A STUDY ON INTERNET BANKING

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BONAFIDE CERTIFICATE

Certified that the Project report titled **A STUDY ON INTERNET BANKING** is the bonafide work of **Mrs.SUGANYA SHANTHINI L** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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ABSTRACT

The Internet banking is changing the banking industry and is having the major effects on banking relationships. Even the Morgan Stanley Dean Witter Internet research emphasized that Web is more important for retail financial services than for many other industries. Internet banking involves use of Internet for delivery of banking products & services. It falls into four main categories, from Level 1 - minimum functionality sites that offer only access to deposit account data - to Level 4 sites - highly sophisticated offerings enabling integrated sales of additional products and access to other financial services- such as investment and insurance. In other words a successful Internet banking solution offers:

- Exceptional rates on Savings, CDs, and IRAs
- Checking with no monthly fee, free bill payment and rebates on ATM surcharges
- Credit cards with low rates
- Easy online applications for all accounts, including personal loans and mortgages
- 24 hour account access
- Quality customer service with personal attention

The aim of this paper is to identify those areas in which banks could improve or modify their services to increase the adoption rate of internet banking. Data was gathered from non internet banking users via a survey questionnaire. The results of the respondents were analyzed using Structured equation Modeling (SEM) from which the hypothesis were tested and conclusions drawn.

The results from the survey indicated that customers who have some level of Internet usage and some degree of Internet experience have led to an increase in the adoption of internet banking.

METHODOLOGY

Secondary data was collected and analyzed along with a SWOT analysis and PESTL analysis was done on it after which three questionnaires were prepared for the Users of the service, Non users of service and the providers of the service, after which through a survey primary data was collected analyzed along with a SWOT analysis and an end conclusion was given in the end.

INTRODUCTION

"Internet banking" refers to systems that enable bank customers to access accounts and general information on bank products and services through a personal computer (PC) or other intelligent device.

Internet banking products and services include wholesale products for corporate customers as well as retail and fiduciary products for consumers. Ultimately, the products and services obtained through Internet banking may mirror products and services offered through other bank delivery channels. Some examples of wholesale products and services include:

- Cash management.
- Wire transfer.
- Automated clearinghouse (ACH) transactions.
- Bill presentment and payment.
- Examples of retail and fiduciary products and services include:
- Balance inquiry.
- Funds transfer.
- Downloading transaction information.
- Bill presentment and payment.
- Loan applications.
- Investment activity.
- Other value-added services.

Other Internet banking services may include providing Internet access as an Internet Service Provider (ISP). A national bank subsidiary may provide home banking services through an Internet connection to the bank's home banking system and, incidental to that service, may also provide Internet access to bank customers using that service. Historically, banks have used information systems technology to process checks (item processing), drive ATM machines (transaction processing), and produce reports (management information systems). In the past, the computer systems that made the information systems operate were rarely noticed by customers. Today, Web sites, electronic mail, and electronic bill presentment and payment systems are an important way for banks to reach their customers.

National banks have experimented with various forms of online banking for many years. Some of the early experiments involved closed systems where the customers accessed

customer base because they required out-of area customers to either incur long-distance charges on their phone bills or subscribe to a particular cable TV service to access the bank. With the widespread growth of the Internet, customers can use this technology anywhere in the world to access a bank's network. The Internet, as an enabling technology, has made banking products and services available to more customers and eliminated geographic and proprietary systems barriers. With an expanded market, banks also may have opportunities to expand or change their product and service offerings.

Growth in Internet Banking

Numerous factors — including competitive cost, customer service, and demographic considerations — are motivating banks to evaluate their technology and assess their electronic commerce and Internet banking strategies. Many researchers expect rapid growth in customers using online banking products and services. The challenge for national banks is to make sure the savings from Internet banking technology more than offset the costs and risks associated with conducting business in cyberspace. Marketing strategies will vary as national banks seek to expand their markets and employ lower cost delivery channels. Examiners will need to understand the strategies used and technologies employed on a bank-by-bank basis to assess the risk. Evaluating a bank's data on the use of their Web sites, may help examiners determine the bank's strategic objectives, how well the bank is meeting its Internet banking product plan, and whether the business is expected to be profitable. Some of the market factors that may drive a bank's strategy include the following:

- Competition
- Cost Efficiencies
- Geographical Reach
- Branding
- Customer Demographics

Types of Internet Banking

Understanding the various types of Internet banking products will help examiners assess the risks involved. Currently, the following three basic kinds of Internet banking are being employed in the marketplace:

Informational — This is the basic level of Internet banking. Typically, the bank has marketing information about the bank's products and services on a stand-alone server. The risk is relatively low, as informational systems typically have no path between the server and the bank's internal network. This level of Internet banking can be provided by the bank or outsourced. While the risk to a bank is relatively low, the server or Web site may be vulnerable to alteration. Appropriate controls therefore must be in place to prevent unauthorized alterations to the bank's server or Web site.

the bank's systems and the customer. The interaction may be limited to electronic mail, account inquiry, loan applications, or static file updates (name and address changes). Because these servers may have a path to the bank's internal networks, the risk is higher with this configuration than with informational systems.

Appropriate controls need to be in place to prevent, monitor, and alert management of any unauthorized attempt to access the bank's internal networks and computer systems. Virus controls also become much more critical in this environment.

Transactional — This level of Internet banking allows customers to execute transactions. Since a path typically exists between the server and the bank's or outsourcer's internal network, this is the highest risk architecture and must have the strongest controls. Customer transactions can include accessing accounts, paying bills, transferring funds, etc.

Internet Banking Risks

Internet banking creates new risk control challenges for national banks. From a supervisory perspective, risk is the potential that events, expected or unexpected, may have an adverse impact on the bank's earnings or capital. A National Bank usually defines nine categories of risk for bank supervision purposes. The risks are credit, interest rate, liquidity, price, foreign exchange, transaction, compliance, strategic, and reputation.

Credit Risk
Credit risk is the risk to earnings or capital arising from an obligor's failure to meet the terms of any contract with the bank or otherwise to perform as agreed.

Interest Rate Risk
Interest rate risk is the risk to earnings or capital arising from movements in interest rates.

Liquidity Risk
Liquidity risk is the risk to earnings or capital arising from a bank's inability to meet its obligations when they come due, without incurring unacceptable losses. Liquidity risk includes the inability to manage unplanned changes in funding sources. Liquidity risk also arises from the failure to recognize or address changes in market conditions affecting the ability of the bank to liquidate assets quickly and with minimal loss in value.

Price Risk
Price risk is the risk to earnings or capital arising from changes in the value of traded portfolios of financial instruments. This risk arises from market making, dealing, and position taking in interest rate, foreign exchange, equity, and commodities markets.
Banks may be exposed to price risk if they create or expand deposit brokering, loan sales, or securitization programs as a result of Internet banking activities. Appropriate management systems should be maintained to monitor, measure, and manage price risk if assets are actively traded.

Foreign Exchange Risk
Foreign exchange risk is present when a loan or portfolio of loans is denominated in a foreign currency or is funded by borrowings in another currency. In some cases, banks will enter into

use in each rollover period. Foreign exchange risk can be intensified by political, social, or economic developments. The consequences can be unfavorable if one of the currencies involved becomes subject to stringent exchange controls or is subject to wide exchange-rate fluctuations.

Transaction Risk
Transaction risk is the current and prospective risk to earnings and capital arising from fraud, error, and the inability to deliver products or services, maintain a competitive position, and manage information. Transaction risk is evident in each product and service offered and encompasses product development and delivery, transaction processing, systems development, computing systems, complexity of products and services, and the internal control environment.

Compliance Risk
Compliance risk is the risk to earnings or capital arising from violations of, or non-conformance with, laws, rules, regulations, prescribed practices, or ethical standards. Compliance risk also arises in situations where the laws or rules governing certain bank products or activities of the bank's clients may be ambiguous or untested.

Strategic Risk
Strategic risk is the current and prospective impact on earnings or capital arising from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry changes. This risk is a function of the compatibility of an organization's strategic goals, the business strategies developed to achieve those goals, the resources deployed against these goals, and the quality of implementation.

Reputation Risk
Reputation risk is the current and prospective impact on earnings and capital arising from negative public opinion. This affects the institution's ability to establish new relationships or services or continue servicing existing relationships. This risk may expose the institution to litigation, financial loss, or a decline in its customer base.

Risk Management
Financial institutions should have a technology risk management process to enable them to identify, measure, monitor, and control their technology risk exposure.

I. The planning process for the use of the technology.
II. Implementation of the technology.
III. The means to measure and monitor risk.

Internal Controls

Internal controls over Internet banking systems should be commensurate with an institution's level of risk. As in any other banking area, management has the ultimate responsibility for developing and implementing a sound system of internal controls over the bank's Internet banking technology and products. Regular audits of the control systems will help ensure that the controls are appropriate and functioning properly. For example, the control objectives for an individual bank's Internet banking technology and products might focus on:

operations and compliance with corporate policies and legal requirements.

Data availability, including business recovery planning.

Data integrity, including providing for the safeguarding of assets, proper authorization of transactions, and reliability of the process and output.

Data confidentiality and privacy safeguards.

Reliability of MIS.

