A PROJECT REPORT ON

"Services provided by the bank through E-BANKING"

AT

RMM IT Solutions Ltd.

BY

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UNDER THE GUIDANCE OF

PROF. KIRAN PATIL

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ALARD INSTITUTE OF MANAGEMENT SCIENCES, PUNE

DECLARATION

I undersigned, hereby declare that the project report entitles **"Services provided by the bank through E-BANKING IN INDIA"** written and submitted by me to the Savitribai Phule Pune University in the partial fulfilment of the requirements for the award of degree of **Master of Business Administration (MBA 2017 - 2019)** under the guidance of Prof..Kiran Patil.

I declare that this project work or part thereof has not been previously submitted by me for an award degree of any university.

PLACE:

SIGNATURE

DATE:

PREFACE

Management today is must for day-to-day life. Management is the integral part of the business. In this world, all things need proper management for its success. Business without proper management is like a castle of sand built on seashore. Even individuals need propermanagement for running their life smoothly. Only theoretical knowledge is not enough in MBA along with one needs some practical exposure in the corporate world also. MBA provides this opportunity through the medium of summer training. This training has madeone thing clear that there are two pillars for getting success in business i.e. efficiency and effectiveness; it means not only doing right things but also doing things rightly.

In **MBA** Theory of any subject is important but without its practical knowledge it becomes unless particularly for the Management Students. As a student of the Business Administration, we have studied many theories and concepts in the classroom, but only after taking up this project work we have experienced & understood these Management theories and practices in its fullest sense, which plays a very vital role in business field today. Theknowledge of management is incomplete without knowing the practical application of the theories studied.

This project report gives knowledge of **SERVICES PROVIDED BY THE BANK THROUGH E-BANKING IN INDIA.** This training has brought positive changes in my life & career. The training gave me a lot exposure which will be helpful to me for the rest of the MBA curriculum. I consider myself fortunate enough for getting guidance from one of the best banks at a very important stage of my career.


E-Banking

INDEX

SR. NO.	CONTENTS	PAGE NO.
1.	EXECUTIVE SUMMARY	6-7
2.	INTRODUCTION	8
3.	DEFINITION,OBJECTIVES & SCOPE	9-11
4.	LIMITATION OF E-BANKING	12
5.	RESEARCH METHODOLOGY	13-15
6.	THEROTICAL BACKGROUND	16-17
7.	ADVANTAGES & DISADVANTAGES	18-19
8.	DEVELOPMENT OF E-BANKING	20-29
9.	TYPES OF E-BANKING	30-39
10.	DIFFERENCE BETWEEN TRADITIONAL & E-BANKING	40
11.	TRENDS	41
12.	E-BANKING BENEFITS FOR RURAL INDIA	42-43
13.	PROGRESS OF E-BANKING	44-47
14.	DATA ANALYSIS	48-58
15.	SUGGESTIONS	59-60
16.	CONCLUSION	61-62
17.	BIBLIOGRAPHY	63

EXECUTIVE SUMMARY

E-banking usage has seen an explosive growth in most of the Asian economies like India, China and Korea. In fact, Korea boasts about a 70% e-banking penetration rate and with its tech-savvy populace has seen one of the most aggressive rollouts of e-banking services.

Still, the main reason that E-banking scores over Internet Banking is that it enables 'Anywhere Banking'. Customers now don't need access to a computer terminal to access their banks, they can now do so on the go – when they are waiting for their bus to work, when they are traveling or when they are waiting for their orders to come through in a restaurant.

The scale at which E-banking has the potential to grow can be gauged by looking at the pace users are getting e-banking in these big Asian economies. According to the Cellular Operators' Association of India (COAI) the e-banking subscriber base in India hit 40.6 million in the August 2004. In September 2004 it added about 1.85 million more. The explosion as most analysts say, is yet to come as India has about one of the biggest untapped markets. China, which already witnessed the e-banking boom, is expected to have about 300 million-banking users by the end of 2004. South Korea is targeted to reach about 42 million e-banking users by the end of 2005. All three of these countries have seen gradual roll-out of e-banking services, the most aggressive being Korea which is now witnessing the roll-out of some of the most advanced services like using e-banking to pay bills in shops and restaurants.

E-banking nowadays is the common trend here in our country. No more falling in line in banks, no more waiting tons of hours in the bank, no more days and weeks of waiting. All can be done with one card, one gadget. It's easy, it works, and most importantly, people like it. But still, some people are having a hard time using this kind of technology mostly people who are used to do things the old traditional way. With the use of advertising, people are now motivated to use E- banking because again, it eliminates the hassle encountered when using the old process of banking.

In this paper, the group will cover security issues and different impacts regarding the traditional banking method. The group is concerned about the issues presented because the group thinks that these issues are very important and relevant today, a lot of people save money and really trust banks with their money. In addition, the group wants this research paper to be read by many students who are in no knowledge about certain issues about banking. Lastly, the group will provide and recommend different solutions about the issues regarding E-Banking.

In order for customers to use their banks online services they need to have a personal computer and Internet connection. Their personal computer becomes their virtual banker who will assist them in their banking errands.

INTRODUCTION

The last time that technology had a major impact in helping banks service their customers was with the introduction of theInternet banking. Internet Banking helped give the customer's anytime access to their banks. Customers could check out their account details, get their bank statements, perform transactions like transferring money to other accounts and pay their bills sitting in the comfort of their homes and offices

However, the biggest limitation of Internet banking is therequirement of a PC with an Internet connection, not a big obstacle if we look at the US and the European countries, but definitely a big barrier if we consider most of the developing countries of Asia like China and India. E-banking addresses this fundamental limitation of Internet Banking, as it reduces the customer requirement to just ae-banking phone. E-banking usage has seen an explosive growth in most of the Asian economies like India, China and Korea. In fact, Korea boasts about a 70% e-banking penetration rate and with its tech-savvy populace has seen one of the most aggressive rollouts of e-banking services.

Still, the main reason that E-banking scores over Internet Banking is that it enables ‘Anywhere Banking'. Customers now don't need access to a computer terminal to access their banks, they can now do so on the go – when they are waiting for their bus to work, when they are traveling or when they are waiting for their orders to come through in a restaurant.

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DEFINITIONS

"E-banking" is a banking service for customer to make enquiry, transfer, remittance, donation, and spending and bill payment according to the customer's short message instructions sent through mobile. Result will be sent back to customer by short message.

E-banking Services applied through registering e-banking number or through registering e-banking number and payment password are all considered as customers' actions. Customers held responsible for the banking transactions through the above-mentioned number and password. For security purpose, customers should safely keep the e- banking and payment password. Timely stop the e-banking or cancel E-banking service once the e-banking is lost. Customers should delete the payment password from the e-banking after making transactions through E-banking. It is recommended that payment password should be different from the payment password of Internet Banking.

OBJECTIVES OF E-BANKING

The objectives of the research are the following –

1. To position a bank in terms of the progress made by it in the direction of Universal Banking.

2. To examine the risk exposure of banks.

3. To critically examine the existing debate on Universal banking in the context of the samples studied.

SCOPE OF E-BANKING

The research has the following scope –

1. The research would highlight the comparative position of a sample commercial bank with respect to ICICI Bank - the first Indian Universal Bank, which would help the concerned banks to know where it stands with respect to Universal Bank.

2. The research would enumerate the financial health and risk exposure of sample commercial banks in terms of the CAMEL Model. This would be helpful to understand the relative strength and risk exposure of Indian commercial banks.

3. The research would also point out the perception of Bank Managers on Universal banking concept and at the same time would also bring to light the perception of customers of banks regarding the awareness and demand of various services presently offered by the banks.

4. The research can be used as a base for Post-doctoral research work.

LIMITATIONS OF E-BANKING

In spite of best of efforts to minimize all limitations that might creep in course of the research, there were certain constraints within which the research was completed. These are discussed below –

1. The research was based on secondary as well as primary data. The primary data required for research objective No. 3 was collected from the samples based in Pune city. Although Pune is one of the most important cities of the country and an educational hub of East India, samples selected from the city cannot be considered as a proper representation of the population of the country.

   However, the objective of the survey was to check the mood/perception of the bank managers as well as customers of the bank with regard to the concept of Universal banking. Thus, this may not create hindrance in achieving the desired objective even if Guwahati city cannot replicate other major banking hubs of the country.

2. For primary data, non-response error cannot be ruled out.

RESEARCH METHODOLOGY

The procedure adopted for conducting the research requires a lot of attention as it has direct bearing on accuracy, reliability and adequacy of result obtained. It is due to reason that research methodology, which researcher used at the time of conducting the research, needs to be elaborate upon. It may be understood as a science of studying how research is done scientifically. So, the research methodology not only talks about the research methods but also consider the logic behind the method used in the context of the research study. Research methodology is a way to systematically study and solve the research problems. If a researcher wants to claim his study as a good study, he must clearly state the methodology adapted in conducting the research the research so that it may be judged by the reader whether the methodology of work done is sound or not.

Banking and technology are two sides of a coin. They both coincide with each other. Technology is now mandatory in every field and its use in our day to day life is increasing E-banking facility is boon to both bank as well as their customers, for that reason we need to curb the malpractices in e-banking and help banks to overcome these risks.

OBSERVATIONS:

1. Branchless banking can dramatically reduce the cost of delivering financial services to poor people.
2. Branchless banking channels are used mainly for payments, not for savings credit.
3. Few poor and unbanked people have begun using branchless banking for financial services.
4. Financial services providers view agent networks as key to achieving their business strategy.
5. Most mobile banking projects to extend market reach have been led by mobile operators.

PRINCIPLES OF E-BANKING:

1.Effective management oversight of e-banking activities.

2. Establishment of a comprehensive security control process.

3. Comprehensive due diligence and management oversight process for outsourcing relationships and other third-party dependencies.

4. Authentication of e-banking customers.

5. Non-repudiation and accountability for e-banking transactions.

6. Appropriate measures to ensure segregation of duties.

7. Proper authorization controls within e-banking systems, databases and applications.

8. Data integrity of e-banking transactions, records, and information.

9. Establishment of clear audit trails for e-banking transactions.

10. Confidentiality of key bank information.

11. Appropriate disclosures for e-banking services.

12. Privacy of customer information.

13. Capacity, business continuity and contingency planning to ensure availability of e banking systems and services.

14. Incident response planning.

BENEFITS OF E-BANKING:

24/7 CUSTOMER SERVICE: Although it is easy to yield to the temptation of allowing the Internet to replace expensive branch personnel and overhead, many banks have found that a customer service staff ready at any hours well worth the expense. This can be especially true as customer's transition to online banking and need help learning the features. Offering telephone and email contacts are a basic level of service. Offering live chat assistance is the exceptional level.

ACCESS TO OLD TRANSACTIONS: Choices made in designing the Internet interface may include how much history will be available online. Some banks have chosen to show only 30-45 days, while others offer a history of six months or a year.

CATEGORIZE TRANSACTIONS AND PRODUCE REPORTS: Functionality is king as online banking customers using these features enjoy a Web interface that delivers the utility of a money management software application.

EXPORT YOU'RE BANKING DATA: Most banks offering the management interface also allow easy downloading of financial information into files that can be imported into Microsoft Money and Intuit's Quicken.

