displayed Tax Information Network webpage of CBEC.
- Enter your 15 digit Assesses Code allotted by CBEC.
- Select appropriate Accounting code/s.
- Select State Bank of Bikaner and Jaipur as your Bank for payment.
- You are displayed the SBBJOnline login page.
- Enter your username and password to login.
- SBBJOnline displays your details received from CBEC site.
- Select the account from which you wish to pay tax.
- Enter the amount of tax for all the chosen minor heads.
- Enter the remarks for the transaction and confirm the transaction.

You are displayed a confirmation page indicating the status of the transaction

- If your branch is registered as a Retail customer, you are also provided with a link to print the e-receipt for this payment, if the transaction is successful. You can also generate e-receipt subsequently from 'Status Enquiry' link under 'Enquiries' tab.

If your branch is registered as a Corporate, the transaction is pending for authorization. Contact the authorizer for the debit account to authorize and complete the transaction. On completion of successful transaction, the Chillan will be available in the 'Query by Account' or 'Query by Exchequer' link under 'Reports' tab.

2. **State Government tax**: With the help of SBI online we can make online payment of Rajasthan State VAT and CST. Please find below the procedure for making payment.

Please follow these simple steps:

- Log on to the new web portal of Commercial Taxes Department - http://rajtax.gov.in
- Click on New User (for one time registration).
- Provide your Taxpayer Identification Number (TIN), other registration details and Password of your choice. You will be registered on the website. Please remember your password for all future login on the website. Your Login ID will by your TIN No.
- For online payment of VAT or CST go to the http://rajtax.gov.in, give your Login Id and Password.
- Select e-Payment (VAT or CST).
- Fill up the VAT or CST Chelan form, select your bank (State Bank of Bikaner & Jaipur or State Bank of India) from which you want to make the payment, confirm the details and click on Submit button.
- You will be taken to the selected bank's portal www.sbbjonline.com Login with your Internet Banking User ID and Password, select your account to be debited (if you have multiple accounts) and verify the VAT or CST challan details.
- Confirm the payment to be made.
- Carry out any authorizations required as per your Internet Banking account setup.
- You will receive the message regarding successful payment.
- A Cyber Receipt will be generated; you can take a printout of Cyber Receipt for your record.

- Logout from the system.

3. **Alteration in Profile:** The profile tab enables you to set your display name, emails ID, Mobile number and change your password. You can enable high security online transactions, hide accounts for display set limits for demand draft or third party. You can also add a third party or Inter Bank beneficiary of State Bank Group beneficiary.

Railway Booking: SBI online provide facility to book rail tickets. There is a maximum amount charged by SBI bank.

Steps to book internet railway booking:

- Logon to the IRCTC site: http://www.irctc.co.in/
- Register yourself on the site (if you are a first time user) or log on with Username and Password (meant for the IRCTC site).
- In the 'Plan My Travel and Book Ticket' option, provide the departure and arrival stations, date and class of the journey, which are required to book your ticket.
- Select your train from the list of trains displayed by IRCTC and click on 'Book Ticket'.
- Provide passenger details and confirm your address for getting the tickets delivered to you. The amount for the ticket will be displayed for payment.
- Select 'SBIAssociate Bank' as your payment option. You are redirected to a State Bank Group page.

- You can pay for your ticket using an account in any of following six associate banks such as State Bank of Bikaner and Jaipur, State Bank of Hyderabad, State Bank of Indore, State Bank of Mysore, State Bank of Patiala and State Bank of Travancore.
- Select the bank with which you hold an account.
- Click Submit. You are displayed the Internet Banking Login page for your bank.
- Log in with Username and Password (provided for your bank accounts) and confirm the payment.
- If the transaction is successful, you are displayed a Transaction Id and the date of transaction.
- The ticket will be delivered by IRCTC at your place of choice (in case of I-ticket). In case of E-ticket, you will have to print ticket from your printer and no physical ticket will be dispatched. You can reprint E-ticket at any time.
- Delivery of ticket is the sole responsibility of IRCTC.
- Apart from the charges levied by IRCTC, Service charges @ Rs. 10/- per transaction will be levied by the bank weft. 15.05.2007.
- For cancellation of ticket, submit your ticket at a computerized counter of Indian Railways (in case of I-ticket). In case of E-ticket, you can do online cancellation on the IRCTC site within the time frame specified by IRCTC.
- On cancellation of ticket, the amount will be credited back to your account (in case of both I-ticket as well as E-ticket). The amount credited would be the amount less cancellation charges as levied by IRCTC. State Bank Group does not levy any cancellation charges. However, the Service charges @ Rs. 10/- per transaction levied by the bank will not be refunded in case of cancellation done by the customer.

- While making payment for railway ticket if the connection is terminated after debiting your account and you are not sure whether the ticket was booked or not, in all such cases you can check it under Booking History section on the IRCTC site. In case if your account is debited but ticket is not booked, please do not panic, your account would be credited back with the amount within the next 3 working days.

THERE ARE TWO BEST BANK IN INDIA FOR E-BANKING.THEY ARE:-

1. KOTAK MAHINDRA BANK

2. CANRA BANK

KOTAK MAHINDRA BANK:-

Establish in1984, kotak Mahindra is one of India's leading financial institution, offering complete financial solutions. From commercial banking, to stock broking, to mutual funds, to life insurance, to investment banking, the group caters to the financial 2003, kotak Mahindra finance ltd, the group's flagship company was given the license to carry on banking business by the reserve bank of India .kotak Mahindra finance ltd, is the first company in the India banking history to convert to a bank.

NET BANKING:-

- Kotak Mahindra bank's net banking service brings you the timeless world of instant banking. It is quick and easy, available to you 24*7 and it's absolutely free!

- Demat Accounts, investment accounts, netc@rd and pay your bills pay for your online shopping, and make subscription payments and more. And all this comes to you on a robust and secure technology platform.

CANARA BANKING:-

Canara bank is one of the nation's largest bank. Established in the year 1910 the bank operates more than 3300 branches within India. Canara bank has been rolling out its own network of automated teller machines as well as developing anytime-anywhere banking services through internet and other technologies. The bank is forging ahead with cutting edge technology and innovative new banking models.