Once control objectives are established, management has the responsibility to install the necessary internal controls to see that the objectives are met. Management also has the responsibility to evaluate the appropriateness of the controls on a cost-benefit basis. That analysis may take into account the effectiveness of each control in a process, the dollar volume flowing through the process, and the cost of the controls. Examiners will need to understand the bank's operational environment to evaluate the proper mix of internal controls and their adequacy.

Internal accounting controls — Used to safeguard the assets and reliability of financial records. These would include transaction records and trial balances.

Operational controls — Used to ensure that business objectives are being met. These would include operating plans and budgets to compare actual against planned performance.

Administrative controls — Used to ensure operational efficiency and adherence to policies and procedures. These would include periodic internal and external audits.

Preventive Controls — Prevent something (often an error or illegal act) from happening. An example of this type of control is logical access control software, that would allow only authorized persons to access a network using a combination of a user ID and password.

Detective Controls — Identify an action that has occurred. An example would be intrusion detection software that triggers an alert or alarm.

Corrective Controls — Correct a situation once it has been detected. An example would be software backups that could be used to recover a corrupted file or database. Banks or service providers offering transaction-based Internet banking products need to have a high level of controls to help manage the bank's transaction risk. Examples of these controls could include:

1. Monitoring transaction activity to look for anomalies in transaction types, transaction volumes,

2. transaction values,

3. time-of-day presentment.

unusual requests, unusual timing, or unusual formats.

5. Using trap and trace techniques to identify the source of the request and match these against known customers.

Regular reporting and review of unusual transactions will help identify:

Intrusions by unauthorized parties.
Customer input errors.
Opportunities for customer education.

Technology: In-House or Outsourced?

The different levels of complexity associated with certain areas involving security, operations, planning, and monitoring have caused many national banks to outsource all or parts of their Internet banking operations. Banks should periodically reassess their sources of technology support to determine whether a given solution continues to fit their business plan and is flexible enough to meet anticipated future needs. Regardless of whether technology services are provided in-house or through a third-party servicer, national banks need to have a strong link between their technology provider and their strategic planning process. This will enable the bank to link new products and services with the existing technology and product mix.

There are pros and cons to offering technology-based products and services inhouse versus contracting with a vendor. Larger national banks with substantial resources may choose to purchase computer hardware and operating systems and/or develop the necessary application software in-house. This option may provide the greatest flexibility to customize product offerings. Other banks may choose to purchase a "turnkey" system from a vendor. In this arrangement the vendor typically provides the hardware, operating systems, and applications software necessary to enable the bank to offer the particular product or service to its customers. The vendor will typically provide the service and maintenance for the turnkey system. A variation is to outsource the service. Using this option, national banks contract with a vendor to operate their Internet banking Web sites at the vendor's location. This option may be especially well suited for banks that do not have the technical expertise to develop this service in-house. However, such banks need to place additional emphasis on their due diligence to ensure that security is not compromised. Several companies are responding to the developing markets for Web pages, Internet banking applications, and bill presentment and payment services. Although many companies in this market are prosperous and well managed some are start-up companies with unproven products, services, or track records. National banks need to perform due diligence before selecting a vendor to provide Internet banking services. They should have a formal service agreement with the vendor that clearly addresses the duties and responsibilities of the parties involved. National banks need to monitor their vendor's operational performance, financial condition, and capability to stay current with evolving technologies. National banks typically fulfill their responsibility to assure their vendors have sound internal controls by obtaining internal or third-party audit reports.

Issues in Internet Banking

Financial institutions, their card associations, and vendors are working to develop an Internet

services and electronic data interchange. The banking industry also recognizes that the Internet must be secure to achieve a high level of confidence with both consumers and businesses.

Sound management of banking products and services, especially those provided over the Internet, is fundamental to maintaining a high level of public confidence not only in the individual bank and its brand name but also in the banking system as a whole. Key components that will help maintain a high level of public confidence in an open network environment include:

- Security
- Authentication
- Trust
- Nonrepudiation
- Privacy
- Availability

Security is an issue in Internet banking systems. The National Bank expects the service providing banks to provide a level of logical and physical security commensurate with the sensitivity of the information and the individual bank's risk tolerance.

Authentication is another issue in a Internet banking system. Transactions on the Internet or any other telecommunication network must be secure to achieve a high level of public confidence. In cyberspace, as in the physical world, customers, banks, and merchants need assurances that they will receive the service as ordered or the merchandise as requested, and that they know the identity of the person they are dealing with.

Trust is another issue in Internet banking systems. As noted in the previous discussion, public and private key cryptographic systems can be used to secure information and authenticate parties in transactions in cyberspace. A trusted third party is a necessary part of the process. That third party is the *certificate authority*.

Nonrepudiation is the undeniable proof of participation by both the sender and receiver in a transaction. It is the reason public key encryption was developed, i.e., to authenticate electronic messages and prevent denial or repudiation by the sender or receiver.

Privacy is a consumer issue of increasing importance. National banks that recognize and respond to privacy issues in a proactive way make this a positive attribute for the bank and a benefit for its customers.

Availability is another component in maintaining a high level of public confidence in a network environment. All of the previous components are of little value if the network is not available and convenient to customers. Users of a network expect access to systems 24

The Important Arenas or Aspects where a bank is measured on the Internet services that it provides

➢ The type and volume of the bank's Internet banking product lines , transaction flow and its settlement processes.

➢ The bank's compliance with applicable banking laws .i.e. **Compliance with Laws, Rules, and Regulations.**

➢ Has the board of directors has adopted effective policies for Internet banking that are consistent with safe and sound banking practices and are appropriate to the size of the bank and the nature and scope of its operations.

➢ Whether processes and practices, including internal controls are effective.

Vendor Management

Strategic and business plans are consistent with outsourcing activity.

Senior management and the board of directors are involved in outsourcing decisions and vendor selection.

- Vendor reputation.
- Financial condition.
- Costs for development, maintenance, and support.
- Internal controls and recovery processes
- Service level agreements.
- Vendor and bank management responsibilities.

➢ Adequacy of the process for password administration for the Internet banking systems.

➢ Fire walls - Evaluate the process management uses to determine the appropriate type of Web site (informational, communicative, or transactional) for the bank's Internet-based banking business.

➢ Determining whether the bank has an adequate process to address physical security for hardware, software, and data communications equipment associated with the Internet banking system.

➢ Transaction Verification

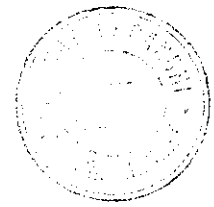
➢ Encryption and Confidentiality

➢ Virus Detection and Prevention

➢ Business Resumption and Contingency Planning

➢ Management and personnel display acceptable knowledge and technical skills to manage Internet banking.

➢ Digital Signatures and Certificate Authorities (CA)



- Performance Monitoring
- Customer Support
- Scope of internal or external audit coverage includes Internet banking and the risk associated with it.
- Internet Service Providers (ISP) it is associated with.
- Cryptography

Sender **Receiver**
Encrypt **Decrypt**
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DES Encryption Key DES Encryption Key

Sender **Receiver**
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RSA Public Key RSA Private Key

How Encryption Works in Practice

Stage 1
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DES Encryption

Stage 2
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Encrypted Text))))))) Hash)))) Digest)))))□□))))) Signature
.))))))))))))))- .)))))))- .))))))))))- .))))))))))-
Encrypted Text Hash Function Message digest RSA Encryption Digital Signature

- Types of Online Attacks and the counter measures to evade it.

Source – Internet banking
Comptroller's Handbook

Overview:

The concept of online banking was first brought in when the Governor, Reserve Bank of India appointed a Committee under Shri W.S.Saraf, Executive Director to look into technological issues relating to payment system and to make recommendations for widening the use of modern technology in the banking industry. The Saraf Committee recommended institution of Electronic Funds Transfer Systems in India. It also reviewed the telecommunication system like use of BANKNET and optimum utilization of SWIFT by the banks in India. The Shere Committee in 1995 had recommended framing of RBI (EFT System) Regulations under Section 58 of the Reserve Bank of India Act 1934 (RBI Act), amendments to the RBI Act and to the Bankers' Books Evidence Act, 1891 as short term measures and enacting of a few new Acts such as the Electronic Funds Transfer Act, the Computer Misuse and Data Protection Act.

Impact of the Information and Technology Act, 2000:

The information and technology act is an act to provide legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication commonly referred to as "electronic commerce".

Reasons for adopting the online banking:

The growth of online banking has been fuelled by broadband availability as well as secures connections over the Internet. Many banks now offer some form of online banking activity, whether it is checking bank balance, paying bills online or even simple cash transfer transactions. As customers gain more confidence in carrying out secure transactions over the Internet, vulnerabilities are present and can be exploited by cyber criminals to obtain a user's personal banking details. In one of the latest developments, FSecure, a leading security provider for Internet and mobile networks, has issued a warning against computer users of an upsurge in attacks against banking sites, targeting personal user data. It started with software that was capable of retrieving the data typed into the computer keyboard and then more complex mechanisms arrived on the scene such as Phishing and pharming.