INTERACTIVE GUIDES & TOOLS TO HELP SELECTION OF PROPER PRODUCT:
Although online, interactive guides through a bank's products, adds complexity to the programming it also serves the bank by assisting potential customers in choosing new products or services. Interactive Tools to design a savings plan, choose a mortgage, obtain online insurance quotes all tied to applications These tools help remove some of the mystery involved in so many account options and costs.

ONLINE FORMS FOR ORDERING CHECKS, STOP PAYMENT, ETC.
Convenience is popular and if a customer visits his or her online account frequently it only makes sense to allow the ability to reorder checks or perform certain other commands through the same interface. These features and many others help customers save time, simplify their lives and provide greater value than conventional banking.

HISTORY OF E-BANKING

In countries like Korea, two SIM Card is used in e-banking. One for the telephonic purpose and the other for banking. Bank account data is encrypted on a smart-card chip. About 3.3 million transactions were reported by Bank of Korea in 2004. In a move that will take the frontiers of banking transactions beyond the ATM and internet, full-fledged banking transactions through e-banking have been introduced by ICICI Bank. The bank has now kicked off e-banking service, where a customer can replicate all transactions through e-banking similar to an internet banking transaction. Till now, customers were only able to get all information like balance in the account and e- banking alerts through e-banking.

The past few years have seen customers migrating from branch banking to a host of non-branch channels like ATMs, call centre and internet banking. In case of ICICI Bank, around 55% of the transactions now happen through ATMs, 22% through the internet,12% through call centre and the remaining through branches. Incidentally, around five years ago, transactions through internet banking was a minuscule 2%. Through the new platform Mobile, all internet banking transactions can now be done on e-banking. Customers can now transfer funds to ICICI Bank and non-ICICI Bank accounts, pay their utility bills and insurance premium and do a host of other operations. The application covers savings accounts, DMAT, credit card and loan accounts.

According to ICICI Bank ED V Vaidyana than said, the new service will help to give more power to the customer. They can now transact from practically anywhere. He expects the new service to see transactions of over 40% over a period of time.

Both GPRS and non-GPRS customers would be able to use the service. Customers will be required to enter four-digit PIN to enter the e-banking application, which will prevent unauthorized use of the service.

Currently, ICICI Bank has 13 million customers, of which, there are 2.5-million active customers. It also has 7-million registered customers for SMS alerts. The bank currently sends around 20 million alerts a month. Citi and HSBC have this service in other parts of the world. Some of these banks are now looking at launching theseservices here. Until now, e-banking services, which were provided by banks, have been SMS-enabled. Moreover, these were push-services like SMS alerts and balance enquiries. There have also been security concerns plaguing the introduction of such services since the SMS route, through which the information travels, is totally unsecured.

The first e-banking and payment initiative was announced during 1999. The first major deployment was made by a company called Pay box (largely supported financially by Deutsche Bank). The company was founded by two young German's (Mathias Entemann and Eckart Ortwein) and successfully deployed the solution in Germany, Austria, Sweden, Spain and the UK. At about 2003 more than a million people were registered on Pay box and the company was rated by Gartner as the leader in the field. Unfortunately, Deutsche Bank withdraws their financial support and the company had to reorganize quickly. All but the operations in Austria closed down.

ADVANTAGES AND DISADVANTAGES

Advantages

- The biggest advantages that e-banking offers to banks is that it significantly cuts down the costs of providing service to the customers.

- **For example:** An average teller or phone transaction costs about $2,36 each, whereas an electronic transaction costs only about $0,10 each. Additionally, this new channel gives the bank ability to cross-sell up-sell their other complex banking products and services such as vehicle loans, credit cards etc.
- For service providers, E-banking offers the next surest way to achieve growth.

- Countries like Korea where e-banking penetration is nearing saturation, e-banking is helping service provides increase revenues from the now static subscriber base. Also service providers are increasingly using the complexity of their supported e-banking services to attract new customers and retain old ones.

Disadvantages

- Back in days when Internet was introduced, it was a boon to the financial industry as it reduced all volumes by opening another self_service channel for servicing customers.
- With e-banking that advantages is not there as already investments are made to reduce call volumes using Internet and Internet is one of the technologies that is ever spreading in customer community. Almost 80% of the people in US already have internet connection. E-banking would be another value added service that can be provided by financial institutions, it may only bring good will.
- Depending on the technological direction for enabling E-banking companies either has to spend enormous amount of money in matching customers expectation or maintaining another stream of technology applications.
- Technology still has security issues and software distribution issues.

The Federal Trade Commission received 301,835 fraud complaints and 214,905 identity theft complaints in 2003. Bank fraud accounted for 17 percent-more than 36,000-of the identity theft complaints. That represents just the victims who actually filed a complaint with the agency. The FTC estimate there was 10 million identity theft victims that year. Already lot of banks are either providing e-banking services or getting ready to provide e-banking services.

Second we would like to evaluate what are the real potential opportunists for the bank, in spite of the negativity around the technology and business value, for sure US is yet to catch up with the number of users using e-banking. Data at customer's fingertips is still a potential opportunity, not even most of the Internet banking sites are able to provide one customer view Intelligent applications that enable customers to bank, trade, make intelligent credit/investment decisions is still a sector unexplored. More thancustomers bankworkforce itself can benefit a lot from developing productivity applications.

DEVELOPMENT OF E-BANKING

Some of the particular risks arising in E-banking that we have hitherto identified in the UK domestic environment though I suspect that many of my regulator colleagues outside the UK would share many of these views. I would like to move on to the international side.

Supervision in today's global environment can only ever be effective if it has an international dimension. This is especially the case with e-banking because of its non-territorial nature, the ease with which customers outside the home country can access the site and the opportunity to buy several types of product. Of course, regulators have long had to deal with the regulatory problems of international banking. They had set up mechanisms for cross-border supervision; agreements over home/host responsibilities (especially within the Community, bilateral agreement for information sharing and general standards by which they expect all banks, including those offshore territories, to abide. In principle, the expectation is that this general mechanism for international supervision will be robust enough to work just as well in the e-banking as the physical environment.

Nevertheless, it will not be quite as easy as that! Inevitably the nature of e-banking raises particular issues in the application of the general approach outlined here. E-banking makes it even morenecessary to develop a cohesive international approach to regulation –not only in the field of prudential regulation where Basel has made much progress, but also in the areas of conduct of business for consumer protection.

The Basel Committee E-Banking Group believes that Basel "should provide the international supervisory community with a broad set of advisory guidance with respect to electronic banking,"thereby providing a basis for domestic regulation andsupporting consumer and industry education. Globally, such guidance would assist international co-operation and act as a foundation for coherent approach to supervising e-banking. It could facilitate international e-banking by creating consumer confidence in sound banks based in different, possibly less satisfactory, regimes and might dissuade host supervisors from imposing additional, potentially draconian, regulation on such banks. The Group identified:

- Authorization,
- Prudential standards,
- Transparency,
- Privacy,
- Money laundering, and
- Cross border supervision

As issues on which they felt that there is need for further work, both at the analytical and policy level before any such guidance could be developed. The FSA is involved in the Basel Group and will be contributing to the work, participating in the drafting of papers and hosting both the group's next meeting and a roundtable for itsmembers and a number of European banks and service providers. We welcome any contributions from the industry to this debate; and have indeed been actively soliciting them.

CHALLENGES AND OPPORTUNITIES

E-banking is a generic term for delivery of banking services and products through electronic channels, such as the telephone, the internet, the cell phone, etc. The concept and scope of E-banking is still evolving. It facilitates an effective payment and accounting system thereby enhancing the speed of delivery of banking servicesconsiderably. While E-banking has improved efficiency and convenience, it has also posed several challenges to the regulators and supervisors. Several initiatives taken by the government of India, as wellas the Reserve Bank of India (RBI), have facilitated the development of E-banking in India. The government of India enacted the IT Act2000, which provides legal recognition to electronic transactions and other means of electronic commerce. The RBI has been preparing to upgrade itself as a regulator and supervisor of the technologically dominated financial system. It issued guidelines on risks and control in computer and telecommunication system to all banks, advising them to evaluate the risks inherent in the systems and put in place adequate control mechanisms to address these risks. The existing regulatory framework over banks has also been extended to E-banking. It covers various issues that fall within the framework of technology, security standards, and legal and regulatory issues. This book — containing 12 scholarly articles — will benefit those interested in the technological developments of E-banking in India.

Electronic banking is the wave of the future. It provides enormous benefits to consumers in terms of the ease and cost of transactions. But it also poses new challenges for country authorities in regulating and supervising the financial system and in designing and implementing macroeconomic policy.

Electronic banking has been around for some time in the form of automatic teller machines and telephone transactions. More recently, it has been transformed by the Internet, a new delivery channel for banking services that benefits both customers and banks. Access is fast, convenient, and available around the clock, whatever the customer's location (see illustration above). Plus, banks canprovide services more efficiently and at substantially lower costs. For example, a typical customer

transaction costing about $1 in a traditional "brick and mortar" bank branch or $0.60 through a phone call costs only about $0.02 online.

Electronic banking also makes it easier for customers to compare banks' services and product can increase competition among banks, and allows banks to penetrate new markets and thus expand their geographical reach. Some even see electronic banking as an opportunity for countries with underdeveloped financial systems to leapfrog developmental stages. Customers in such countries can access services more easily from banks abroad and through wireless communication systems, which are developing more rapidly than traditional "wired" communication networks.

MACROECONOMIC CHALLENGES

But the challenges are not limited to regulators. As the advent of e-banking quickly changes the financial landscape and increases the potential for quick Ross-border capital movements, macroeconomic policy makers face several difficult questions.

- If electronic banking does make national boundaries irrelevant by facilitating capital movements, what does this imply for macroeconomic management?

- How is monetary policy affected when, for example, the use of electronic means makes it easier for banks to avoid reserve requirements, or when business can be conducted in foreign currencies as easily as in domestic currency?

- When offshore banking and capital flight are potentially only a few mouse clicks away, does a government have any leeway for independent monetary or fiscal policy?

- How will the choice of the exchange rate regime be affected, and how will e-banking influence the targeted level of international reserves of a central bank

The answers to these questions fall into two emerging strands of thought. First, the technological revolution--particularly the
expansion of electronic money but also, more broadly, electronic advances in banking practices--could result in a decoupling of households' and firms' decisions from the purely financial operations of the central bank. Thus, the ability of monetary policy to influence inflation and economic activity would be threatened.

Second, as electronic banking expands, financial transaction costs can decline significantly. The result would be tantamount to are dictions in the dictions in the

"sand in the wheels" of the financial sector machinery, making capital flows even easier to effect, with a potential erosion of the effectiveness of domestic monetary policy. In this regard, proponents of the Tobin tax--which would tax short-term capital flows to increase their cost and, thereby, the sand in the wheels—would feel that electronic banking makes an even more compelling case for introducing such a tax.

CHALLENGES

Key challenges in developing a sophisticated e-banking application

1. Interoperability

There is a lack of common technology standards for e-banking. Many protocol are being used for e-banking HTML, WAP, SOAP and XML to name a few. It would be a wise idea for the vendor to develop an e-banking application that can connect multiple banks. It would require either the application to support multiple protocols or use of a common and widely acceptable set of protocols for data exchange.

There are a large number of different e-banking phone devices and it is a big challenge for banks to offer e-banking solution on any type of device. Some of these devices support J2ME and others support WAP browser or only SMS.