E-banking through canara bank-

For internet banking services canara bank has special portal by the name Cansecure. Cansecure is the next generation Internet banking security solution that is being offered by Canara bank to its all retail and corporate internet banking experience. Cansecure is intended to facilitate the customer with a secure internet banking experience. Cansecure is intended to customer safe from a variety of internet banking threats. It is easy to install and activate and once activated provide all-round protection when the customer perform internet banking. Cansecure provides security against username/password theft, phishing attacks and against malicious software on the machine. Cansecure provides the upgraded level of secure internet banking environment, as compared to that provide by the non-Cansecure based internet banking. The portal provides anywhere, anytime access to Canara bank accounts.

COMPARISON BETWEEN KOTAK AND CANARA BANK:-

KOTAK BANK	CANARA BANK
1. Pay your utility Bills, credit card recharge prepaid mobile/DTH using kotak bill Pay.	1. Funds transfer facility between your own accounts of the same branch/maintained across CBS branches and third party transfers.
2. Re-generate Debit card pin, activate/deactivate debit card, activate /deactivate debit card for international usage, link accounts.	2. Summary of operative accounts/term deposit /load accounts all information are provided online.
3.safe online shopping with kotak Netc@rd at over 8500websites	3. We can view/query transactions in all your operative/term deposits/loan accounts.
4. Invest/Redeem in mutual funds online and view current mutual fund portfolio.	4. Opening and viewing of term deposits, term deposit payout instructions and TDS inquiry online.
5. Download digitally signed statement through statement tab.	5. Request accounts statement.
6. Apply for new debit card, upgrade debit	6. We can change password, update

card, apply for image debit card, apply for priority pass, and apply for card protection plan.	profile, contact relationship through internet.

RESEARCH METHODOLOGY

Research is defined as human activity based on intellectual application in the investigation of matter. The primary purpose for applied research is discovering, interpreting, and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe.

The term *research* is also used to describe an entire collection of information about a particular subject.

Methodology is the method followed while conducting the study on a particular project. Through this methodology a systematic study is conducted on the basis of which the basis of a report is produced.

It is a written game plan for conducting Research. Research methodology has many dimensions. It includes not only the research methods but also considers the logic behind the methods used in the context of the study and explains why only a particular method or technique has been used. It also helps to understand the assumptions underlying various techniques and by which they can decide that certain techniques will be applicable to certain problems and other will not. Therefore in order to solve a research problem, it is necessary to design a research methodology for the problem as the some may differ from problem to problem.

Nature

The methodology adopted to achieve the project objective involved exploratory research & descriptive research method. The information required for fulfilling the objective of study was collected from various primary and secondary sources.

Type of research

This study is EXPLORATORY and DESCRIPTIVE in nature. It helps in breaking vague problem into smaller and precise problem and emphasizes on discovering of new ideas and insights. Exploratory research was conducted during the initial stage of the research process which helped to refine the problem into researchable one. It has progressively narrowed the scope of research topic.

Research design

Research design constitutes the blue print for the collection, measurement and analysis of data. The present study seeks to identify the extent of preferences of E-Banking over traditional banking among service class. The research design is exploratory in nature. The research has been conducted on service class people. For the selection of the sample, convenient sampling method

was adopted and an attempt has been made to include all the age groups and gender within the service class.

Sources of data:

Following are the methods of sources of data:

Secondary data:

- Articles on E-Banking taken from journals, magazines published from time to time.
- Through internet.

Primary data:

Questionnaire was used to collect primary data from respondents. The questionnaire was structured type and contained questions relating to different dimensions of e-banking preferences among service class such as level of usage, factors influencing the usage of e-banking services, benefits accruing to the users of e-banking services, problems encountered. An attempt was also made to elicit reasons for its non-usage. The questions included in the questionnaire were open-ended, dichotomous and offering multiple choices.

Sampling technique: The sampling technique used for judgment is **CONVENIENCE AND JUDGEMENT SAMPLING**.

Sampling unit: It defines the target population that will be sampled i.e. it answers who is to be surveyed. In this study, the sampling unit is the service class people..

Sampling size: It indicates the numbers of people to be surveyed. Though large samples give more reliable results than small samples but due to constraint of time and money, the sample size was restricted to 100 respondents. The respondents belong to different income group and profession.

Response Rate: Out of 100 selected samples only 87 respondents have given me the response. So the response rate was 87%.

Method of data collection: The survey method is used to collect the data. Various places of visited for the purpose of collection of data.

Research instrument:

The instrument used for gathering data was questionnaire. To get further insight in to the research problem, interview regarding their buying practices too was made. This was done to crosscheck the authenticity of the data provided. To supplement the primary data and to facilitatethe process of drawing inference, secondary data was collected from published sources like magazines, journals, newspapers etc.

Tools and techniques of analysis:

The data so collected will be analyzed through the application of statistical techniques, such as bar graphs and pie charts.

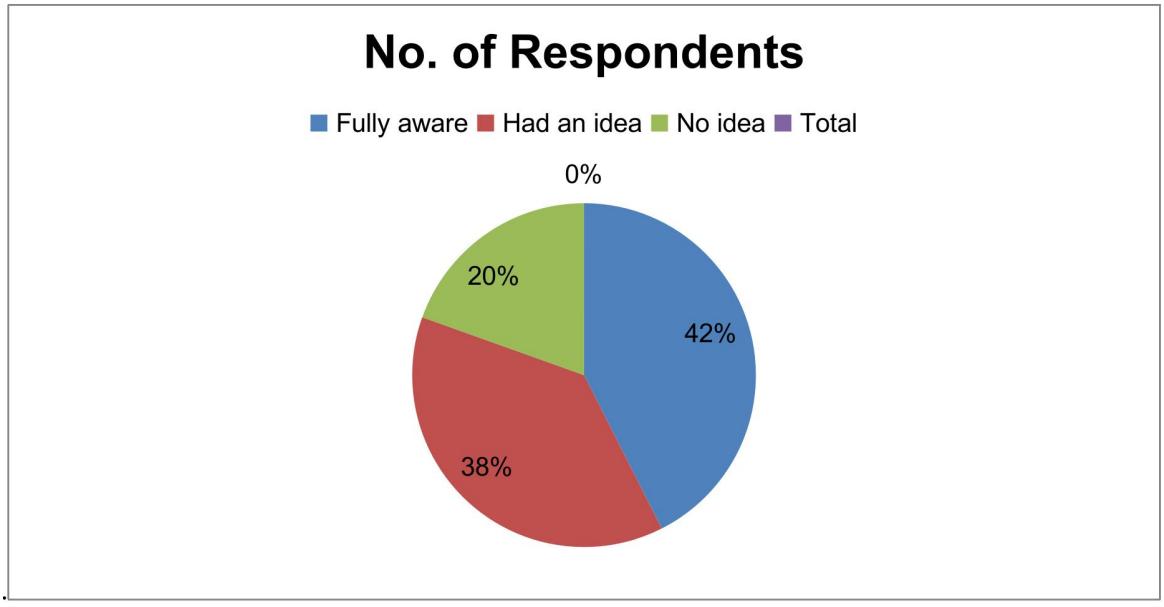
DATA ANALYSIS AND INTERPRETATION

➤ **Table 1.**

Awareness of people regarding e-banking service provided by the bank while opening an