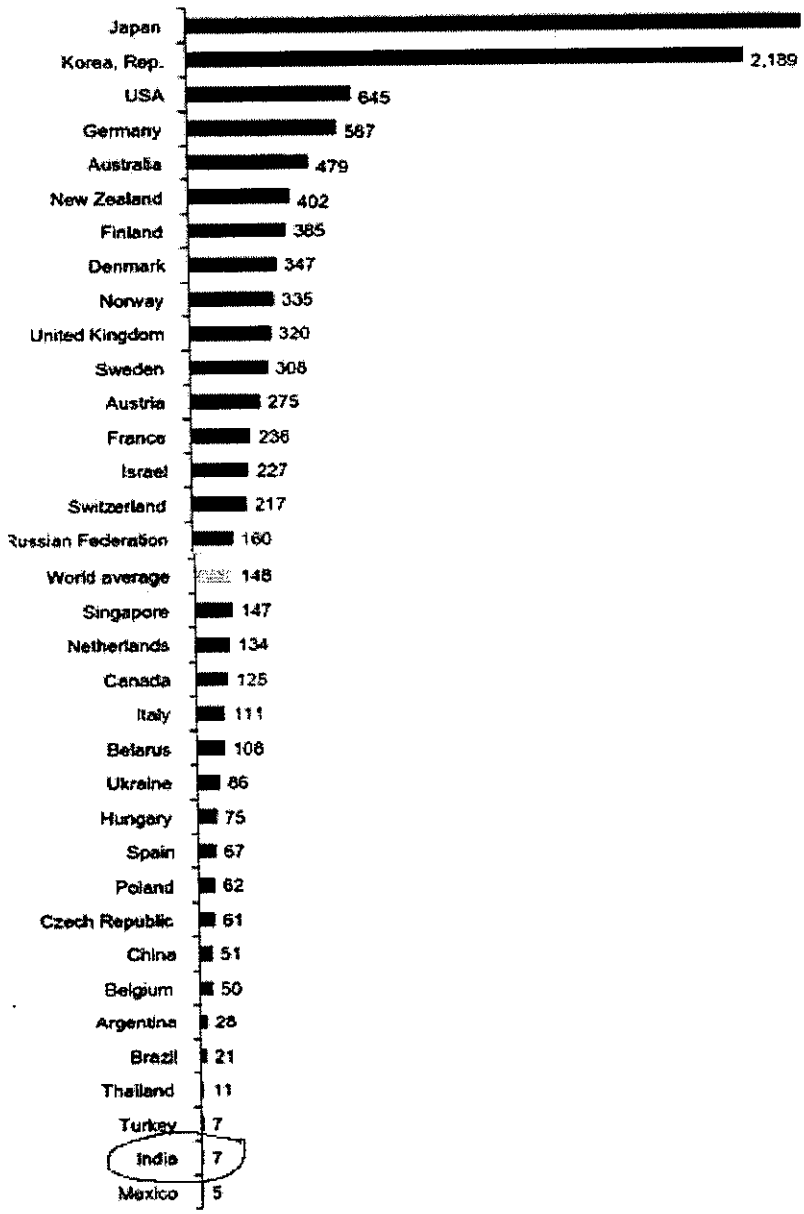
A new concept of cell phone banking has taken over the Indians. A classic example of this is that the Harsh Vihar slum may not have banks, but it does have cell phone coverage. And that has made its residents ideal candidates for a novel experiment in combining microfinance and mobile banking. Basix, an organization that specializes in bringing micro loans and other financial services to India's poor, has teamed up with Axis, an Indian commercial bank, to begin offering accounts to workers in Delhi's slums. Its approach relies on a combination of high technology and old-fashioned shoe leather.
The main risk of online banking is the security concerns. For this the IT Act has a provision, Section 3(2) which, provides for a particular asymmetric crypto system and function as a means of authenticating electronic record. Any other method used by banks for authentication should be recognized as a source of legal risk.

The provisions for the offences committed:
Under the chapter IX Section 43 , the punishments for the offences so caused are defined. By this act under chapter X, Section 48 defines the establishment of a cyber appellate tribunal. . But there is one fundamental difficulty in punishing the cyber criminals. It is the matter of jurisdiction. This is because any person who possesses a computer and an internet can commit this crime and it is practically impossible to trace the person out. Even if the person can be traced, there is no geographical border to bring him under the jurisdiction of a particular country. However the banking regulatory body, RBI has issued a guideline dated 14th June, 2001, which discusses issues pertaining to his territorial jurisdiction within which the internet banking products can be made available.

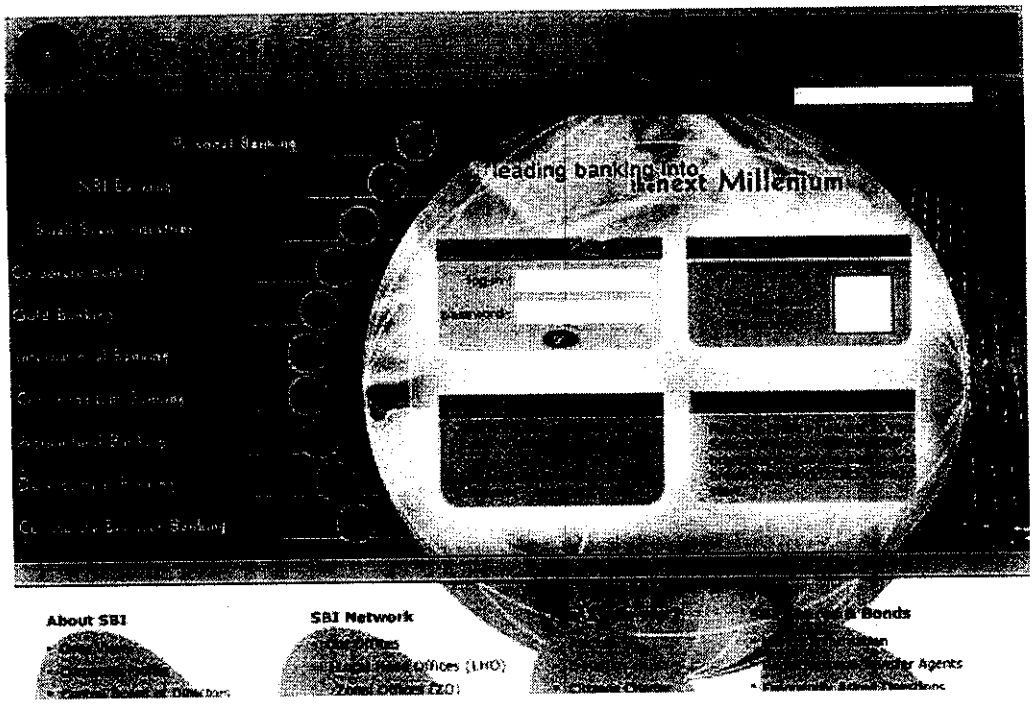
Benefits of Online Banking:

Internet-only deals have cornered the best-buy savings market. Rates are, on average, 0.2 percentage points higher than on traditional accounts. For instance, Bradford & Bingley pays 6.4 per cent on its Internet Saver account but only 6.2 per cent on its My Time Postal Saver.
The online savings trend has also allowed lesser-known banks into the market. For instance, ICICI Bank, the second-largest bank in India, offers an internet account paying a competitive 6.41 per cent.
Source – Ezine India

- ***The graph shows the usage of Internet worldwide***

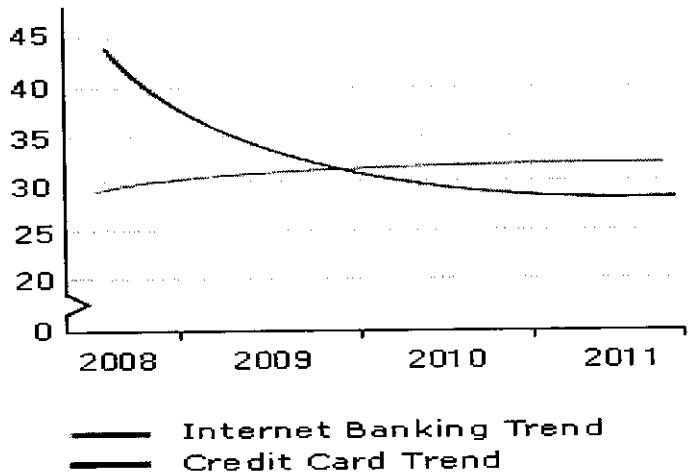


The graph also shows a very positive indication for growth in this sector.
Source – Google Images



Source- SBI Online Banking site

- **The trend of Internet banking payment gateways catching up.**



The Y-axis shows that Internet banking trend would catch up and better credit card trend of payment gateways by the start of 2010.
Source – Google images.

TIT Bits –

There are an estimated 4.6 million Internet users who are banking online today, and this number is expected to grow to 16 million plus by 2007-08, says the Internet and Mobile Association of India (IAMAI).
According to a survey conducted by IAMAI on the current online banking scenario in India, (based on a sample size of 2,240 responses), about 26 per cent of the online banking activity was happening across prominent Tier-II cities and towns. The survey was conducted in December 2005.
Nearly 43 per cent of the online banking users in the survey were in the 26-35 years age bracket.
Nearly 83 per cent of the users were male. The survey said that about 60 per cent of the users had relationships with two or three banks.