The desire for inter-operabilityties largely dependent on the banks themselves, where installed applications (Java based or native) provide better security, are easier to use and allow development of more complex capabilities similar to those of internet banking while SMS can provide the basics but becomes difficult to operate with more complex transactions.

2. Security

Security of financial transactions, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by e-banking application developers, wireless network service providers and the banks IT departments.

The following aspects need to be addressed to offer a secure infrastructure for financial transaction over wireless network:

- Physical part of the hand-held device. If the bank is offering smart-card based security, the physical security of the device is more important.

- Security of any thick-client application running on the device. In case the device is stolen, the hacker should require at least an ID/Password to access the application.

- Authentication of the device with service provider before initiating a transaction. This Would ensure that unauthorized devices are not connected to perform financial transactions.

- User ID / Password authentication of bank's customer.

3. Scalability & Reliability

Another challenge for the CIOs and CTOs of the banks is to scale-up the e-banking infrastructure to handle exponential growth of the customer base. With e-banking, the customer may be sitting in any part of the world (true anytime, anywhere banking) and hence banks need to ensure that the systems are up and running in a true24 x 7 fashion. As customers will find e-banking more and more useful, their expectations from the solution will increase. Banks unable to meet the performance and reliability expectations may lose customer confidence.

4. Application distribution

Due to the nature of the connectivity between bank and itscustomers, it would be impractical to expect customers to regularly visit banks or connect to a web site for regular upgrade of their e-banking application. It will be expected that the e-banking application itself check the upgrades and updates and download necessary patches (so called Over the Air updates). However, there could be many issues to implement this approach such as upgrade / synchronization of other dependent components.

5. Personalization

It would be expected from the e-banking application to support personalization such as:

- Preferred Language
- Date / Time format
- Amount format
- Default transactions
- Standard Beneficiary list
- Alert.

RISKS IN E-BANKING

There are risks involved in e-banking. They are as follows:

1) **Strategic Risk** –

A financial institution's board and management should understand the risks associated with e-banking services and evaluate the resulting risk management costs against the potential return on investment prior to offering e-banking services. Poor e-banking planning and investment decisions can increase a financial institution's strategic risk. On strategic risk E-banking is relatively new and, as a result, there can be a lack of understanding among senior management about its potential and implications. People with technological but not banking, skills can end up driving the initiatives. E-initiatives can spring up in an incoherent and piecemeal manner in firms. They can be expensive and can fail to recoup their cost. Furthermore, they are often positioned as loss leaders (to capture market share), but may not attract the types of customersthat banks want or expect and may have unexpected implicati ons on existing business lines.

Banks should respond to these risks by having a clear strategy driven from the top and should ensure that this strategy takes account of the effects of e-banking, wherever relevant. Such a strategy should be clearly disseminated across the business, and supported by a clear business plan with an effective means of monitoring performance against it. On strategic risk E-banking is relatively new and, as a result, there can be a lack of understanding among senior management about its potential and implications. People with technological, but not banking, skills can end up driving the initiatives. E-initiatives can spring up in an incoherent and piecemeal manner in firms. They can be expensive and can fail to recoup their cost. Furthermore, they are often positioned as loss leaders (to capture market share), but may not attract the types of customers that banks want or expect and may have unexpected implications on existing business lines.

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2) **Business risks** –

Business risks are also significant. Given the newness of e-banking, nobody knows much about whether e-banking

customers will have different characteristics from the traditional bankingcustomers. They may well have different characteristics. This could render existing score card models inappropriate, this resulting in either higher rejection rates or inappropriate pricing to cover the risk. Banks may not be able to assess credit quality at a distance as effectively as they do in face to face circumstances.

It could be more difficult to assess the nature and quality of collateral offered at a distance, especially if it is located in an area the bank is unfamiliar with (particularly if this is overseas). Furthermore, as it is difficult to predict customer volumes and the stickiness of e-deposits (things which could lead either to rapid flows in or out of the bank) it could be very difficult to manage liquidity.

Of course, these are old risks with which banks and supervisors have considerable experience but they need to be watchful of old risks in new guises. In particular risk models and even processes designed for traditional banking may not be appropriate. Transaction/operations risk arises from fraud, processing errors, system disruptions, or other unanticipated events resulting in the institution's inability to deliver products or services. This risk exists in each product and service offered. The level of transaction risk is affected by the structure of the institution's processing environment, including the types of services offered and the complexity of the processes and supporting technology. In most instances, e-banking activities will increase the complexity of the institution's activities and the quantity of its transaction/operations risk, especially if the institution is offering innovative services that have not been standardized. Since customers expect e-banking services to be available 24 hours a day, 7 days a week, financial institutions should ensure their e-banking infrastructures contain sufficient capacity and redundancy to ensure reliable service availability. Even institutions that do not consider e-banking a critical financial service due to the availability of alternate processing channels, should carefully consider customer expectations and the potential impact of service disruptions on customer satisfaction and loyalty.

3) **Credit risk** –

Generally, a financial institution's credit risk is not increased by the mere fact that a loan is originated through an e-banking channel. However, management should consider additional precautions when originating and approving loans electronically, including assuring management information systems effectively track the performance of portfolios originated through e-banking channels. The following aspects of on-line loan origination and approval tend to make risk management of the lending process more challenging. If not properly managed, these aspects can significantly increase credit risk. Verifying the customer's identity for on-line credit applications and executing an enforceable contract; monitoring and controlling the growth, pricing, underwriting standards, and ongoing credit quality of loans originated through e-banking channels; Monitoring and oversight of third-parties doing business as agents or on behalf of the financial institution (for example, an Internet loan

origination site or electronic payments processor); Valuing collateral and perfecting liens over a potentially wider geographic area; Collecting loans from individuals over a potentially wider geographic area; Monitoring any increased volume of, and possible concentration in, out-of-area lending.Liquidity, interest rate, price/market risks - Funding and investment-related risks could increase with an institution's e-banking initiatives depending on the volatility and pricing of the acquired deposits. The Internet provides institutions with the ability to market their products and services globally. Internet-based advertising programs can effectively match yield-focused investors with potentially high- yielding deposits. But Internet-originated deposits have the potential to attract customers who focus exclusively on rates and may provide a funding source with risk characteristics similar to brokered deposits. An institution can control this potential volatility and expanded geographic reach through its deposit contract and account opening practices, which might involve face-to-face meetings or the exchange of paper correspondence. The institution should modify its policies as necessary to address the following e-banking funding issues:

- Potential increase in dependence on brokered funds or other highly rate-sensitive deposits;
- Potential acquisition of funds from markets where the institution is not licensed to engage in banking, particularly if the institution does not establish, disclose, and enforce geographic restrictions;
- Potential impact of loan or deposit growth from an expanded Internet market, including the impact of such growth on capital ratios;
- Potential increase in volatility of funds should e-banking security problems negatively impact customer confidence or the market's perception of the institution.

This changing financial landscape brings with it new challenges for bank management and regulatory and supervisory authorities. The major ones stem from increased cross-border transactions resulting from drastically lower transactions costs and the greater ease of banking activities, and from the reliance on technology to provide banking services with the necessary security.

4) **Operations risk-**

The reliance on new technology to provide services makes security and system availability the central operational risk of electronic banking. Security threats can come from inside or outside the system, so banking regulators and supervisors must ensure that banks have appropriate practices in place to guarantee the confidentiality of data, as well as the integrity of the system and the data. Banks' security practices should be regularly tested and reviewed by outside experts to

analyse network vulnerabilities and recovery preparedness. Capacity planning to address increasing transaction volumes and new technological developments should take account of the budgetary impact of new investments, the ability to attract staff with the necessary expertise, and potential dependence on external service providers. Managing heightened operational risks needs to become an integral part of banks' overall management of risk, and supervisorsneed to include operational risks in their safety and soundnessevaluations.

5) **Regulatory risk-**

Because the Internet allows services to be provided from anywhere in the world, there is a danger that banks will try to avoid regulation and supervision. What can regulators do? They can require even banks that provide their services from a remote location through the Internet to be licensed. Licensing would be particularly appropriate where supervision is weak and cooperation between a virtual bank and the home supervisor is not adequate. Licensing is the norm, for example, in the United States and most of the countries of the European Union. A virtual bank licensed outside these jurisdictions that wishes to offer electronic banking services and take deposits in these countries must first establish a licensed branch.

6) **Legal risk-**

Electronic banking carries heightened legal risks for banks. Banks can potentially expand the geographical scope of their services faster through electronic banking than through traditional banks. In some cases, however, they might not be fully versed in a jurisdiction's local laws and regulations before they begin to offer services there, either with a license or without a license if one is not required. When a license is not required, a virtual bank lacking contact with its host country supervisor may find it even more difficult to stay abreast of regulatory changes. As a consequence, virtual banks couldunknowingly violate customer protection laws, including on data collection and privacy, and regulations on soliciting. In doing so, they expose themselves to losses through lawsuits or crimes that are not prosecuted because of jurisdictional disputes. Money laundering is an age-old criminal activity that has been greatly facilitated by electronic banking because of the anonymity it affords. Once a customer opens an account, it is impossible for banks to identify whether the nominal account holder is conducting a transaction or even where the transaction is taking place. To combat money laundering, many countries have issued specific guidelines on identifying customers. They typically comprise recommendations for verifying an individual’s identity and address before a customer account is opened and for monitoring online transactions, which requires great vigilance.

7) **Reputational risk-**

Breaches of security and disruptions to the system's availability can damage a bank's reputation. The more a bank relies on electronic delivery channels, the greater the potential for reputational risks. If one electronic bank encounters problems

that cause customers to lose confidence in electronic delivery channels as a whole or to view bank failures as system wide supervisory deficiencies, these problems can potentially affect other providers of electronic banking services. In many countries where electronic banking is becoming the trend, bank supervisors have put in place internal guidance notes for examiners, and many have released risk-management guidelines for banks. This is considerably heightened for banks using the Internet. For example, the Internet allows for the rapid dissemination of information which means that any incident, either good or bad, is common knowledge within a short space of time. The speed of the Internet considerably cuts the optimal response times for both banks and regulators to any incident.

Any problems encountered by one firm in this new environment may affect the business of another, as it may affect confidence in the Internet as a whole. There is therefore a risk that one rogue e-bank could cause significant problems for all banks providing services via the Internet. This is a new type of systemic risk and is causing concern to e-banking providers. Overall, the Internet puts an emphasis on reputational risks. Banks need to be sure that customers' rights and information needs are adequately safeguarded and provided for. Breaches of security and disruptions to the system's availability can damage a bank's reputation. The more a bank relies on electronic delivery channels, the greater the potential for reputational risks. If one electronic bank encounters problems that cause customers to lose confidence in electronic delivery channels as a whole or to view bank failures as system wide supervisory deficiencies, these problems can potentially affect other providers of electronic banking services. In many countries where electronic banking is becoming the trend, bank supervisors have put in place internal guidance notes for examiners, and many have released risk-management guidelines for banks.