	No. of Respondents	Percentage
Fully aware	37	42.53%
Had an idea	33	37.93%
No idea	17	19.54%
Total	87	100%

Figure: 1



Interpretation

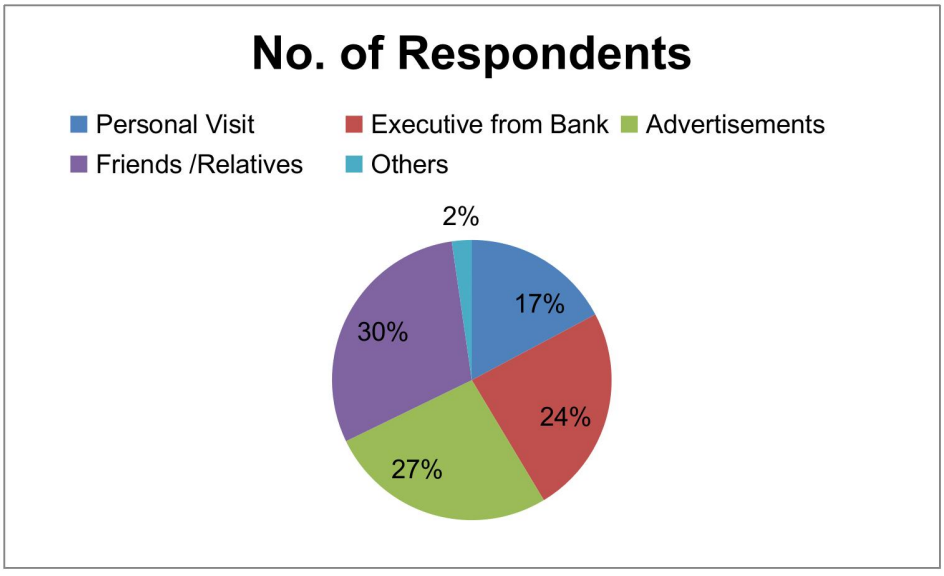
As seen from **Table 1**, overall percentage of service class people having complete knowledge about e-banking services provided by the bank while opening an account in it is 38%, those having some idea about it is 42% and the percentage of people having no awareness of e-banking

A service provided by the bank is 20%. It can reasonably, be concluded that nearly 85% of the population is having awareness about e-banking services

➤ Table 2.

Sources from which the respondents get the knowledge about the e-banking services

	No. of Respondents	Percentage
Personal Visit	15	17.24
Executive from Bank	21	24.14
Advertisements	23	26.44
Friends /Relatives	26	29.89
Others	2	2.30



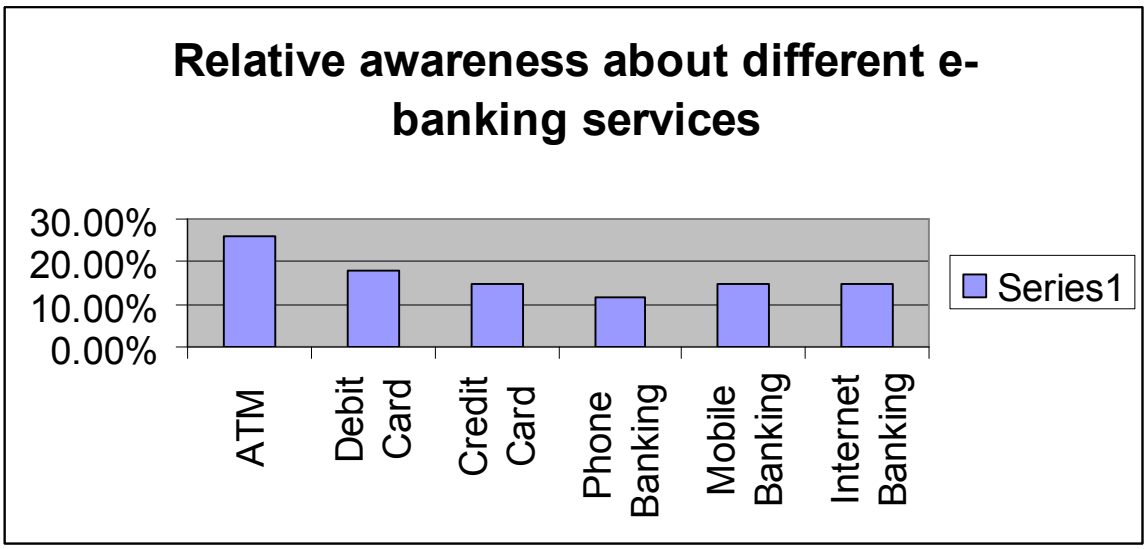
Interpretation

Indicates the percentage distribution of awareness avenues, the major are in favor of advertisements, which score 34% among different avenues such as personal visit, executives of the banks, advertisements and friend/relatives. While the least score is for personal visit and that of other sources.

➢ Table 3.

Awareness of E-Banking services

	No. of Respondents	**Percentage**
ATM	88	26.03%
Debit Card	60	17.75%
Credit Card	50	14.79%
Phone Banking	40	11.83%
Mobile Banking	50	14.79%
Internet Banking	50	14.79%
Total	338	100%