Two types of users

According to Ms Preeti Desai, President, IAMAI, "Online banking has two distinct kinds of users. One type do only information transactions such as checking account balances (81 per cent), cheque clearance (24 per cent) and the other, which also do financial transactions like transferring funds (76 per cent) or pay bills online (63 per cent). As Indians gain more experience online (50 per cent have been using the Internet for six years), they are more likely to do financial transactions such as online shopping, banking and trading."

Account access

Around 41 per cent of the online banking users access their account from home, 48 per cent from office, nine per cent from cyber cafes and one per cent from their mobiles (refers predominantly to banking alert services). The survey found that 16 per cent of the users preferred using online banking services over the weekend while about 39 per cent preferred weekdays.

Banking hours

About seven per cent of users bank online between 12 midnight and 8 a.m., 28 per cent between 8 a.m. and 12 noon, 20 per cent between noon and 3 p.m. and 13 per cent between 3 p.m. and 6 p.m. .The 17 per cent use online banking between 6 p.m. and 9 p.m. while 15 per cent prefer using it between 9 p.m. and midnight.

Source – The Hindu Business line March 8 2008

List of Best Internet banking service providing banks in the World –

➢ Best online bank –

Citibank has the most complete and competitive online banking services as per customer satisfaction.

➢ Online banking with best ATM access –

With over 16,000ATMs, Bank of America online banking offers the easiest access to your money, with the highest customer satisfaction scores (along with Citibank).

➢ Best Internet-only bank

Although it has no physical branches, E*Trade offers a range of online banking services that are a lot like Citi.com -- a high-yield savings account, free checking and bill payment. One advantage to E*Trade bank is its integration with E*Trade discount brokerage accounts.

➢ Best online savings account

HSBC doesn't attract much attention for its online banking as a whole, but it gets great reviews for its high-yield online savings account, typically offering one of the higher available rates at a bank.

➢ Best online checking account

Reviews applaud EverBank for its high interest rate on online checking accounts -- EverBank pledges to keep its rate hovering in the top 5 percent of all most banks savings rates.

The current Internet services offered by Indian banks both Private and Public (in terms number of users) .

No 1 in Public sector banks – State bank of India
No 1 in Private sector banks – ICICI bank

The other banks offering these services in India are

- 7 associates of State bank of India (state bank of Hyderabad etc)
- 19 other Nationalized banks (like Bank of India , Canara Bank etc)
- Old generation PVT banks (Karur Vysa bank etc)
- New generation PVT banks (Yes bank etc)
- Foreign banks (HSBC , ABN amro etc)
- Development banks (ICICI etc)

There are about 171 Banks in India as of June 2008 out of which majority of them barring cooperative banks and other related banks majority of them offer Online Banking services

for CITI bank considered best in terms of range of services etc
Citi bank ranks second in a world wide survey

Demo Of state bank of India
http://sbi.co.in/search.jsp

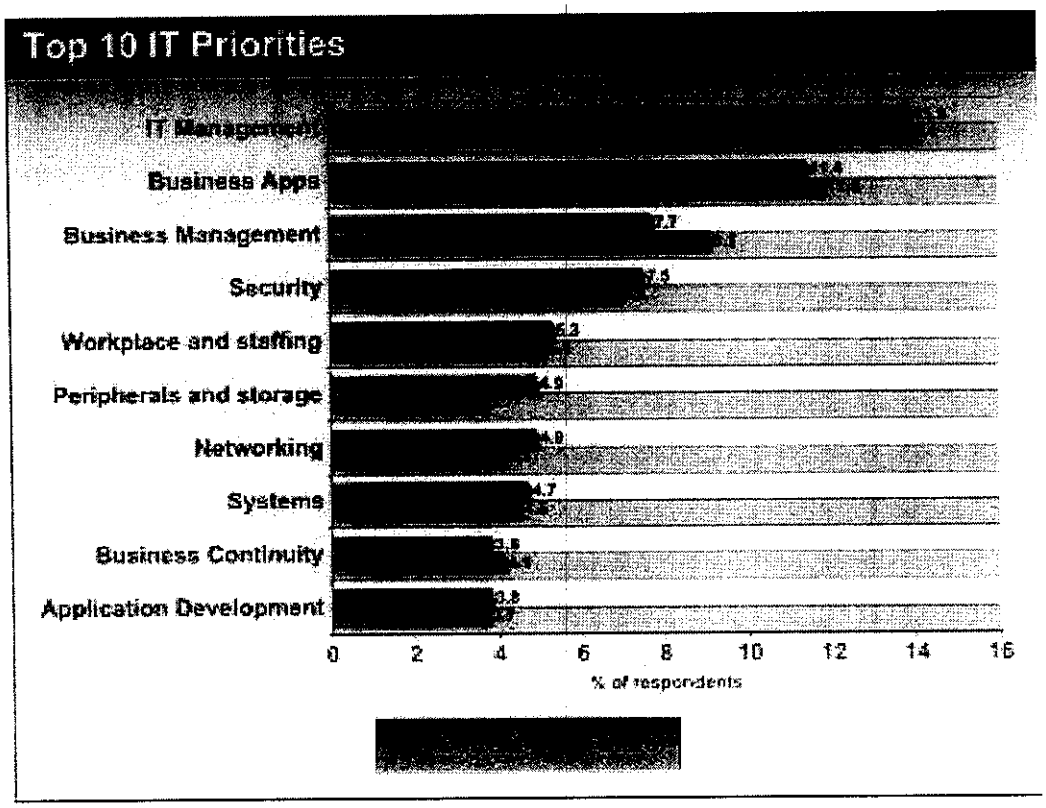
Demo Of ICICI bank Online services
http://www.icicibank.com/pfsuser/customerservice/internetbanking.htm

Although all these banks might differ a little in their service orientations in short the online services they offer can be summed up as

- Viewing of account balances
- Bill payment from mobile bills to cable bills
- 24/7 customer service by phone or email
- Online mortgage and CD applications
- IRA and brokerage account information access
- Viewing of account history
- Ordering checks online
- Transfer of funds between accounts
- Bill presentment
- Online application for checking and savings accounts
- Viewing of loan status and credit card account information
- Checkbook reconciliation
- Viewing of digital checks online
- Issuing stop payment orders online
- Investment advices
- Tax paying
- Bancassurance in some cases.

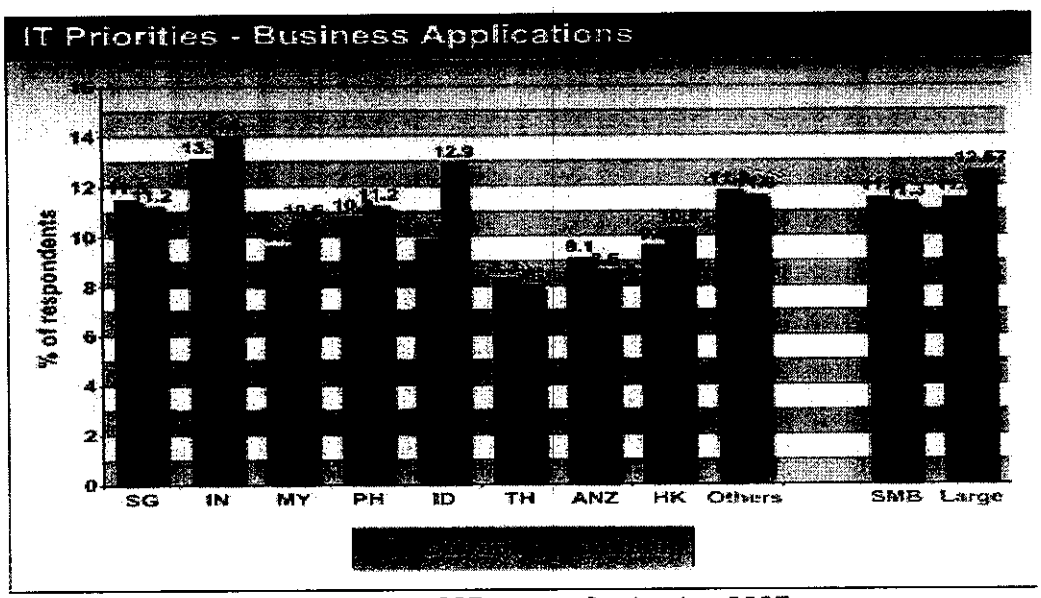
Source – various banking websites and banknet.com

Recent trends paving way for the growth of Internet banking in India



Source: ZDNet Asia IT Priorities 2007 survey, September 2007
2,396 respondents across 15 countries in Asia-Pacific

Here in the above figure it is seen that as the developments take place in Asia pacific and as the investment opportunities widen there is a very good chance for Internet banking in India.



Source: ZDNet Asia IT Priorities 2007 survey, September 2007
2,396 respondents across 15 countries in Asia-Pacific

Here in this above figure INDIA(is represented by IN) would be investing more in the IT sectors

SWOT Analysis of Internet banking in India from the secondary data collected

(S- Strength , W- Weakness , O- Opportunities and T- Threats)

Strengths –

- Customer access to information 24 hours per day.
- Timely access to information.
- The ability to offer a customer more than one method of retrieving information.
- Sophisticated technology systems will help to make a banking institute "future-proof."
- Diversity helps capture different types of markets.
- The ability to cut internal costs due to advanced technology.
- Increased efficiency due to automation.
- Increased accuracy of banking transactions.