TYPES OF E-BANKING

Following are the types of e-banking

- Internet banking
- Mobile banking
- ATM
- Telephone banking

Internet Banking:

Internet banking refers to the use of the Internet as a remote delivery channel for banking services. Such delivery channel for banking services. Such services include traditional ones, such as opening a deposit account or transferring funds, among different accounts, and new banking services, such as electronic bill payment, allowing customers to receive and pay bills visa bank's website. Banks offer Internet banking in two main ways. An established bank with physical offices can establish a website and offer Internet banking to its customers in addition to its traditional delivery channels. A second alternative is to establish a "virtual," branchless," or "Internet-only" bank. The computer server that lies at the heart of a virtual bank may be located in an office that serves as the legal address of such a bank, or at some other location. Virtual banks may offer their customers the ability to make deposits and withdraw funds via ATMs or other remote delivery channels owned by other institutions

Features:
Internet banking has following features:

1) Time and Space-

By eliminating the limitations of time and distance, electronic financial transactions can make cross-border transactions easier and thus make it possible to provide services to customers on a global scale. In effect, online finance may eventually lead to complete globalization of financial services, making the national borders irrelevant.

2) Electronic financial transactions-

Electronic financial transactions have helped create new services such as the "virtual financial site" that includes services crossing the traditional borders between financial services as well as "aggregation" that allows consumers to obtain consolidated information about their financial accounts in one place.

- Electronic bill presentment and payment – EBPP
- Funds transfer between a customer's own checking and savings accounts, or to another customer's account
- Investment purchase or sale
- Loan applications and transactions, such as repayments

3) Security-

Since electronic financial transactions, especially those in online retail banking, are being conducted on open Network centred on the Internet, many challenges arise in of transaction security, consumer protection and privacy. The existing systems of financial regulation and supervision are being amended to reflect the changes in technology. Online banking user interfaces are secure sites and traffic of all information - including the password - is encrypted, making it next toimpossible for a third party to obtain or modify information after it is sent. However, encryption alone does not rule out the possibility of hackers gaining access to vulnerable home PCs and intercepting the password as it is typed in (keystroke logging). There is also the danger of password cracking and physical theft of passwords written down by careless users.

Many online banking services therefore impose a second layer of security. Strategies vary, but a common method is the use of transaction numbers, or TANs, which are essentially single use passwords. Another strategy is the use of two passwords, only random parts of which are entered at the start of every online banking session. This is however slightly less secure than the TAN alternative and more inconvenient for the user. A third option is providing customers with security token devices capable of generating single use passwords unique to the customer's token (this is called two-factor authentication or 2FA). Another option is using digital certificates, which

digitally sign or authenticate the transactions, by linking them to the physical device (e.g. Computer, mobile phone, etc.). Other banks have responded not with security tokens or digital certificates, but by setting up a combination of controls that recognize a customer's computer, ask additional challenge questions for risky behaviour, and monitor for fraud lucent behaviour.

4) Electronic Fund Transfer-

Electronic funds transfer or **EFT** refers to the computer-based systems used to perform financial transactions electronically. The term is used for a Number of different concepts:

- Cardholder-initiated transactions, where a cardholder makes use of a payment card
- Electronic payments by businesses, including salary payments
- Electronic check (or cheque) clearing

5) Card Based EFT-

EFT may be initiated by a cardholder when a payment card such as a credit card or debit card is used. This may take place at an automated teller machine (ATM) or point of sale (EFTPOS), or when the card is not present, which covers cards used for mail order, telephone order and internet purchases.

Transaction types

A number of transaction types may be performed, including the following:

- **Sale**: where the cardholder pays for goods or service.
- **Refund:** where a merchant refunds an earlier payment made by a cardholder.
- **Withdrawal:** the cardholder withdraws funds from their account, e.g. from an ATM. The term ***Cash Advance*** may also be used, typically when the funds are advanced by a merchant rather than at an ATM.
- **Deposit:** where a cardholder deposits funds to their own account (typically at an ATM).
- Cash back: where a cardholder withdraws funds from their own account at the same time as making a purchase.
- **Inter-account transfer:** transferring funds between linked accounts belonging to the same cardholder
- **Payment:** transferring funds to a third party account

- **Inquiry**: a transaction without financial impact, for instance balance inquiry available funds inquiry, linked accounts inquiry, or request for a statement of recent transactions on the account.

- **Administrative**: this covers a variety of non-financial transaction including PIN change. The transaction types offered depend on the terminal. An ATM would offer different transactions from a POS terminal, for instance

Online banking puts the power of banking into the hands of the customer and allows the customers to self-service themselves with all their banking needs, just as customers have become used to getting money from an ATM instead of going to the cash desk in the bank. With this online service, customers can view their account details, review their account history, transfer funds, order checks, pay bills, re-order checks and get in touch with the customer care department of the bank. In most cases, there is no special software to install other than a web browser and many banks do not charge for this service.

Mobile Banking:

Mobile banking is a term used for performing balance checks, account transactions, payments etc. via a mobile device such as a mobile phone. Mobile banking today (2008) is most often performed via SMS or the Mobile Internet but can also use special programs downloaded to the mobile device.

Mobile Banking can be said to consist of three inter-related concepts:

- Mobile Accounting
- Mobile Brokerage
- Mobile Financial Information Services

Most services in the categories designated Accounting and Brokerage are transaction-based. The non-transaction-based services of an informational nature are however essential for conducting transactions. The accounting and brokerage services are therefore offered invariably in combination with information services. Information services, on the other hand, may be offered as an independent module.

Features:

Mobile banking can offer services such as the following

- **Account Information**

1. Monitoring of term deposits
2. Access to loan statements
3. Access to card statements
4. Mutual funds / equity statements
5. Insurance policy management
6. Pension plan management
7. Status on cheque, stop payment on cheque

- **Payments & Transfers**

1. Domestic and international fund transfers
2. Micro-payment handling
3. Mobile recharging
4. Commercial payment processing
5. Bill payment processing
6. Peer to peer payments

Investments

1. Portfolio management services
2. Real-time stock quotes
3. Personalized alerts and notifications on security prices

Support

1. Status of requests for credit, including mortgage approval, and insurance coverage

2. Check (cheque) book and card requests

3. Exchange of data messages and email, including

Complaint submission and tracking

3. ATM Location

Content Services

1. General information such as weather updates, news

2. Loyalty-related offers

3. Location-based services

ATM:

An **automated teller machine** (**ATM**) is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smartcard with a chip that contains a unique card number and some security information. Security is provided by the customer entering a personal identification number (PIN).
Mechanical cash dispenser was developed and built by Luther George Simian and installed in 1939 in New York City by the City Bank of New York, but removed after 6 months due to the lack of customer acceptance.

The ATM got smaller, faster and easier over the years. Thereafter, the history of ATMs paused for over 25 years, until De LaRue developed the first electronic ATM, which was installed first in Enfield Town in North London on 27 June 1967 by Barclays Bank. This instance of the invention is credited to John Shepherd-Barron, although various other engineers were awarded patents for related technologies at the time. Shepherd-Barron was awarded an OBE in the 2005 New Year's Honour's List.

The first person to use the machine was Rag Varney of "On the Buses" fame, a British Television programmed from the 1960s. The first ATMs accepted only a single-use token or voucher, which was retained by the machine. These worked on various principles including radiation and low-coercively magnetism that was wiped by the card reader to make fraud more difficult. The idea of a PIN stored on the card was developed by the British engineer John Rose in 1965.

ATMs first came into wide UK use in 1973; the IBM 2984 was designed at the request of Lloyds Bank. The 2984 CIT (Cash Issuing Terminal) was the first true Cash point, similar in function to today's machines; Cash point is still a registered trademark of Lloyds TSB in the U.K. All were online and issued a variable amount which was immediately deducted from the account. A small number of 2984s were supplied to a USA bank.

Telephone banking:

The **Enhanced Telephone** is a telephone developed by Citibank in the late 1980s for customers to do banking and other financial transactions from their home. The official launch date was February 26-27, 1990.The first version of the Enhanced Telephone, the 99A model, was beige and featured a monochrome CRT screen. Because of its chunky appearance, several developers dubbed it the "sawed-off ski boot. The physical hardware was manufactured by Transaction Technologies Incorporated (TTI). The second version of the Enhanced Telephone, the P100 model, was manufactured by Philips Electronics and featured an LCD screen and sleeker styling. The font was developed by Bit stream Inc. Software for the Enhanced Telephone was written in a proprietary language called HAL (Home Application Language). The Enhanced Telephone ultimately failed to become a viable product because by the time it was introduced, home banking via PCs was becoming more common. As the World Wide Web became popular

in the early 1990s, the Enhanced Telephone was rendered obsolete. The Philips P100 phone lived on and to this day variations of it are used for other applications.

Online lender makes loans to consumers via computer websites, online. Online lenders generally provide loan information, application forms, email or instant message assistance right on their website. The online applications are generally transmitted over an encrypted web page for security. Ideally an online lender will provide a telephone number prominently offering offline assistance to consumers also.

Telephone banking is a service provided by a financial institution which allows its customers to perform transactions over the telephone. Most telephone banking uses an automated phone answering system with phone keypad response or voice recognition capability. To guarantee security, the customer must first authenticate through a numeric or verbal password or through security questions asked by a live representative (see below). With the obvious exception of cash withdrawals and deposits, it offers virtually all the features of an automated teller machine: account balance information and list of latest transactions, electronic bill payments, funds transfers between customer's accounts, etc. Usually, customers can also speak to a live representative located in a call centre or a branch, although this feature is not guaranteed to be offered 24/7. In addition to the self-service transactions listed earlier, telephone banking representatives are usually trained to do what was traditionally available only at the branch: loan applications, investment purchases and redemptions, cheque book orders, debit card replacements, change of address, etc. Banks which operate mostly or exclusively by telephone are known as phone bank.

DIFFERENCE BETWEEN TRADITIONAL AND E-BANKING:

Internet banking works much like traditional banking. The primary difference is you are accessing your account and information, making payments and reconciling statements using your computer rather than paper or the phone to complete transactions. Instead of going down to your local branch office when you bank online you can accomplish multiple tasks at once with the click of a button.

Online banking is rapidly becoming more and more popular asconsumers recognize the advantages online banking has to offer. For one most banks charge fewer fees if you take advantage of their online banking services. You can also stop receiving paper statements if you like in many cases and conduct 95% of your business over the Web when you take advantage of Internet banking.

The E-Banking-Service will only be available for e-banking and data connections which meet the required specifications and configurations as may be specified by the Bank from time to time and you agree to procure and maintain a e-banking and data connection which meet these requirements at your own expense. User Guidance on the operation of the E-Banking-Service will be made available to you. You must follow all relevant User Guidance whenever you access or operate the E-Banking-Service. The Bank may inform you from time to time about changes to the way you should access or operate the E-Banking-Service. You must observe all such changes when accessing or operating the E-Banking-Service.

The E-banking Services are intended to be available 7 days a week,24 hours a day but there is no warranty that the same will be available at all times. You further agree that the Bank shall be entitled at any time, at the Bank's sole discretion and without prior notice, to temporarily suspend the operation of the E-Banking-Service for updating, maintenance and upgrading purposes, or any other purpose whatsoever that the Bank deems fit, and in such event, the Bank shall not be liable for any loss, liability or damage which may be incurred as a result.

TRENDS IN E-BANKING

The advent of the Internet has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer 24x7accessibility to their customers.

The ability to offer financial transactions online has also created new players in the financial services industry, such as online banks, online brokers and wealth managers who offer personalized services, although such players still account for a tiny percentage of the industry.
Over the last few years, the e-banking and wireless market has been one of the fastest growing markets in the world and it is still growing at a rapid pace. According to the GSM Association and Ovum, the number of e-banking subscribers exceeded 2 billion in September2005, and now exceeds 2.5 billion (of which more than 2 billion are GSM).