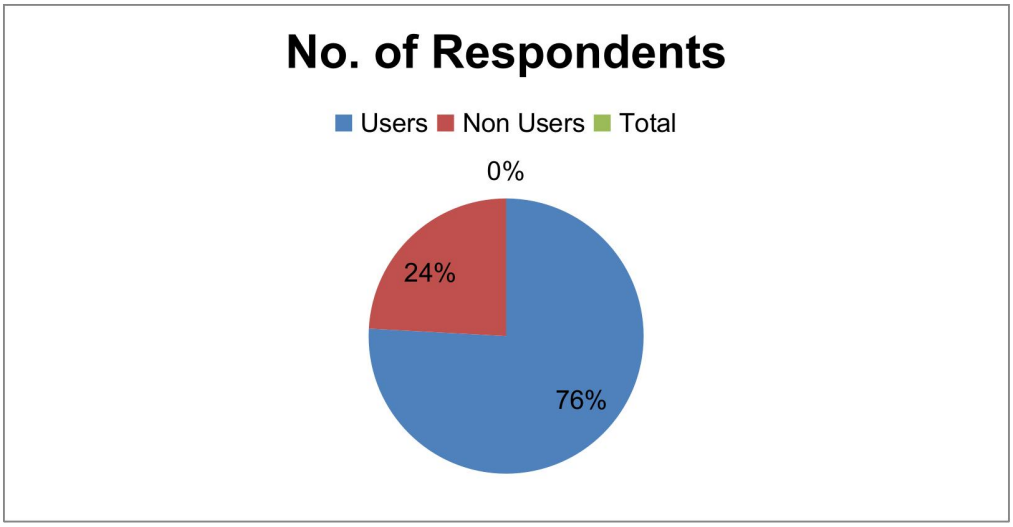
Interpretation-banking constitutes services provided in terms of ATMs, Debit Card, Credit Card, Phone Banking, Mobile Banking, Internet Banking etc., of which the first six have been covered. Amongst these ATM scores the largest used service status (26.03%) as indicated by Close on the heels is Debit card (17.75%), Credit card (14.79%), while phone banking lags behind by scoring the least i.e. 11.83%.

➢ Table 4

Users of E-banking services

	No. of Respondents	Percentage
Users	66	75.86%
Non Users	21	24.14%
Total	87	100%

Figure 4



Interpretation

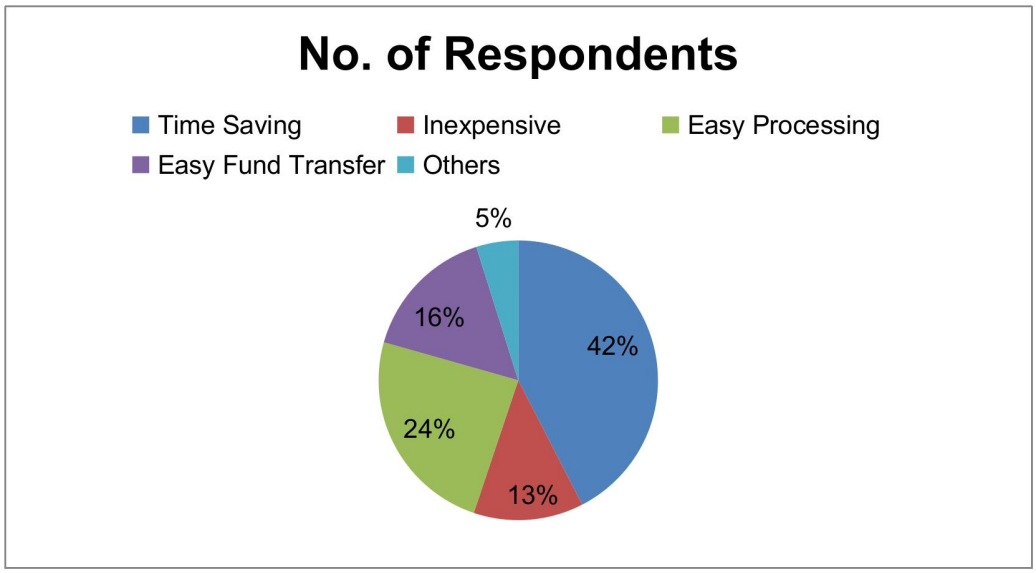
Shows that among those aware about 66 persons use e-banking services, which is 75.86% of total population studied .And 24.14% are nonuser.

➤ Table 5

Various benefits accruing from E-Banking services to its users

	No. of Respondents	Percentage
Time Saving	70	42.42%
Inexpensive	21	12.72%
Easy Processing	40	24.24%
Easy Fund Transfer	26	15.75%
Others	8	4.85%

Figure 5



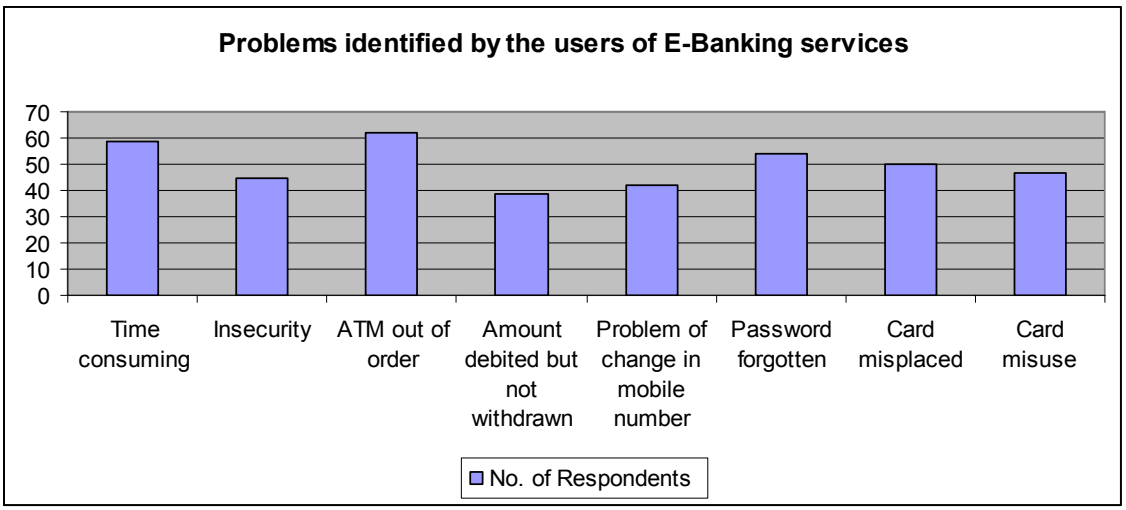
Interpretation

When asked to list various benefits accruing from the usage of e-banking, time saving received highest percentage score at 42.42% among different benefits such as time saving (42.42%), inexpensive (12.72%), easy processing (24.24%), easy fund transfer(15.75%).Quite interestingly, easy processing feature scored more than the inexpensiveness of the e-banking services. The other benefits accruing to the people include ready availability of funds, removal of middlemen and no rude customer relation executives