Weakness –

- High price of service.
- Continual altering of customer wants and needs.
- Hostile feelings of employees due to possible pending lay-offs due to automation.
- Multiple options for the customer.
- Initial investment in technology will be expensive.
- Online attacks and Internet fraud

Opportunities –

- The ability to obtain a larger customer base.
- Global expansion. This is an enormous market which will be a great opportunity in the future.
- The ability to take advantage of the growing popularity of Internet banking.

Threats-

- Uncertainty of the banking industry.
- Competition from "lower price" operations.
- Possible failure of product due to non-acceptance of customer.
- General competitiveness of the banking industry.

PESTL ANALYSIS from the secondary data Collected

Political (incl. Legal)	Economic	Social	Technological
Environmental regulations and protection	Economic growth	Income distribution	Government research spending
Tax policies	Interest rates & monetary policies	Demographics, Population growth rates, Age distribution	Industry focus on technological effort
International trade regulations and restrictions	Government spending	Labor / social mobility	New inventions and development
Contract enforcement law Consumer protection	Unemployment policy	Lifestyle changes	Rate of technology transfer
FDI norms and RBI regulations	Taxation	Work/career and leisure attitudes Entrepreneurial spirit	Life cycle and speed of technological obsolescence
Government organization / attitude	Exchange rates	Education	Energy use and costs
Competition regulation	Inflation rates	Fashion, hypes	(Changes in) Information Technology
Stock market	Stage of the business cycle	Health consciousness & welfare, feelings on safety	Spread of Internet
Safety regulations	Consumer confidence	Living conditions	Computer Literates

These constrains seen from the PESTL analysis is very vital for the service to enhance and survive in a competitive business environment like the banking sector so the strengths and opportunities should be utilized properly to ward threats and weakness found in the sector so as to grow and reap success with the technology advancement.

PRIMARY DATA ANALYSIS

There were three separate questionnaires developed for the Non-users of the segments, Users of the segment and the Providers of the service pertaining to importance to this service. Their responses are enumerated below

1) Non users

2) Users

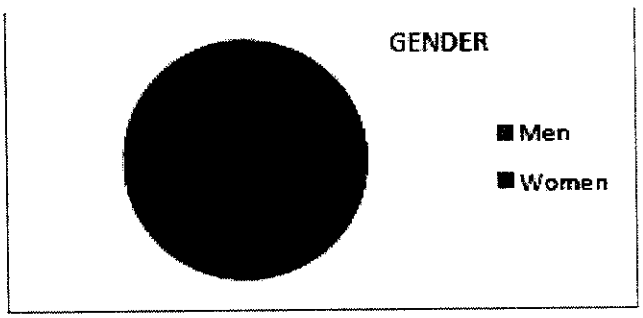
3) Banks

1)Responses of Non-Users

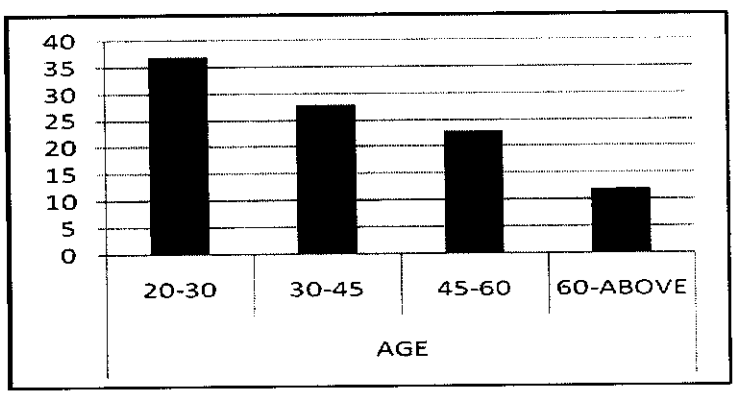
Sample size – 100

The survey population Included.

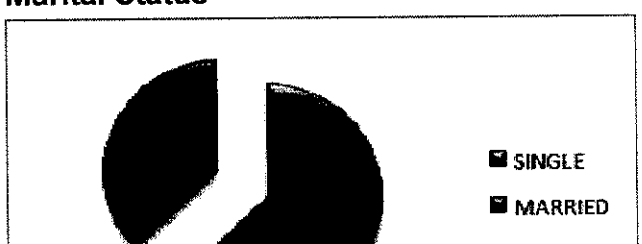
The Gender Variation



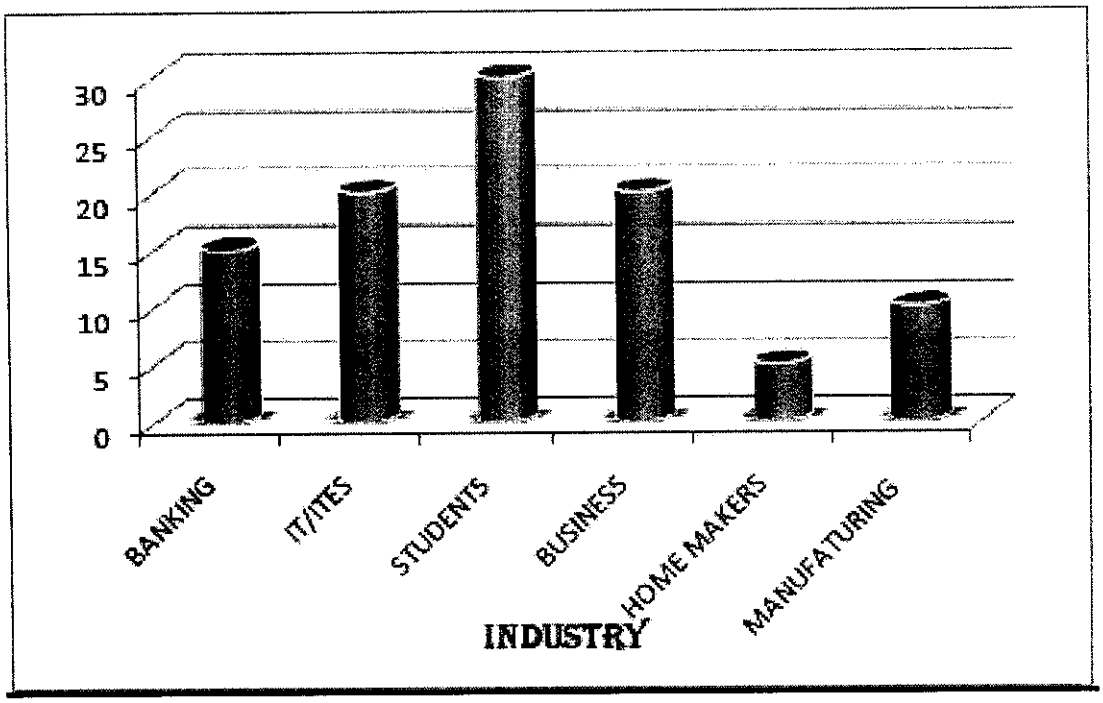
Age



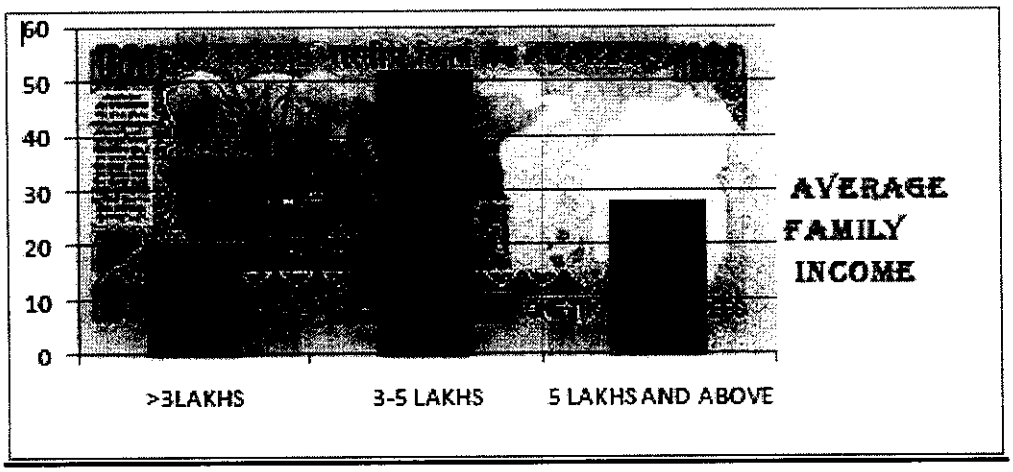
Marital Status



The Industry to which they are related



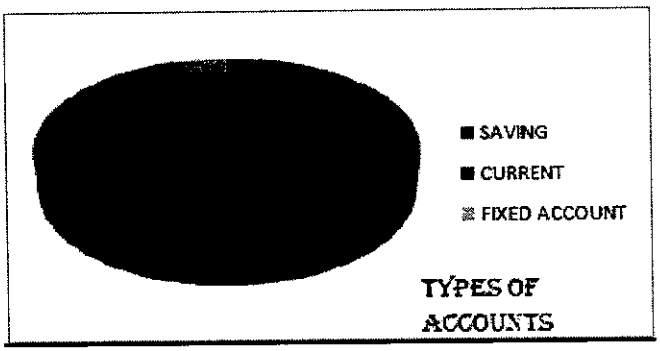
Annual Family Income



The sample size consisted of a Large number of Male respondents with the majority of them coming between 20-30, students followed closely by the IT sector and Banking with a family income of 3-5 lakhs/ annum this is a potential and growing sector which shows there is wider scope of improvement if tapped properly.