E-BANKING, BENEFIT FOR RURAL INDIA

Thousands of people from rural areas across 12 states are likely to get their social security pension and wages paid under the National Rural Employment Guarantee Act (NREGA) scheme with the help of mobiles over the coming few months.

In Andhra Pradesh alone, for instance, 250,000 people have registered for e-banking services. The state government is rolling out a programmed to enrol three million people by the end of 2008.

E-banking pilots and full-scale operations are being conducted across 12 states, and the entire ecosystem is being managed by the government with the help of the Reserve Bank of India, banks, leading telecom operators and technology implementation partners.

The ecosystem is important since banking regulations in India currently do not allow cash for exchange of another 'unit' such as airtime in the case of mobiles. Only banks and the Indian Post (through money orders) are currently allowed such transfers.
E-banking, which is catching up fast in the cities and hinterland, is not only helping the government to take a step forward towards fulfilling its aim of having one bank account for every household, but also saving it cores of rupees by way of reduced transaction costs.

The e-banking acts as a branch of the bank by storing a database of customers. It also has a smartcard, which biometrically stores the identity of the customer such as name, address, photograph,
fingerprint templates and relevant details of the savings or loanaccounts held by the issuing bank.

Bharti Airtel [Get Quote], too, is in the process of tying up with two leading banks to extend its e-banking remittance services to rural areas, according to its president (E-banking Services), Sanjay Kapoor.

Airtel has already partnered with the Indian Farmers' FertilizersCooperative Limited (IFFCO) to set up IFFCO Kisan Sanchar Limited in Rajasthan.

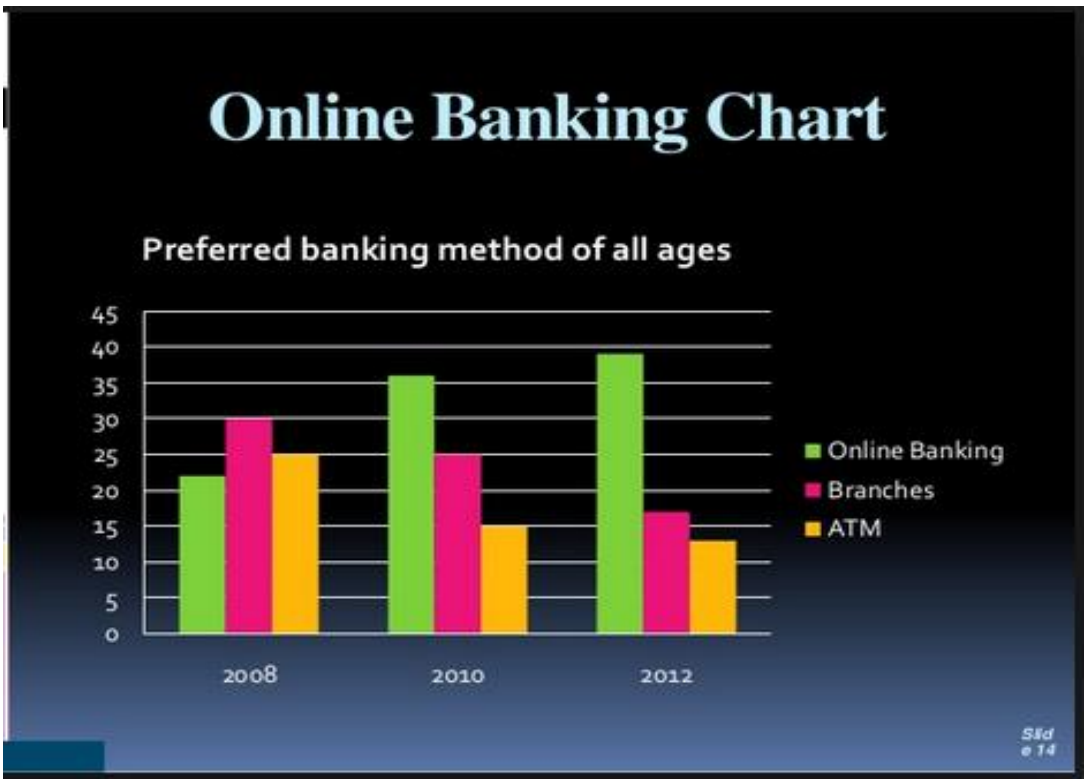
Under this initiative, the cooperative department will provide e- banking handsets to farmers at marginal price through its outlets in the rural areas. These handsets would be loaded with green SIM cards, which will flash daily updates on agricultural practices and weather forecast free of cost.

While he did not provide details, Kapoor hinted that the partnership deal would be extended to e-banking services too. Kapoor reasons that with 55 per cent of the mobiles being internet-enabled, e- banking would help bridge the digital divide.

Reliance Communications [Get Quote], on its part, allows ICICI Bank [Get Quote] account holders with Reliance handsets (even the low-end Rs. 1,000 ones - with or without Internet connectivity) to make intra-bank (to ICICI account holders) money transfers. It has already tied up with HDFC [Get Quote] to offer Reliance mPay - a virtual credit card.

PROGRESS OF E-BANKING

If technological revolution is at its peak, one of the important sectors of the economy where technology is at its helm of affairs with respect to customer service is banking. Over the years has banking rise above from a traditional brick-and mortar model of customers queuing for services in the banks to modern day banking where banks can reach at any point for their services.



In today's business, technology has been on the Predominant indicators of growth and competitiveness. Entry of new banks resulted in a paradigm shift in the ways of banking. The banking industry today is in the midst of an IT revolution. The combination of regulatory and competitive reasons has led to increasing importance of total banking automation in the banking Industry. Information Technology has basically been used under two different avenues in banking.

One is Communication and Connectivity and other is Business Process Reengineering, both basically focusing on increasing its customer reach. Information technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets The latest revolution seems to happen with respect to e-banking an attempt to leverage on the synergies of e-banking technology in telecom and information technology in the banking services.

Today, Banks have welcomed wireless and e-banking technology into their boardroom to offer their customers the freedom of paying bills, planning payments while stuck in traffic jam s, toreceive updates on the various marketing efforts while present at a party to provide more personal and intimate relationships. E-banking can be classified as Push vs. Pull and Transaction vs. Enquiry that is briefly given below Push Based, Pull Based oTransaction some of the other features where e-banking has lent its hand are Fund Transfer & Bill Payment where the customers have the freedom of maintaining account through mobile. E-banking has also welcomed other financial services like share trading.

The latest Information technology revolution enables sophisticated Enquiry Based banking services for Credit/Debit Alerts. Some of the other outcomes of the Revolution in the banking industry is Minimum Balance Alerts, Account Balance enquiry, Account Statement Enquiry, Cheque Status Enquiry, Cheque Book Requests and Bill Payment Alerts. The last time that technology has a major impact in helping banks service their customers was with the introduction of the Internet banking.

However, the biggest limitation of Internet banking is the requirement of a PC with an Internet connection, not a big obstacle if we look at the US and the European countries, but definitely a big barrier if we consider most of the developing countries of Asia like China and India. E-banking addresses this fundamental limitation of Internet banking, as it reduces the customer Requirement to just a e-banking. E-banking usage has seen an explosive growth in most of the Asian economies like India, China and Korea. The main reason that E-banking scores over Internet banking is that it enables 'Anywhere Banking'.

Customers now don't need access to a computer terminal to access their banks, they can now do so on the go – when they are waiting for their bus to work, when they are traveling or when they are waiting for their orders to come through in a restaurant. The scale at which E-banking has the potential to grow can be gauged by looking at the pace users are getting e-banking in these big Asian economies. Revolution of E-banking phones in bankingservice.

According to the Cellular Operators' Association of India (COAI) the e-banking subscriber base in India crossed the 50-million-mark in October 2005, which stood at 50.87 million. The explosion as most analysts say, the worldwide number of cellular subscribers will surpass 2 billion in 2005—up from 11M in 1990and 750M in 2000. Worldwide cellular subscribers are forecasted to reach 3.2B by the end of 2010.Among the leaders in e-banking technologies, most aggressive being Korea which is now witnessing the roll-out of some of the most advanced services using 3G technologies, like using e-banking phones to pay bills in shops and restaurants. The growth of e-banking technology over the last few years has enriched the progress of the e-banking services.

Technologies like IVR, SMS, WAP, J2ME, and J2EE & BREW have revolutionized the use the e-banking phones in banking services. Though all the above predictions on cellular base, the Use of e- banking technology with respect to banking services is at a very infant stage.

There are a lot of challenges and issues relating to content, security, coverage, technology and connectivity speed are to be sorted out with respect to e-banking technologies. Objectives of the Report: 1. to study the technological readiness in relation to the challenges faced by the players particularly the banks with respect to e-banking in order to enhance global competitiveness by embracing technology and banking services.2. To study and awareness, expectation and Acceptance levels of the Customers with respect to its use and effectiveness of e-banking.

E-BANKING STATUS IN INDIA

Today there are a lot of financial institutions providing various financial services: banks, internet banks, payment systems and soon. But competition always existed and today it is more than just existing: it's fierce as never before. In view of this fact, new and new services are appearing. Some of them are good, while other ones are not. But there is one service that hit the bull's eye: e- banking. So today this industry is developing in a fly pace.

In India e-banking also found its admirers and develops greatly. Two important yet quite unrelated events in the evolution of e- banking payments in India occurred in 2008.

First, the new credit policy of the RBI came along withguidelines for facilitating e-banking payments. Second, Dr RaghuRaghuraman's CSFR report states that ''E-banking is the mostpromising front end technology" for broadening the access of finance in the country.

These two taken together are defining moments in the (a) recognition of e-banking now as an accepted channel for banking & commerce, and (b) clearing the way for its rapid and mass deployment across the country by the financial sector.

Technology related regulations can never keep up with the fast pace nature of tech innovations and progress, nor fully define it. Regulation here has to have a light touch, so as not to throttle innovation, yet which serves public interest.

The use of e-banking for financial and non-financial transactions has had a chequered past. Several initiatives over the last ten years (overseas) have come and gone, and as we speak several more initiatives into the future related to NFC, contact less are emerging. The difference between now and then is that mobiles have come a long way. They find themselves in the hands of a third of humanity, and have piped the internet in penetration! Several initiatives in Sub Saharan Africa, Eastern Europe and Far East have been popular and working well for the last few years. So it's time has come, and the RBI guidelines are the recognition of homegrown initiatives over the last year or so which have pioneered the new paradigm.

E-banking payments are a wireless consumer product or service. In short a benefit - convenience, as is, search, escalators, ATM's, etc. Methods and approaches for e-banking commerce will differ across region, country and even service providers. As each stakeholder has its own assessment of what works best and what value proposition appeals to the consumer.

The key takes away from the guidelines are that appropriate levels of security and safeguards need to be adopted. Those already have been done by all banks which do deploy these services. So, whether it be a SMS, USSD, GPRS, Smart phone, WAP - all such delivery mediums are acceptable.