➢ Table 6

Problems identified by the users of E-Banking service

	Factors	No. of Respondents	Percentage
a	**Time consuming**	59	14.82%
b	**Insecurity**	45	11.31%
c	**ATM out of order**	62	15.58%
d	**Amount debited but not withdrawn**	39	9.80%
e	**Problem of change in mobile number**	42	10.55%
f	**Password forgotten**	54	14.57%
g	**Card misplaced**	50	12.56%
h	**Card misuse**	47	11.81%



Interpretation

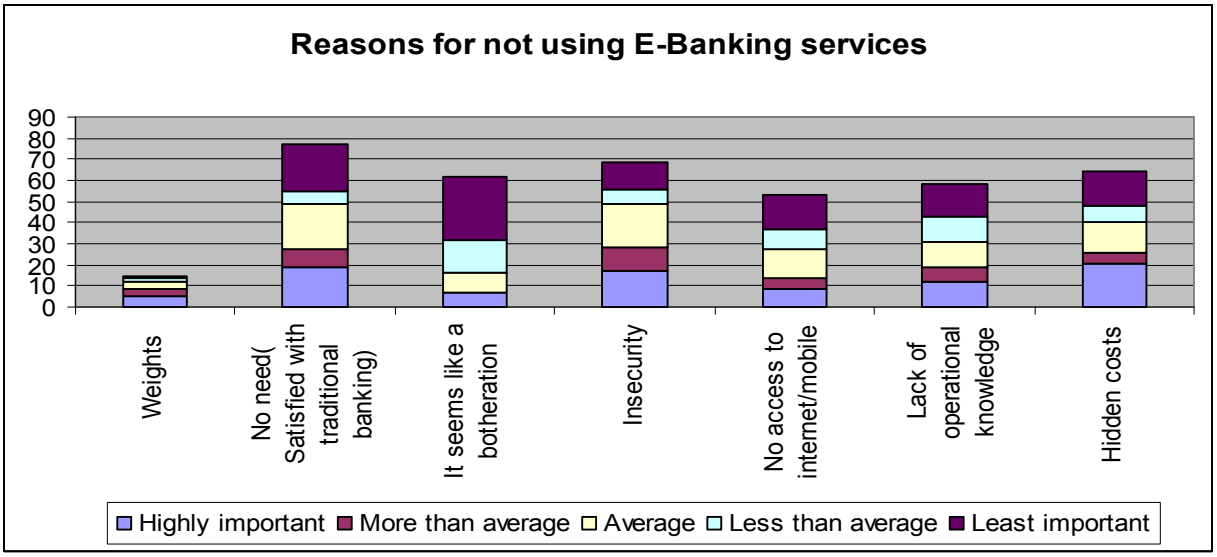
Most of the users face the problem of ATM out of order (15.58%), followed by time consuming (14.82%), password forgotten (14.57%) and then other problems as card misplaced, card misuse, insecurity, etc.

➢ Table 7

Reasons for not using E-Banking services as rated by the non-users

	Factors	Highly important	More than average	Average	Less than average	Least important	Total
	Weights	5	4	3	2	1	
A	**No need(Satisfied with traditional banking)**	19	8	22	6	22	77
B	**It seems like a botheration**	7	0	9	16	30	62
C	**Insecurity**	17	11	21	7	13	69
D	**No access to internet/mobile**	9	5	13	10	16	53
E	**Lack of operational knowledge**	12	7	12	12	15	58
F	**Hidden costs**	21	5	14	8	16	64

Figure 7



Interpretation: From the non-users, an attempt was made to elicit the reasons for its non-usage. As indicated by table 12, satisfaction with traditional banking was considered as prime de-motivating factor, followed closely by the fear of insecurity, then 'hidden cost' factor, which suggested their resistance to change, which to some extent can be countered by aggressive advertisement and utilizing other modes of awareness dissemination as well.

Recommendations

With the above approach in mind, the Group recommends that the regulatory and supervisory concerns relating to Internet banking can be met in the manner outlined in the following paragraphs.

All banks which propose to offer transactional services on the Internet should obtain an in-principle approval from RBI prior to commencing these services. The application should be accompanied by a note put up to the Board of the bank along with Board resolution passed. The Board note should cover the reasons for the bank choosing to enter into such business, the potential penetration it seeks to achieve, a cost-benefit analysis, a listing of products it seeks to offer, the technology and business partners for the products, and all third party support services and service providers with their track record and agreements with them, and the systems and the skills and capabilities it has in this regard and most materially the systems, controls and procedures it has put or intends to put in place to identify and manage the risks arising out of the proposed ventures. The bank should also enclose a security policy framed in this regard which should cover all the recommendations made in Chapter 6 of this report and produce a certification from a reputed external auditor who is CISA or otherwise appropriately qualified that the security measures taken by the bank are adequate and meet the requirements and that risk management systems are in place to identify and mitigate the risks arising out of the entire gamut of Internet banking operations. The RBI could require the bank together with the auditor to hold discussions with the RBI in this regard before granting such approval. After this initial approval is given, the bank would be obliged to inform the RBI of any material changes in web-site content and launch of new products. The assurance about security controls and procedures,

which is sought from the specialist external auditors, should be periodically obtained, with the periodicity depending on the risk assessment of the supervisor. Further, banks would also be required to report every breach or failure of the security systems and procedures to RBI, who may decide to subject the failure to an on-site examination or even commission an auditor to do so. The RBI as supervisor would cover the entire risks associated with electronic banking as part of its annual inspections. For this purpose, a checklist could be developed along the lines of those covering general computerized banking featured in the manual developed for inspection of computerized branches. Till such time as the RBI builds up sufficient capability to do this in-house, it is recommended that this function be outsourced to qualified EDP auditors.

The focus of the supervisory approach would mainly be the transactional Internet banking services offered by existing banks as an alternative channel. To some extent the concerns in this regard are the same as those arising out of electronic banking in general. The RBI has issued guidelines in the recent past on the "Risks and Controls in Computers and Telecommunications" which would be applicable equally to Internet banking. Another supervisory focus would be on Record Maintenance and their availability for inspection and audit. Again, RBI has issued guidelines for these "Preservation and Record Maintenance" which need to be updated to include the risks heightened by banking on the net. Broadly, the record preservation and maintenance policy must encompass record keeping, record retention, record media and record location. The key features of this enhancement would be as follows:

1. The cornerstone of this policy should be security. Access to all bank-related electronic data should be restricted to authorized individuals.
2. All transactional, financial and managerial data pertaining to the previous financial year must be archived before 1 July of the subsequent financial year.