Response to question no 1

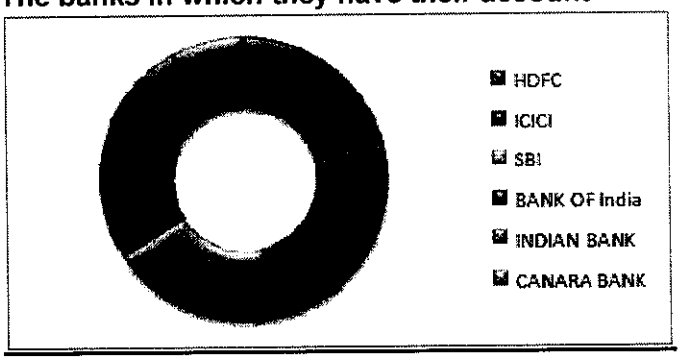
Type of account held



Savings-72%, Current-23%, FD's – 5%

Since savings accounts are larger the whole population can be lured using the service.

The banks in which they have their account

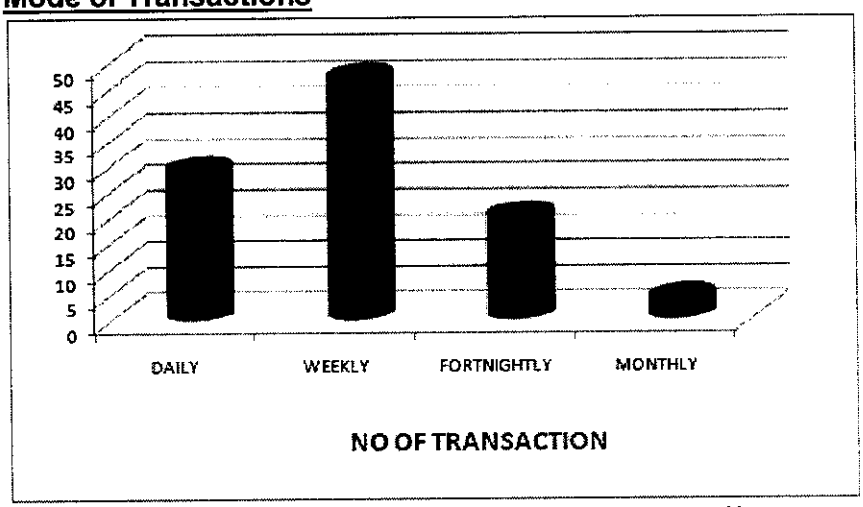


HDFC-21%, ICICI-25%, SBI –20%, BOI –16%, Indian Bank & Canara Bank -10% & 8%

If these banks can convert these into e-banking accounts the costs incurred for these transactions would be very less.

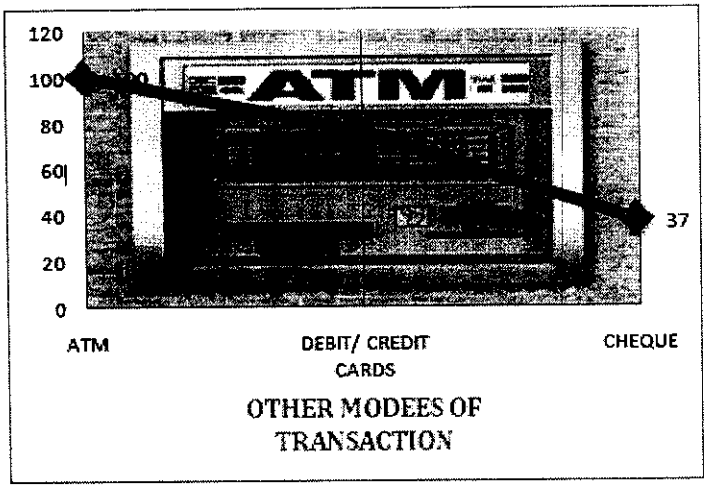
Response to question no 2

Mode of Transactions



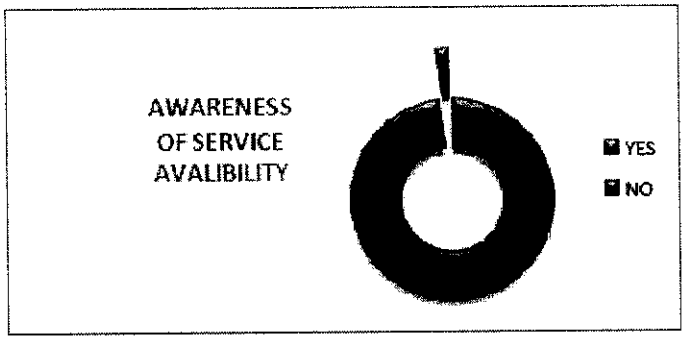
Again as the number of transactions daily is large e-banking would benefit them in their CRM.

Response to question no 3 - Other mode of transactions



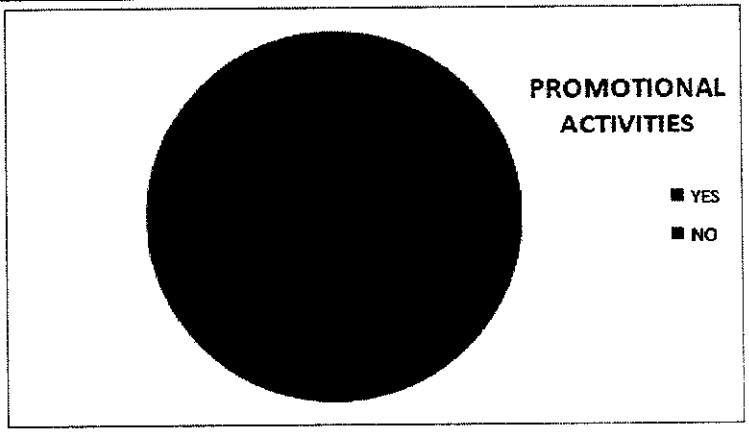
ATMS – 100%, Debit/Credit cards – 76%,Cheque – 37%.
The rise and penetration of ATM show very encouraging signs.

Response to question no 4 – Awareness of the service availability



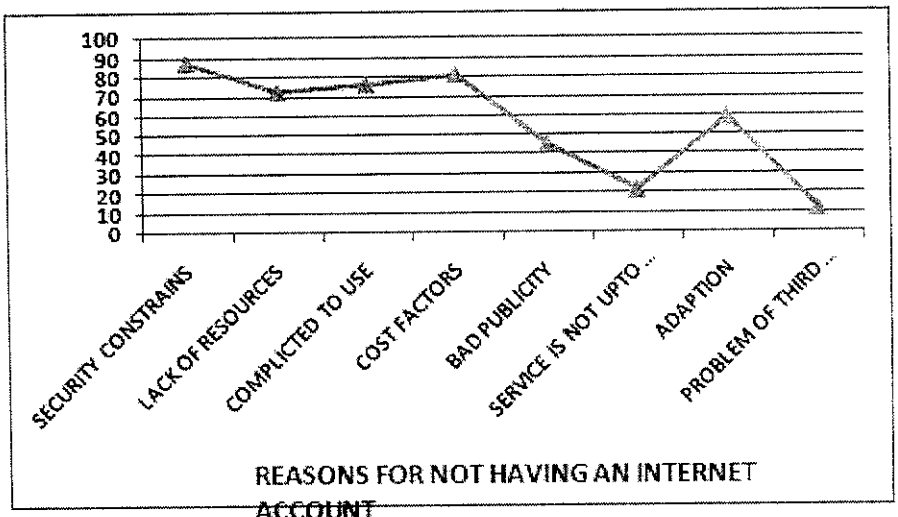
Yes – 98%, No – 2 %

Response to question no 5 - Has the Bank approached with promotional activities



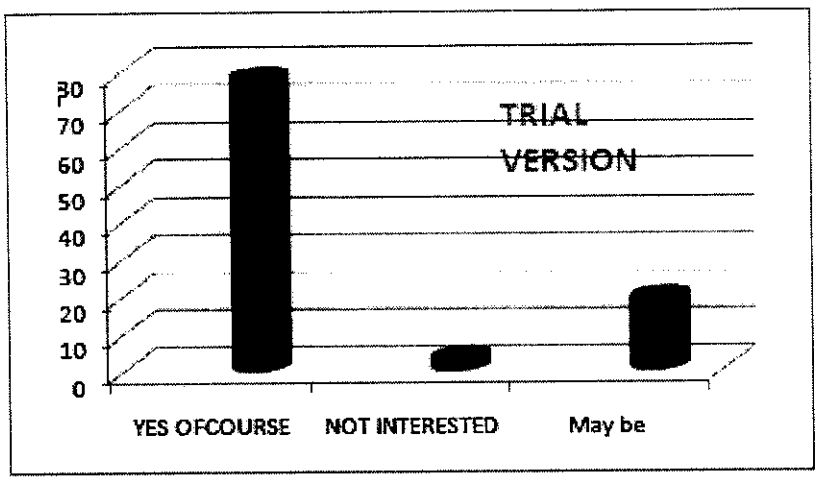
Yes – 41%, No – 59 %
The banks are lagging a lot on promotional activities and if they want to benefit through cost

Response to question no 6 – Reasons or constrains for not opening an Online account



Security constrains - 87%, Lack of resources – 72%, Complicated – 76 %, Cost factors – 81%, Bad publicity – 45%, Services not upto mark – 22%, Adaption - 59%,Problem of 3rd party vendors – 12%.