Basic principles of PIN management, customer confidentiality, KYC, ALM, customer registration, risk mitigation, consumer protection, etc. are applicable. Just as they would apply to credit cards, ATM cards, ATM's, collection boxes, internet banking, internet e-commerce, telephone banking, cheque books, bank website, etc. Which is not to say that there is a fool proof system for any of these, but they are as 'safe' as long they generate enough 'trust' and convenience to offset perception (and actual) of risk so as to be pervasive in the financial system. After all a wallet with cash is only as safe as you keep it. Neither cash nor wallet can be pilfering (tamper) proof!

Banks' own operating experience and other payments a system prevalent have provided the necessary grist for the RBI mill, and as time goes on hopefully these will evolve and become far more enabling for stakeholders, rather than favour one approach or another or cripple themselves in strangulated regulations.

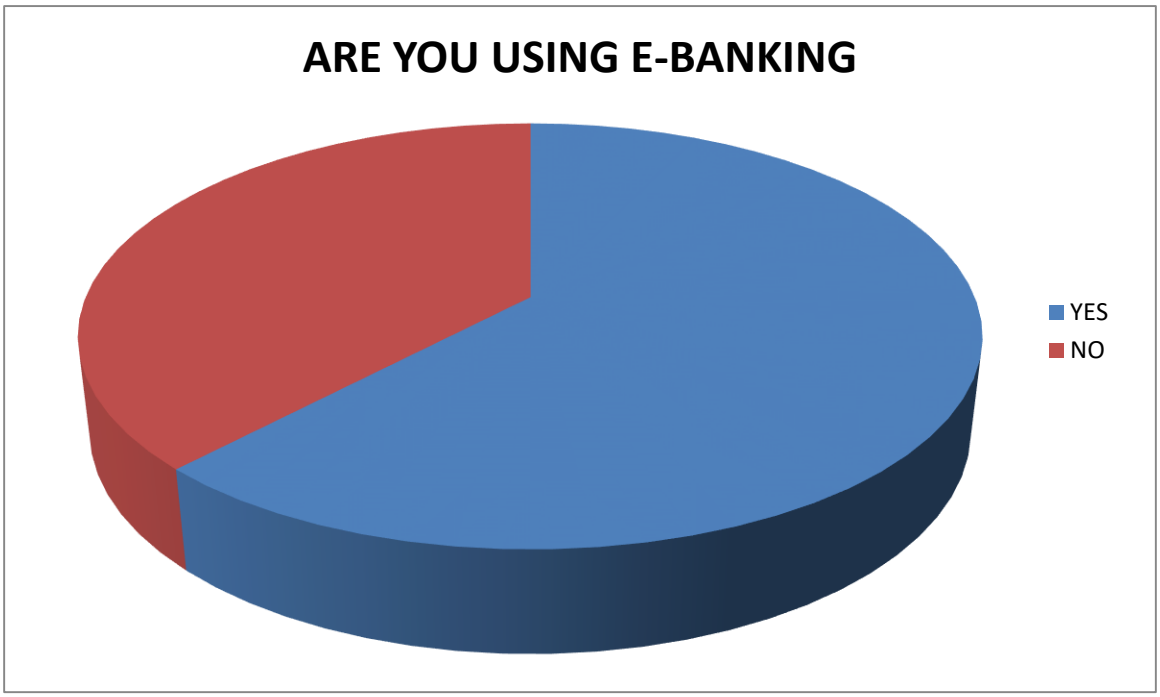
DATA ANALYSIS

The previous chapter reviewed the growth structure of Retail Banking in India and found that various products like Home loans, Consumer loan, Educational loan, Retail deposits, ATMs facilities etc. have been expanding at an appreciable rate in India. It discussed the working of retail banking in India and provided an insight into the management of various retail products both in public sector banks and private sector banks. A clear picture of the performance of public sector banks and private sector banks in recent years came to fore highlighting that retail banking in private sector banks grows at a faster rate than in public sector banks.

The present chapter analyses the data and, with the application of statistical tools, interprets the facts and figures to test the set hypotheses in order to derive logical inferences. Since the test of hypotheses involves measurement of the customer perceptions of Service Quality of retail banking in public and private sector banks, setting the dimensions of service quality to serve as benchmarks for measurement and test of hypotheses becomes imperative. Accordingly, the present chapter is split into two parts. Section-I presents a detailed view of the concept of Service Quality and also lays down the various dimensions of the SERVQUAL Model applied to survey and garner data about perceptions of customer satisfaction with retail banking services in banks of both the sectors-public and private. Section-II on the other hand, is devoted to the collection of data, its analysis and interpretation as well as to critically test the hypotheses constructed on the service quality dimensions in retail banking in India and draw conclusions.

Q.1. ARE YOU USING E-BANKING?

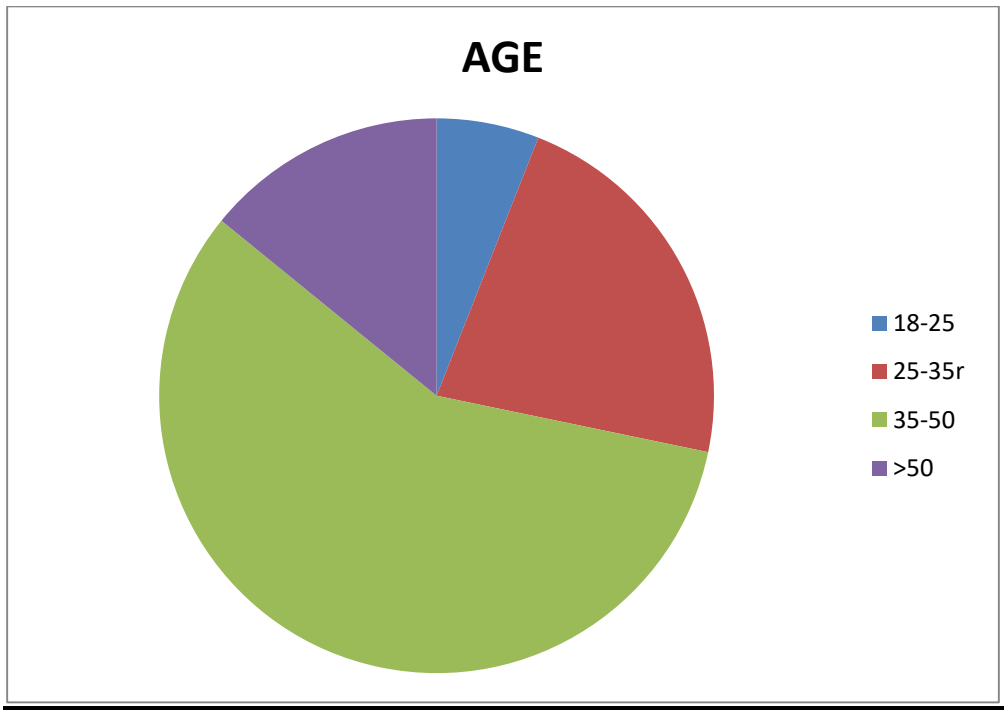
	Frequency	Percent
Yes	124	62.0
Valid No	76	38.0
Total	200	100.0



INTERPRETATION: As a researcher e-banking facilities provided by the bank is not in the booming phase on an average 60% of the customer are utilizing e-banking facilities banks should have to move focus to spread awareness regarding this for towards the customers through different communication media as we have got the finding 61% of the customers class data, are using e-banking facilities and out of their customer majority 70% customer are using e-banking for view and make transfer within the bank this shows the lack of IT adaption by the customer and also lower side of awareness to the e-banking by banks.

Q.2. AGE

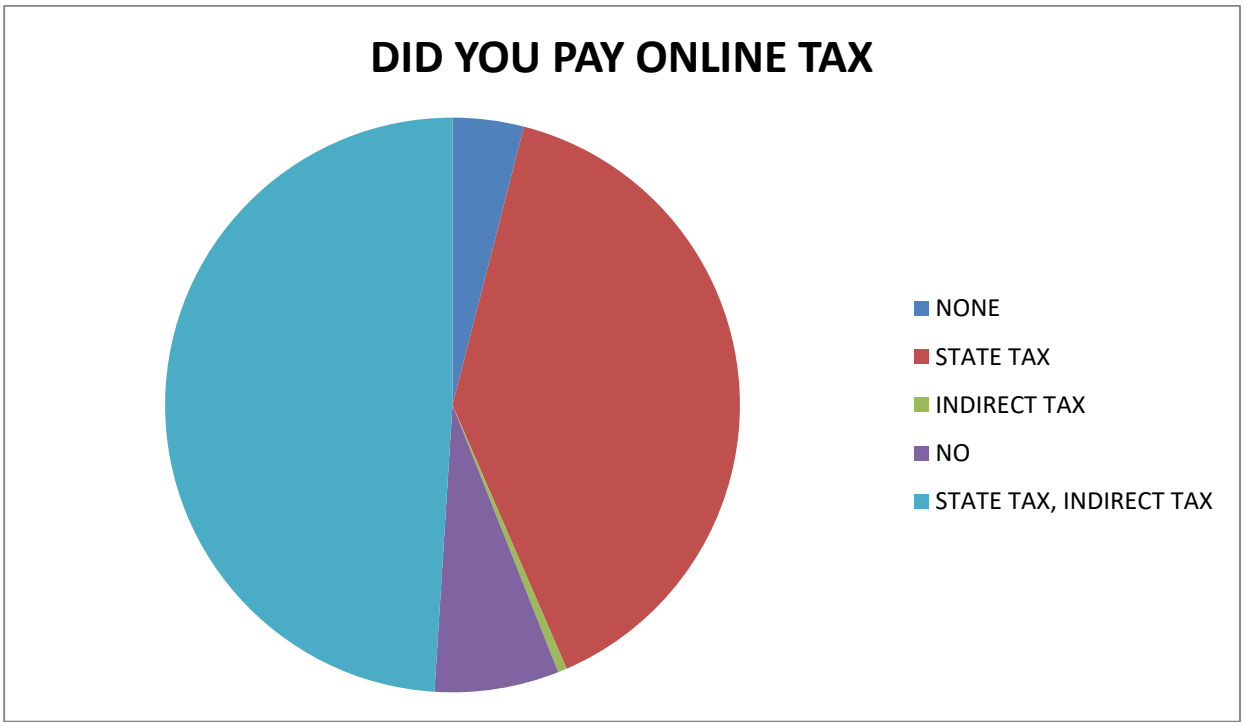
	Frequency	Percent
18-25	11	6
25-35	44	22
Valid 35-50	116	58.0
>50	29	14.0
Total	200	100.0



INTERPRETATION: By researcher conducted that more the age concern about, being updated with wise investment options, business transactions, saving plans, contact with banks etc.

Q.3. DID YOU PAY ONLINE TAXES?