3. A senior officer / executive of the Bank possessing appropriate qualifications, education and/or background should be designated in-charge of the archived data. A possible designation could be Archived Data Security Officer.
4. All access to archived data should be with the authentic (written or by e-mail) approval of this Archived Data Security Officer (ADSO).
5. The role and responsibilities of the ADSO should be clearly delineated and well publicized within the bank.
6. Data so archived should be on such a platform and using such a technology that future alteration / modification / deletion of the data is not possible, once the data is archived.
7. If the technology and/or platform used for data storage involves compression and/or dis-aggregation of data, banks should have in place adequate software/hardware which will ensure easy restoration of the data as and when required by the bank's own departments and also by RBI as well as other statutory authorities.

All transactional, financial and managerial data should be available on-line. If, for reasons of paucity of on-line storage, such data (of the current financial year) has been

1. Backed-up and removed from on-line storage, it must be available in a format and at a location which ensures that the data can be restored on-line within a maximum of 24 hours from the date and time at which the demand for such data is made by users from within the bank or from RBI or other statutory authorities.
2. Similarly, transactional, financial and managerial data of the previous financial year should be made available within a maximum of 48 hours of the date and time at which

such request is made by the bank's own users or by the RBI and other statutory authorities.

A vulnerability which is accentuated in Internet banking is the reliance upon third party providers and support services and this requires banks to effectively manage the risks of all outsourced activities. In turn the supervisors should have the ability to assess the risks arising out of such liaisons. Direct supervision of the third party by the supervisor is not envisaged. Accordingly, as part of the Internet policy, banks should develop outsourcing guidelines, which mitigate the risks of disruption and defective service. Alternatively, the IBA (Indian Banks Association) or IDRBT (Institute for Development and Research in Banking Technology) could be asked to develop broad guidelines for the use of the banking community.

Payment Gateway:

An externally shared service, which will develop, as the pivot of the Internet banking would be the payment gateway. With the increasing popularity of "e-Commerce" i.e., buying and selling over the Internet, electronic payments and settlements for such purchases, is a natural and expected requirement. Banks, which are the vital segment of the payment system in the country, will therefore be required to equip themselves to meet this emerging challenge. In its basic form, the 'Inter-Bank Payment Gateway' for payments and settlements of e-Commerce transactions is not very different from the traditional cheque clearing system, which is perhaps the most widely prevalent form of Inter-Bank settlement of funds, or the net settlement system of the international card agencies like Visa, Master Cards and American Express, for the credit card payments.

With the emergence of the Internet and the ability to buy and sell over the Internet, it has become imperative to deploy a similar Inter-Bank Payment Gateway to facilitate authorization for

Payments and settlement between participating institutions for commercial transactions carried out over the Internet. No one particular model for setting up an Inter-Bank Payment Gateway for such payments has been established as yet and we are, therefore, in a situation where the regulatory and supervisory framework itself needs to be evolved.

Given the above considerations, the following framework for setting up Inter-Bank Payment Gateways for Internet payments in India is suggested:

1. Only institutions that are members of the cheque clearing system in the country may be permitted to participate in the Inter-Bank Payment Gateway initiatives for Internet payments.
2. Both 'net-settlement' and 'gross-settlement' capabilities might be necessary, net settlement being the settlement mode for transaction below a certain pre-specified threshold value and gross settlement for transactions higher than the pre-specified value.
3. The Inter-Bank Payment Gateway should have one nominated bank as the clearing bank to settle all transactions.
4. The approval for setting up the Inter-Bank Payment Gateway should be granted only by the Reserve Bank of India, in their capacity as the Regulator of banks and Payment Systems in the country. The norms to become eligible to set up the Inter-Bank Payment Gateway should be specified by the Reserve Bank of India, on the basis of which institutions may seek formal approval to set up the Inter-Bank Payment Gateway.
5. It is expected that there will not be more than two or three Inter Bank Payment Gateways in the Country and all banks who wish to participate in the payment and settlement for e-

Commerce transactions originated over the Internet could become a member of one or more of these Inter-Bank Payment Gateways.

6. All payments routed through the Inter-Bank Gateways should only cover direct debits and direct credits to the accounts maintained with the participating Banks by the parties involved in the e-Commerce transaction.
7. Payments affected using credit cards should not be routed through the Inter-Bank Payment Gateway. These should be authorized by the payer bank (i.e., acquiring bank) directly through its credit card authorization capability.

It should be obligatory on the part of the Inter-Bank Payments Gateway to establish, at any time, the complete trace of any payment transactions routed through it. The trace should cover date and time stamp when the transaction was originated and authorized, the payee

1. details (account number and name of the payee bank), the payers details (account number and name of the payer bank), as well as a unique Transactional Reference Number (TRN) provided by both the Payee Bank and Payer Bank for each transaction.
2. Connectivity between the Inter-Bank Payment Gateway and the computer system of the member Banks should be achieved using a leased line network (not over the Internet), with appropriate data encryption standards.
3. All settlements over the Inter-Bank Payment Gateway should be intra-day, as far as possible in real time.
4. Until the exchange control aspects with regard to cross-border issues of e-Commerce transactions are fully discussed and documented, payment and settlement of such transactions should not be permitted over the Inter-Bank Payment Gateway.

5. Only Inter Bank Payments and Settlements (i.e. transactions involving more than one Bank) should be routed through the Inter-Bank Payment Gateway. Intra-bank payments (i.e., transactions involving only one Bank) should be handled by the bank's own internal system.
6. The responsibility for the credit risk associated with every payment transaction routed over the Inter Bank Payment Gateway will rest with the appropriate Payee Bank.
7. The mandate and the related documentation (that would form the basis for effecting payments for transactions carried out over the Internet) should be bilateral in nature i.e., (a) between the Payee and the Payee's bank (b) the Payer and Payer's bank, (c) between the participating banks and the service provider who is responsible for the operations of the Inter Bank Payment Gateway, and (d) between the banks themselves who are participating in the Inter Bank Payment Gateway Initiative. The rights and obligations of each party should be clearly stated in the mandate and should be valid in a court of law.
8. All transactions must be authenticated using a user ID and password. SSL/128 bit encryption must be used as the minimum level of security. As and when the regulatory framework is in place, all such transactions should be digitally certified by one of the licensed Certification Authorities.
9. The Service Provider who is responsible for the operations of the Inter-Bank Payment Gateway must ensure adequate firewalls and related security measure to ensure privacy to the participating institution, i.e., every institution can access data pertaining to only it and its customer transactions.
10. Internationally accepted standards such as ISO8583 must be used for transmitting payment and settlement messages over the Network.