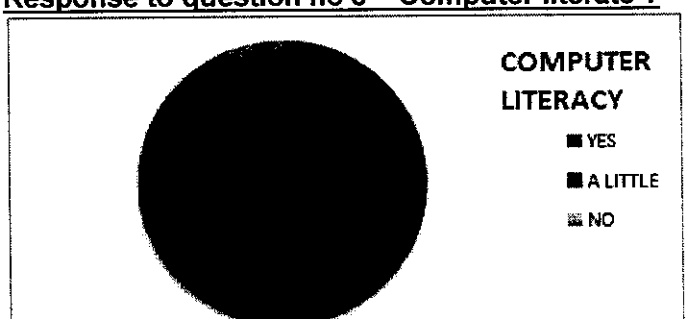
Response to question no 7 – Utilizing Trail's if available.



Yes of course – 78%, May be 19%, not Interested – 3%

Since majority of the respondents would like a Trail version, the banks could encash on this opportunity.

Response to question no 8 – Computer literate ?



Yes – 79 %, A Little - 15 % , No – 6%
Since most of them are the opportunity should be encashed properly on.

Valuable or legitimate suggestions for question no 9 -

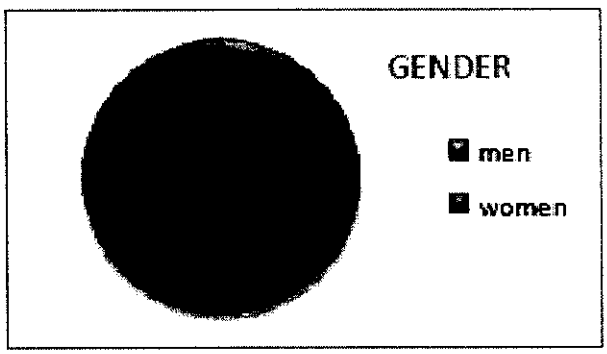
- Free monthly rentals for checking accounts
- Tax benefits
- More Interest rates for savings account via Online banking
- Banks giving Demo CD's to Practice
- More security measures other than normal pass words and logins.
- Free offers like exclusive loans etc
- Special shopping discounts availed for the service Users .

2) Responses from Users of the service

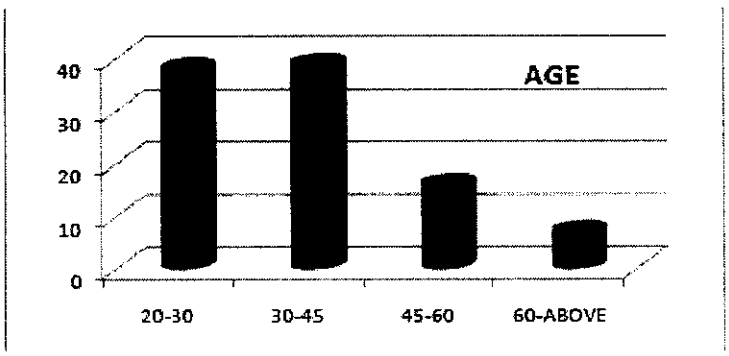
Sample size – 100

The survey population Included

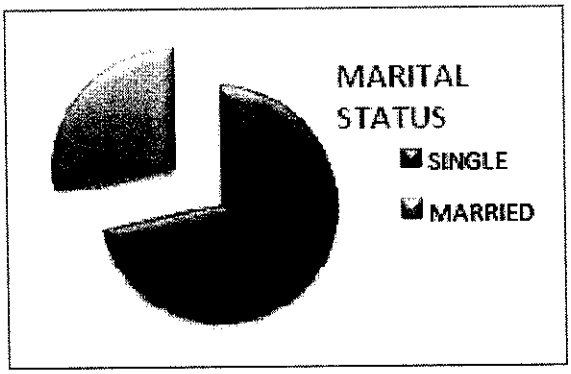
Gender variation



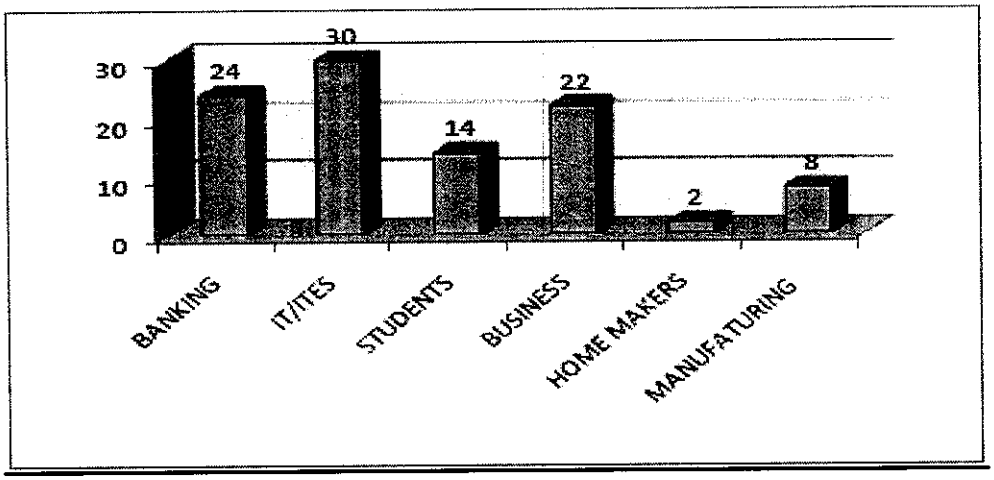
Age



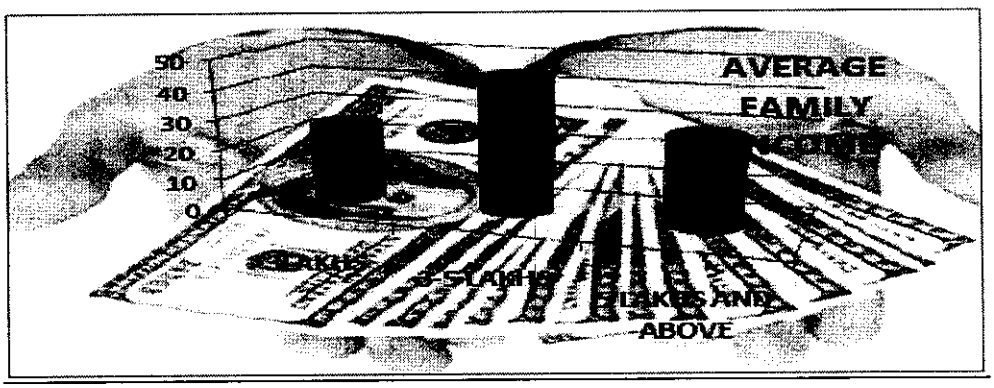
Martial status



Industry they are related to

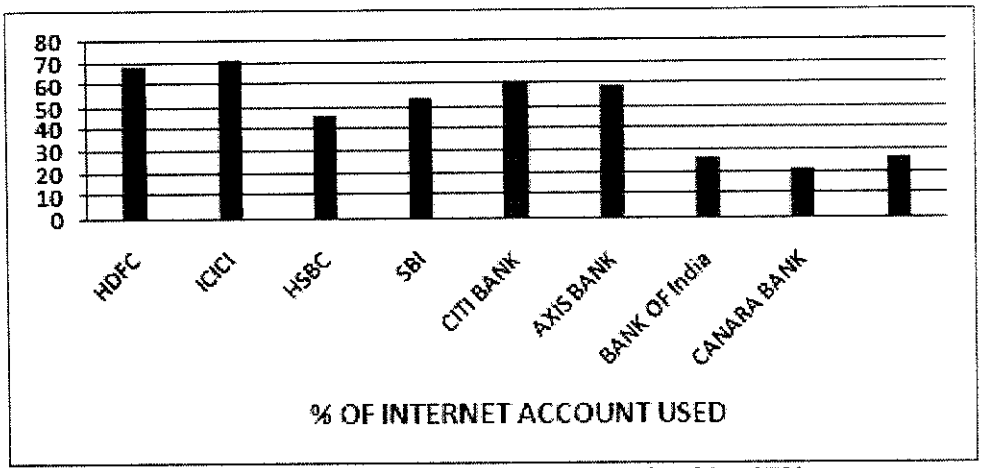


Annual Family Income



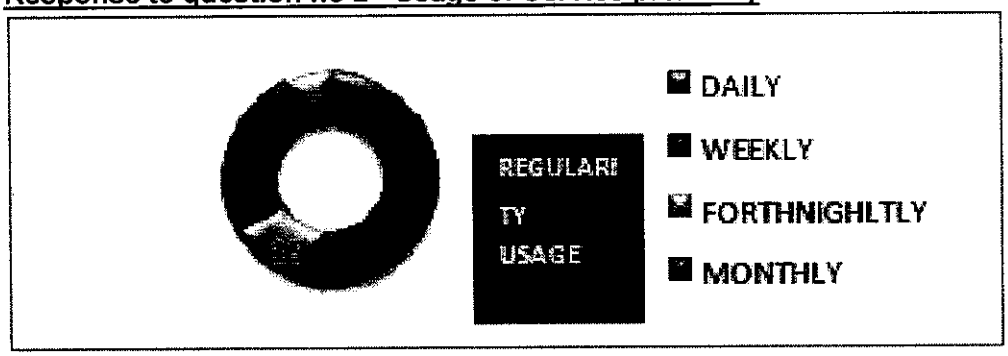
The Sample population consisted of largely Men and the majority of the age group was between 20-45, the annual family income falling between 3-5 Lakhs and the users were mostly from the IT industry , followed closely by people working in the banking sector and one's in Business related ones.