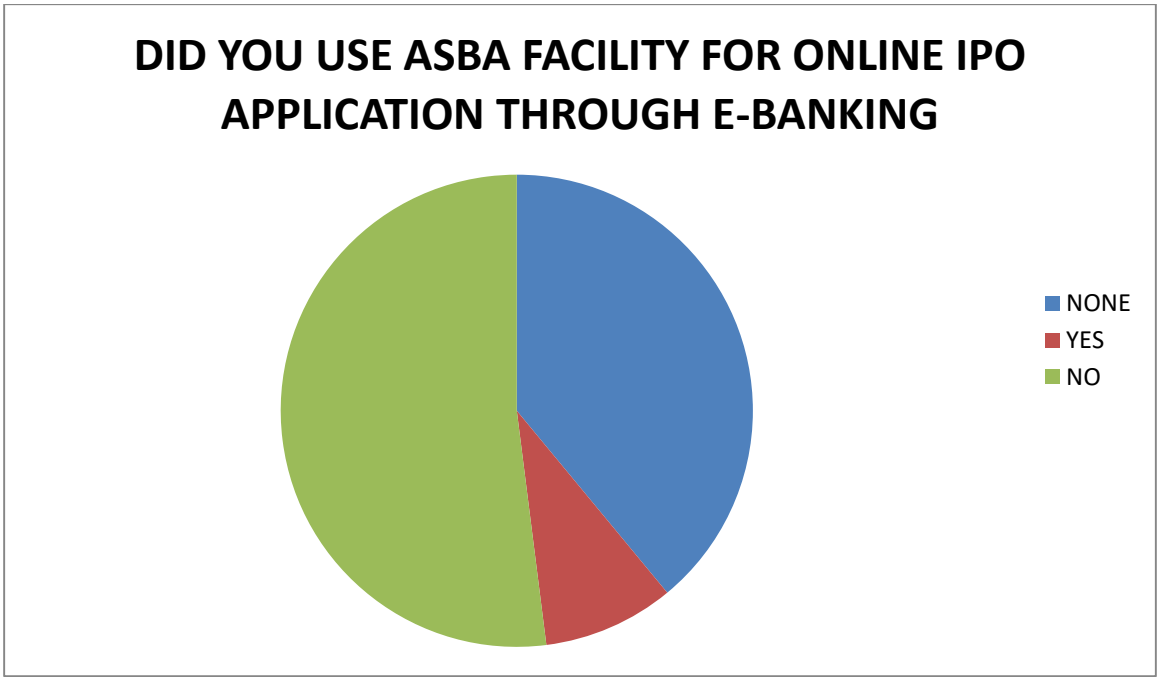
	Frequency	Percent
None	79	39.5
State tax	1	0.5
Indirect tax	14	7.0
Valid no	98	49.0
State tax, indirect tax	8	4.0
total	200	100.0



INTERPRETATION: In scenario by researcher conclude that the most of the users of e-banking are not preferred pay taxes online.

Q.4. DID YOU USE ASBA FACILITY FOR ONLINE IPO APPLICATION THROUGH E-BANKING?

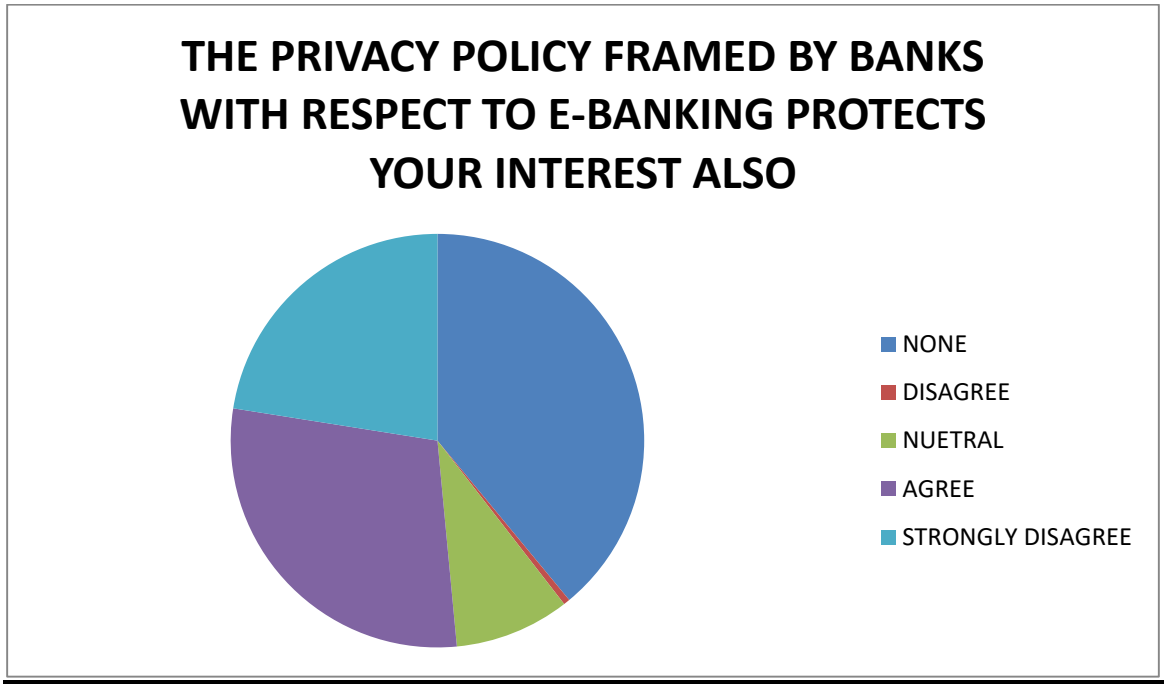
	Frequency	Percent
NONE	78	39.0
YES	18	9.0
NO	104	52.0
TOTAL	200	100.0



INTERPRETATION: As depletion in equity market and crisis for the same have motivated customer for making invest in the equity market. Customer are not aware and educated regarding ASBA facility for online IPO application so as a bank they should have to focus on spreading awareness on ASBA facility in the group of customer is equity market at growing face in current economy of India.

Q.5The privacy policy framed by banks with respect to e-banking protects your interest also.

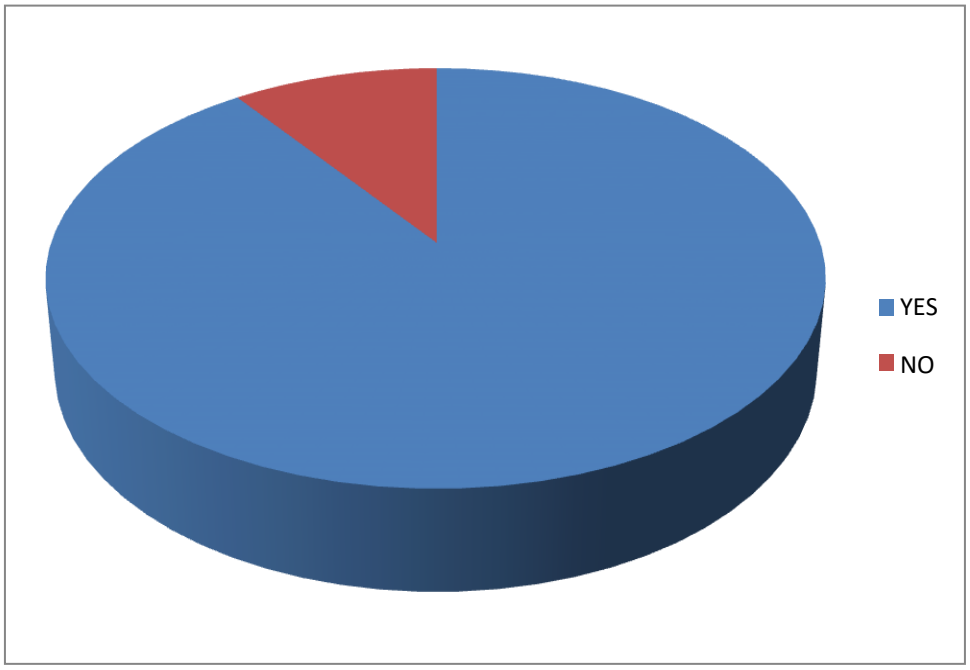
	Frequency	Percent
NONE	78	39.0
DISAGREE	1	0.5
NEUTRAL	18	9.0
AGREE	58	29.0
STRONGLY DISAGREE	45	22.5
TOTAL	200	100.0



INTERPRETATION: Overall the e-banking users have either agreed or have a neutral view towards above stated degree of disagreement is comparatively very low and only in few categories and the degree of strongly disagree negligent and found in criteria like problems are not solved promptly, guidance to use e-banking services is not provided by bank, bank does not provide statements, the policy framed does not protect customers interest etc.

Q6) Do you have knowledge on E-banking?

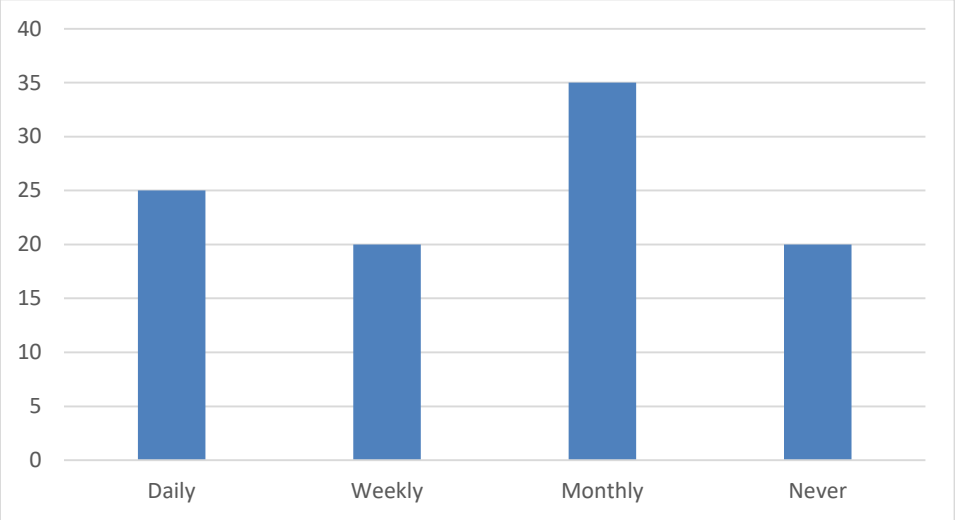
Yes	**90**
No	**10**



INTERPRETATION: In scenario by researcher conclude that the most of the users have knowledge of e-banking.

Q7) How often do you use E-banking?

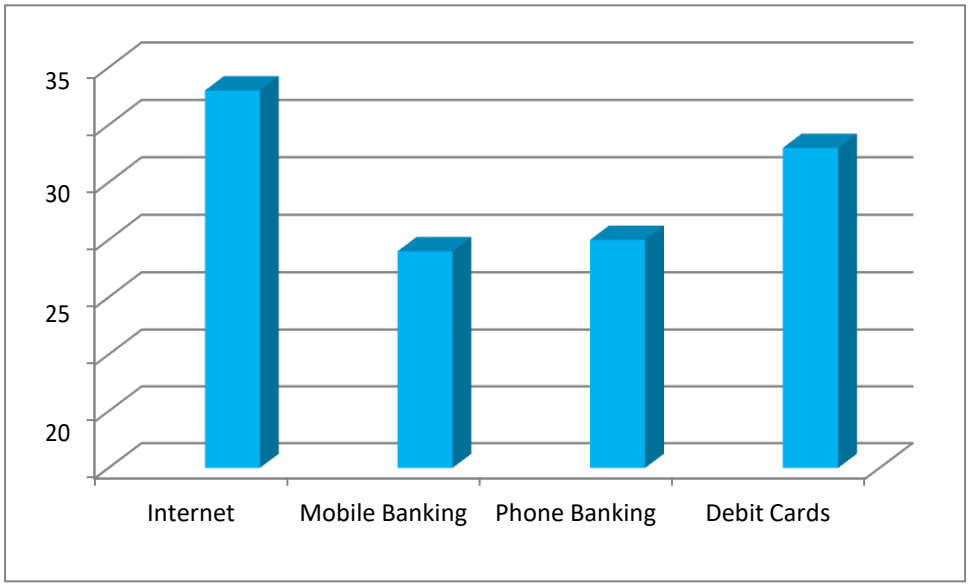
Daily	**25**
Weekly	**20**
Monthly	**35**
Never	**20**



INTERPRETATION: In scenario by researcher conclude that the most of the users use e-banking on monthly basis.