11. It may also be appropriate to have a panel of approved Auditors who will be required to certify the security of the entire infrastructure both at the Inter-Bank Payment Gateway as well as the participating institution's end prior to making the facility available for customer use. A process of perpetual audit must also be instituted.

It is not enough for the risk identification and assessment exercise to be between the bank and the supervisor alone. The customer too needs to be enlightened of the risks inherent in doing business on the net, and this would be served by having a mandatory disclosure template which would list the risks to the customer and the responsibilities and possible liability of the banks and the customer. Banks should also provide their most recent published financial results on their web-site.

The issue of reputation risk due to customers misunderstanding the hyper-links on the web-sites of banks also needs to be addressed. Fundamentally there are two scenarios where hyperlinks are necessary between non-bank business sites and bank-sites:

1. Where the Bank is required to inform visitors to its own Web Site about the Portals with whom they have a payment arrangement or Portals that the bank would want its customers to visit. These out-bound hyperlinks are unlikely to have any major security implications to the bank. In order to reflect the stability of the banking system, banks should not be seen as sponsors of or promoters of the products of unrelated businesses or of any businesses, which they are not licensed to run. The hyperlinks should hence be confined to only those portals with which they have a payment arrangement or the sites of their subsidiaries or principals.

The second type of hyperlink is where the Portal sites link to the bank site to pass information pertaining to a payment by one of their Internet Shoppers. This usually involves making a URL

(Universal Resource Locator) link to the bank site to request authorization for payment. Such links deliver to the bank site information regarding the customer (typically his registration no) and the value of the payment to be authorized. Unless the bank exercises the right level of authentication and security, this type of URL links can be the source of a number of security breaches. It is therefore imperative thatevery bank ensures at least the following minimum-security precautions in order that the bank's as well as its customer's interests are protected.

Upon receiving the URL request from the Portal site, the bank should authenticate the customer who has originated the transaction by asking him to key in, on the browser screen, his user ID and password which the bank would have provided him to facilitate access to his accounts with the bank.

Upon such authentication and due verification, the bank should re-submit the transaction information on the customer's browser terminal i.e., the name of the Portal site to whom the payment is to be effected as well as the value of the transactions and seek the explicit approval of the customer to authorize the payment. Depending on the nature of the payment, the payment authorization request should be routed either to the credit card authorizing system if payment is requested using credit card, or to the banks' host system in case of a direct debit or to the Inter-Bank Payment Gateway in case of debit to customer account in another bank.

Upon receiving the payment authorization, the bank should return the URL request to the originating Portal, with a unique reference number for the transaction, as a conformation to pay as per the settlement cycle agreed with the Portal.

All interactions with the Portal sites as well as the customer's browser terminal should be secured using SSL/128 bit encryption as a minimum requirement and should in due course be

also augmented with the digital certification requirement as and when digital certificate deployment is enabled in the country. It was deliberated whether banks undertaking Internet banking should be subject to any additional capital charge because of the potentially higher proneness to unexpected losses. As yet standards have not been developed for measuring additional capital charge on account of operational risks. However, this will be covered in a way once the banks move towards risk-based supervision where supervisory intervention will be linked to the risk profile of individual institutions. In such a scenario, an enhanced supervisory risk assessment on this account could warrant an additional capital charge, which would also be consistent with the second pillar approach of the new capital accord. The Basle Committee for Banking Supervision (BCBS) has constituted an Electronic Banking Group (EBG) to develop guiding principles for the prudent risk management of e-banking activities as an extension of the existing Basel Committee Risk Management Principles. The Group will identify the areas of concern for supervision of cross border e-banking activities and will promote cooperative international efforts within the banking industry. It will evolve sound practices and will encourage and facilitate exchange of information, training material, guidance etc., developed by other members and supervisors around the world. Therefore, there is a need for continued interaction among the central banks and supervisors with a view to enhancing the abilities of the supervisory community to keep pace with the dynamic e-banking activities. This Working Group, therefore, recommends that the Reserve Bank of India should maintain close contact with regulating / supervisory authorities of different countries as well as with the Electronic

CONCLUSION

The usage of E-banking is all set to increase among the service class. The service class at the moment is not using the services thoroughly due to various hurdling factors like insecurity and fear of hidden costs etc.

So banks should come forward with measures to reduce the apprehensions of their customers through awareness campaigns and more meaningful advertisements to make E-banking popular among all the age and income groups. Further, with increasing consumer demands, banks have to constantly think of innovative customized services to remain competitive.

E-Banking is an innovative tool that is fast becoming a necessity. It is a successful strategic weapon for banks to remain profitable in a volatile and competitive marketplace of today.

In future, the availability of technology to ensure safety and privacy of e-transactions and the RBI guidelines on various aspects of internet banking will definitely help in rapid growth of internet banking in India. Also while comparing between two banks (kotak Mahindra and Canara bank) I found kotak bank is best for using e-banking because it provide maximum services to their customer while

using e-banking. And they give lots of offer to their customer while internet transaction.

FINDINGS OF THE STUDY

- The overall percentage of servicemen having complete knowledge about e-banking services provided by the bank while opening an account in it is 37%, those having some idea about it is 46% and the percentage of people have no awareness of e-banking services provided by the bank is 17%. It can reasonably, be concluded that nearly 85% of the population is having awareness about e-banking services.
- The percentage distribution of awareness avenues, the major skewness is in favor of advertisements, which score 34% among different avenues such as personal visit, executives of the banks, advertisements and friend/relatives. While the least score is for personal visit.
- Among those aware (which account for 83 in number) about 74 persons use e-banking services, which is 74% of total population studied.
- E-banking constitutes services provided in terms of ATMs, Debit Card, Credit Card, Phone Banking, Mobile Banking, Internet Banking etc., of which the first six have been covered. Amongst these ATM scores the largest used service status (26.03%) Close on the heels is Debit card (17.75%), Credit card (14.79%), while phone banking lags behind by scoring the least i.e. 11.83.

- To find out the level of usage amongst the service class, percentage has been calculated from the total completely filled in questionnaires and the incomplete questionnaires were discarded. The frequency of usage of ATM is highest followed by debit card..
- A study of the factors, influencing the usage was made by listing out various factors such as all-time availability, ease of use, nearness etc., and amongst the various factors all time availability is ranked as the major motivating factor, followed by ease of use, direct access, nearness in decreasing order of importance. Quite interestingly friends and relatives, status symbol scored the least motivating factors.
- When asked to list various benefits accruing from the usage of e-banking, time saving received highest percentage score at 42.42% among different benefits such as time saving (42.42%), inexpensive (12.72%), easy processing (24.24%), easy fund transfer(15.75%).Quite interestingly, easy processing feature scored more than the inexpensiveness of the e-banking services. The other benefits accruing to the people include ready availability of funds, removal of middlemen and no rude customer relation executives.
- Among the users, various problems that are encountered while using e-banking services. Card misuse and its misplace are major reasons that create hurdles in its usage, while time consumption, accounting mistakes such as amount debited but not withdrawn and change of mobile number seem to be the least bothering problems.
- From the non-users, an attempt was made to elicit the reasons for its non-usage.. Satisfaction with traditional banking was considered as prime de-motivating factor, followed closely by the fear of insecurity, then 'hidden cost' factor, which suggested

their resistance to change, which to some extent can be countered by aggressive advertisement and utilizing other modes of awareness dissemination as well.

SUGGESTIONS

Internet banking would drive us into an age of creative destruction due to non-physical exchange, complete transparency giving rise to perfectly electronic market place and customer supremacy. The question to be asked right now is "What the Indian Banks should do" Whatever is the strategy chosen and options adopted, certain key parameters would determine the bank's success on web:

For long-term success, a bank may follow:

- Adopting a webs mindset
- Catching on the first mover's advantage
- Recognizing the core competencies
- Ability to deal multiplicity with simplicity
- Senior Management initiative to transform the organization from inward to outward looking
- Aligning roles and value propositions with the customer segments

- Redesigning optimal channel portfolio
- Acquiring new capabilities through strategic alliances.

The above can be implemented in four steps:

- Familiarizing the customer to new environment by demo version of software on bank's web site. This should contain tour through the features which are to be included. It will enable users to give suggestions for improvements, which can be incorporated in later versions wherever feasible.
- Second phase provides services such as account information and balances, statement of account, transaction tracking, mailbox, check book issue, stop payment, financial and customized information.
- The third phase may include additional services such as fund transfers, DD issue, standing instructions, opening fixed deposits, intimation of loss of ATM cards.

The last step should include advanced corporate banking services like third party payments, utility bill payments, establishment of L/Cs, Cash Management Services etc.

- Enhanced plan for the customers in future can include requests for demand drafts and pay orders and many more to bring in the ultimate in banking convenience.

Also if proper training should be given to customer by the bank employs to open an account will be beneficial secondly the website should be made friendlier from where the first time Customers can directly make and access their accounts.

We can see the time is changing and we the passage of time people are accepting technology there is still a lot of perceptual blocking which hampers the growth it’s the normal tendency

of a human not to have changes work on the old track, that's also one of the reason for the slow acceptance of internet banking accounts.

- Give proper training to customers for using I-banking
- Create a trust in mind of customers towards security of their accounts
- Provide a platform from where the customers can access different accounts at single time without extra charge.
- Customers should be motivated to use e banking facilities more.

WEBSITES

- www.banknetindia.com
- www.bharatbook.com
- www.sbi online.com
- www.google.com

Reference:

- Financial Express (News Paper).
- Financial Services Regulatory Report – www.mayerbrown.com
- Bank for International Settlements-
- Journal of Internet Banking and Commerce
- E-Commerce

QUESTIONAIRE

1. In which banks do you have your account?

   a. State Bank of India ☐ b. S.B.I. Bank ☐

   c. kotak Mahindra Bank ☐ d. ICICI Bank ☐

   e. State Bank of Patiala ☐ f. Canara Bank ☐

   g. Bank of India ☐ h. Oriental Bank of Commerce ☐

   i. Any other, Please Specify

      i. ----------

      ii. ----------

      iii. ----------

2. While opening up the account, were you aware of E-banking services provided by your bank?

   a. Fully aware ☐ b. Had an idea ☐ c. No ☐

3**. If answer to question no.2 is c,** how did you get to know about E-banking services of your bank?

a. Personal visit ☐
b. Executive from the bank ☐
c. Advertisements ☐
d. Friends/ Relatives ☐

4**. If answer to question no.2 is A or B,** which of the following E-banking services are you aware of?

e. ATM ☐
f. Debit Card ☐
g. Credit Card ☐
h. Phone banking ☐
i. Mobile banking ☐
j. Internet banking ☐

5. Do you use E-banking services?

a. Yes ☐ b. No ☐

(**If No, answer question no. 10 directly**).

6. If answer to question no.5 is yes, how frequently do you use each of the following services?

	Factors	Once in a day	Once in a week	Once in a fortnight	Once in a month	Infrequently
a	ATM					
b	Debit Card					
c	Credit Card					
d	Phone Banking					
e	Mobile Banking					
f	Internet Banking					

7. Which of the following factors influence you the most to use E-banking services?

	Factors	Strongly	More than average	average	Less than Average	Not at all
a	All time availability					
b	Ease of use					
C	Nearness					
D	Security					
E	Direct access					
F	Friends/ Relatives					
G	Status symbol					

8. Which of the following benefits accrue to you, while using E-banking services?

a. Time saving ☐ b. Inexpensive ☐

c. Easy processing ☐ d. Easy fund transfer ☐

e. Any other, please specify_____

9. Rate the problems identified while using E-banking services?

	Factors	Highly Considered	Major	Average	Minor	Ignorable
A	Time consuming					
B	Insecurity					
C	ATM out of order					
D	Amount debited but not withdrawn					
E	Problem of change in mobile number					
F	Password forgotten					
G	Card misplaced					
H	Misuse of card					

10. Kindly rate the following reasons enlisted for not using the E-banking services?

	Factors	Highly important	More than average	Average	Less than average	Least important
A	No need(Satisfied with traditional banking)					
B	It seems like a botheration					
C	Insecurity					
D	No access to internet/mobile					
E	Lack of operational knowledge					
F	Hidden costs					

Any other, please specify_____

11. To what extent are you satisfied with your Banks' E-banking services?

b. Highly Satisfied _____

c. Satisfied _____

d. Neutral _____

e. Dissatisfied _____

f. Highly dissatisfied _____

12. What other services you would like to have through E-banking?

_____

_____

Respondent's Profile

Name : _____

Age : _____

Gender (M/F) : _____

Profession : _____

Organization : _____

Income level per month

Less than Rs. 10,000 ☐

Rs.10, 000 to Rs.20, 000 ☐

Rs.20, 000 to Rs.30, 000 ☐

More than Rs.30, 000 ☐