Q8) Which of the following E-Banking service you are aware of?

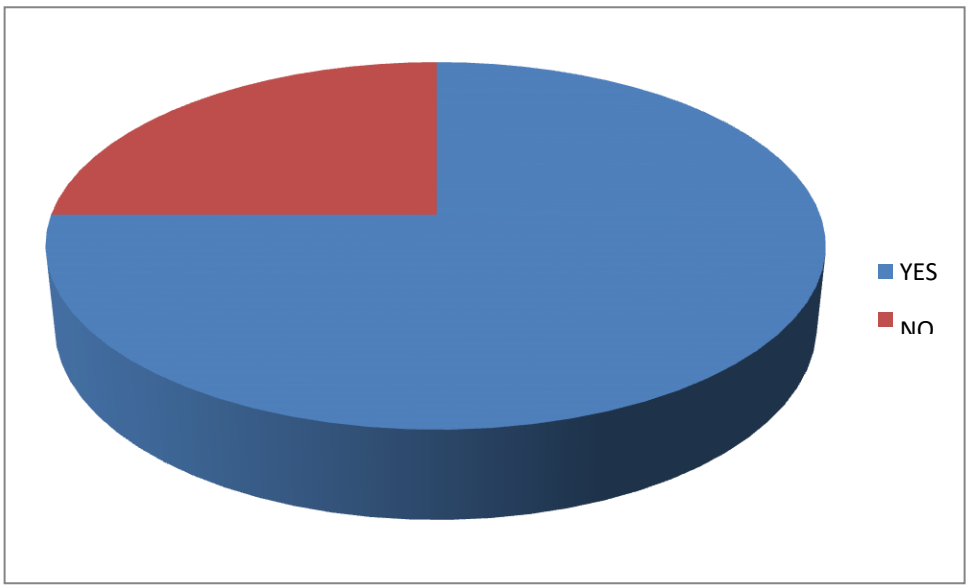
Internet Banking	**33**
Mobile Banking	**19**
Phone Banking	**20**
Debit Cards	**28**



INTERPRETATION: In scenario by researcher conclude that the most of the users use Internet -banking on the given services.

Q9) Do you feel E-banking System of the bank is customer friendly?

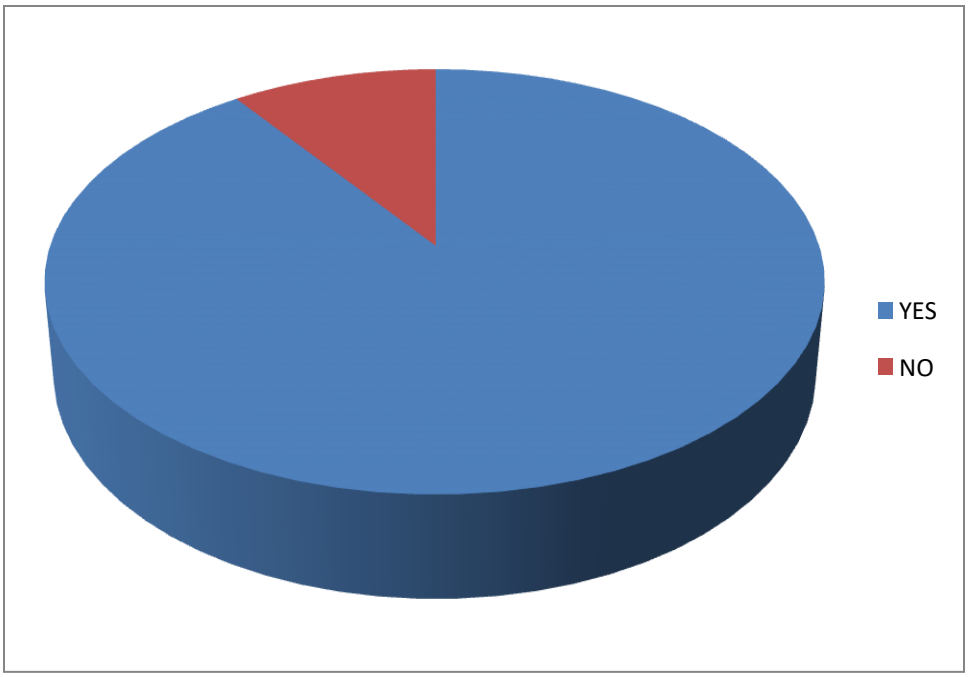
YES	**73**
NO	**27**



INTERPRETATION: In scenario by researcher conclude that the most of the users find e -banking system User-friendly.

Q10) Do you think it saves time?

YES	**90**
NO	**10**



INTERPRETATION: In scenario by researcher conclude that the most of the users find e -banking system Time saving.

SUGGESTIONS

➢ Micro payments

In the more affluent economies, a good infrastructure for acashless environment is already prevalent and most people have bank accounts and access to both debit and credit facilities. These factors are incentives in the developing countries to move the population at large away from cash with introductions of low cost solutions such as micro-payments to further efficiency gains.

➢ SMART Money

The service was launched in December 2000 in co-operation with First E-Bank, which has since been acquired by Banco de Oro, and MasterCard, one of the world's leading payment services providers. According to SMART, SMART Money was the world'sfirst re-loadable electronic cash wallet, linked together by them Cellular network. Once cash has been transferred to the SMART money account, it can be used in thousands of shops and restaurants. The cash value can also be used to load airtime, pay utility bills, or transfer money from one SMART Money card to another.

➢ G-Cash

The service was launched in October 2004, with an initial set of three anchors services; international and domestic remittance, P2P (phone-to-phone or person-to person) transfers and payments for retail purchases. With G-Cash, all of Globe's subscribers are m-Commerce-enabled. As users do not need to have a card or bank account to be part of the service, G-Cash is able to provide M-Commerce capability to a previously underserved segment of the market, including those who currently do not do banking. Unlike Smarts approach whereby it operates the service jointly with BDO, GLOBE on its own maintains records of all transactions and arranges settlement between the retailers and the G-Cash customers. G-Cash provides services through close to 4,900 retail outlets nationwide and more than 500 G-Cash partners.

➢ E-banking Remittance

Migrant remittances, which are personal flows from migrants to their friends and families, have become a major source of external development finance, and in the process, play an effective role in reducing poverty. Capitalizing on the benefits of such a system, remittance services can become cheaper and more convenient, thus improving financial access of migrants, their beneficiaries and the financial intermediaries in the origin countries.

➢ Microfinance through E-banking Technology

Currently, a major constraint to microfinance is the high cost of operating in remote areas. Many institutions are now working toward low-cost delivery options such as Internet banking and cashless transactions to help the rural poor. The e-banking devices that could be a more efficient tool for such transactions. For people in such rural areas, using computers is often a problem due to faulty Internet connections and frequent power failures. Hence, providing micro credits through a e-banking platform (SMS-based) could be the best way to reach out to the poor.

CONCLUSION

For service providers, E-banking offers the next surest way to achieve growth. Countries like Korea where e-banking penetration is nearing saturation, e-banking is helping service providers increase revenues from the now static subscriber base. Also service providers are increasingly using the complexity of their supported e-banking services to attract new customers and retain old ones. For the fact is that one day, in most of the world emerging markets, more people will use e-banking telephones than use fixed telephone lines. Businesses that are based on e-banking financial serviced will thus be a natural fit for these economies. What is more, there is no need to wait for the next generation e-banking networks; these businesses can be built using today's technology. But to capture this significant opportunity, financial firms and telecommunications companies will have to forge partnerships with one another and, possibly, with merchants and retail chains as well.

While electronic banking can provide a number of benefits for customers and new business opportunities for banks, it exacerbates traditional banking risks. Even though considerable work has been done in some countries in adapting banking and supervision regulations, continuous vigilance and revisions will be essential as the scope of e-banking increases. In particular, there is still a need to establish greater harmonization and coordination at the international level. Moreover, the ease with which capital can potentially be moved between banks and across borders in an electronic environment creates a greater sensitivity to economic policy management. To understand the impact of e-banking on the conduct of economic policy, policymakers need a solid analytical foundation. Without one, the markets will provide the answer, possibly at a high economic cost.

In conclusion e-banking creates issues for banks and regulators a like. For their part, banks should: Have a clear and widely disseminated strategy that is driven from the top and takes intoaccount the effects of e-banking, together with an effective process for measuring performance against it. Take into account the effect that e-provision will have upon their business risk exposures and manage these accordingly. Undertake market research, adopt systems with adequate capacity and scalability, undertake proportional advertising campaigns and ensure that they have adequate staff coverage and a suitable business continuity plan. Ensure they have adequate management information in a clear and comprehensible format. Take a strategic and proactive approach information security, maintaining adequate staff expertise, building in best practice controls and testing and updating these as the market develops. Make active use of system based security management and monitoring tools. Ensure that crisis management processes are able to cope with Internet related incidents. One of the benefits that banks experience when using e-banking is increased customer satisfaction. This due to that customers may access their accounts whenever, from anywhere, and they get involved more, this creating relationships with banks. Banks should provide their customers with convenience, meaning offering service through several distribution channels (ATM, Internet, physical branches) and have more functions available online. Other benefits are expanded product

offerings and extended geographic reach. This means that banks can offer a wider range and newer services online to even more customers than possible before. The benefit which is driving most of the banks toward e- banking is the reduction of overall costs. With e-banking banks can reduce their overall costs in two ways: cost of processing transactions is minimized and the numbers of branches that are required to service an equivalent number of customers are reduced. With all these benefits banks can obtain success on the financial market. But e- banking is a difficult business and banks face a lot of challenges. And so in conclusion e-banking creates issues for banks and regulators alike. For our part we will continue our work, both national and international, to identify and remove any unnecessary barriers to e-banking. For their part, banks should: have a clear and widely disseminated strategy that is driven from the top and takes intoaccount the effects of e-banking, together with an effective process for measuring performance against it. Take into account the effect that e-provision will have upon their business risk exposures and manage these accordingly. Undertake market research, adopt systems with adequate capacity and scalability, undertake proportional advertising campaigns and ensure that they have adequate staff coverage and suitable business continuity plan. Ensure they have adequate management information in a clear and comprehensible format. Take strategic and proactive approach to information security, maintaining adequate staff expertise, building in best practice controls and testing and updating these as the market develops. Make active use of system based security management and monitoring tools. Ensure that crisis management processes are able to cope with Internet related incidents. I started my talk today by noting potential benefits as well as the risks in e-banking. I end in the same way. Certainly there are risks. But there are also opportunities, and significant potential benefits for consumers, banks and regulators. We see no problems in principle with mitigating and managing the risks both for new entrants and existing players. As regulators we need to ensure that our approaches are adequate to deal with the risks without getting in the way of the innovations and benefits that E-banking brings to firms and consumers. We are very mindful of this as we develop our rules and guidance but will be looking also to you in the industry to help us to achieve the right balance.

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