Response to question no 1 - The banks in which they had their online accounts



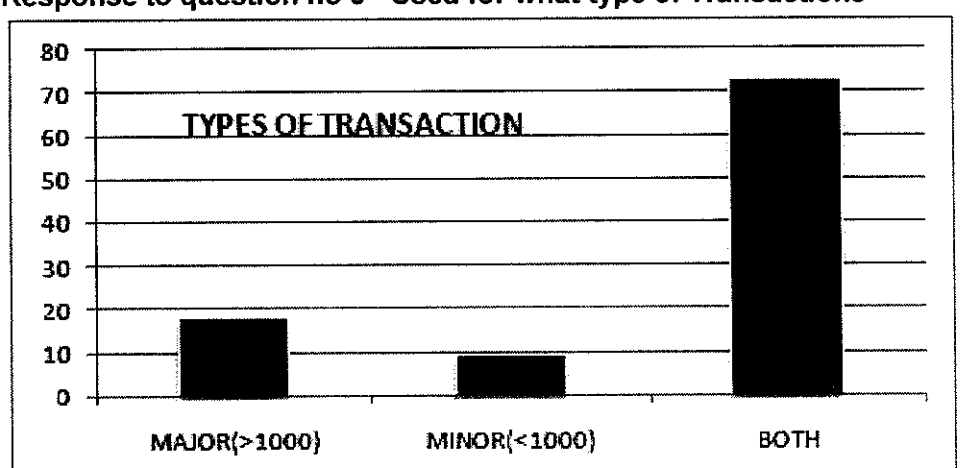
HDFC – 69%, ICICI - 71%,HSBC – 46%,SBI – 54%,BOI – 27%,
CiTi Bank –62%,Axis bank – 59%,Canara bank-22%,Standar-27%
The private banks have shown very good conversion rates and the government owned ones should take cues from this .

Response to question no 2 - Usage of Service proximity

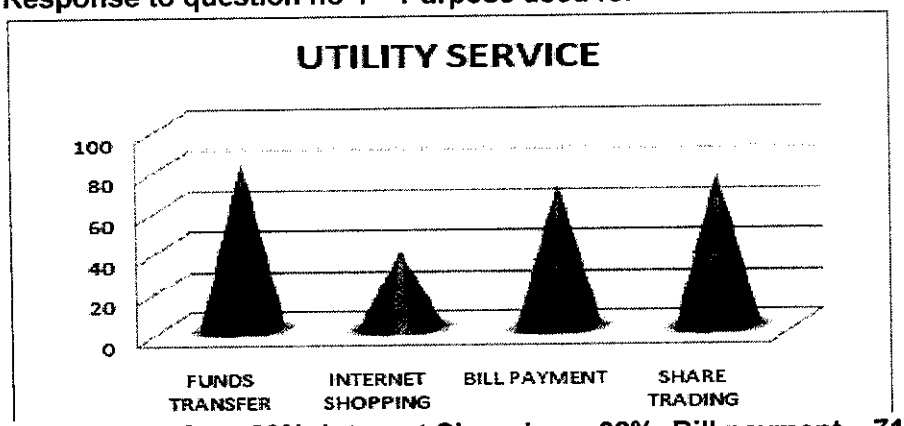


Daily-29%,Weekly23%,Fortnightly-15%,Monthly-26%,Yearly-7%
As the service proximity is split widely the service provider can try and accumulate activities such that process becomes more stream lined.

Response to question no 3 - Used for what type of Transactions

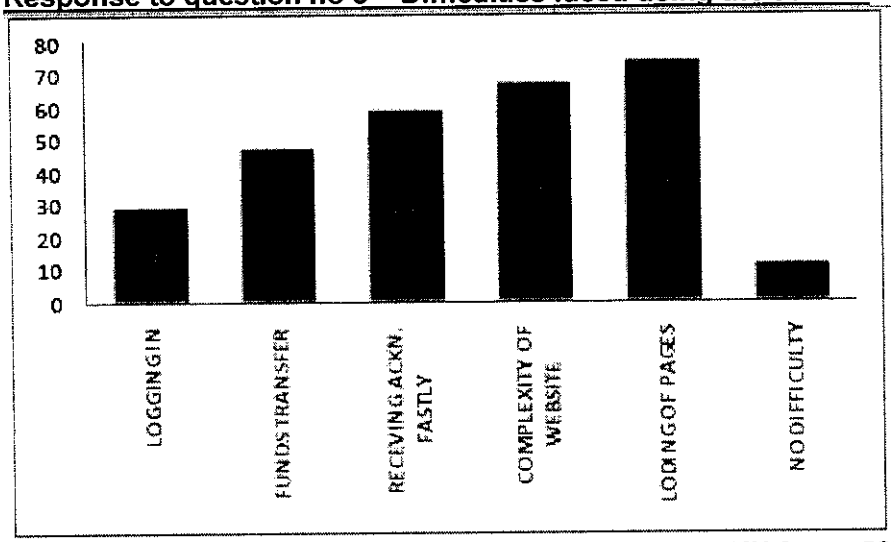


Response to question no 4 – Purpose used for



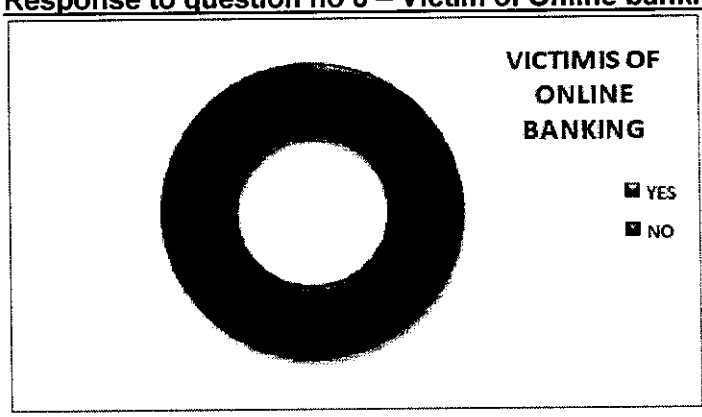
Funds Transfer – 83%, Internet Shopping – 38%, Bill payment – 71% , Share trading – 77 %
Since Internet shopping is down the ladder banks through offers can increase the usage of that part of the service as Online shopping is going to be mark of the future.

Response to question no 5 – Difficulties faced using the service

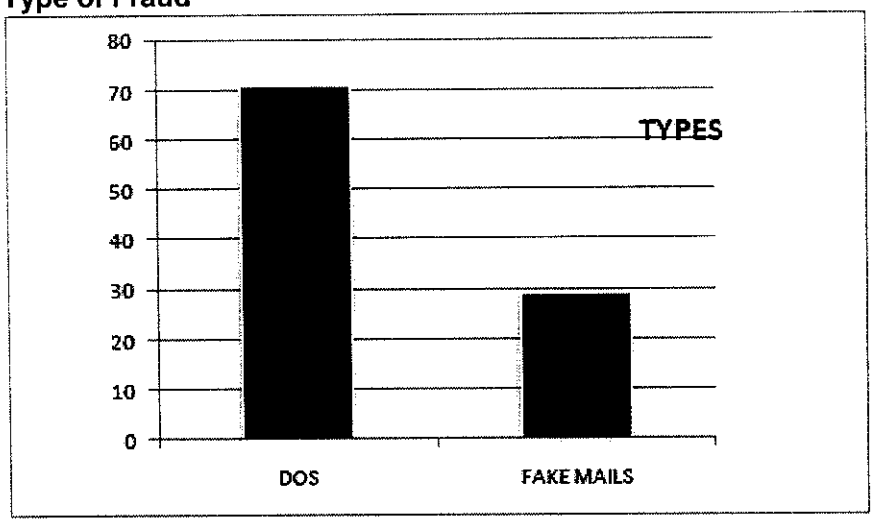


Logging in – 29%,Funds Transfer – 47%,Receving AcKN fast – 59%,Complexity of the website – 67%,Loading of pages – 74%, No Difficulty – 11%
The more the constrains lesser the service used so the banks should work so as to rectify it.

Response to question no 6 – Victim of Online banking Fraud

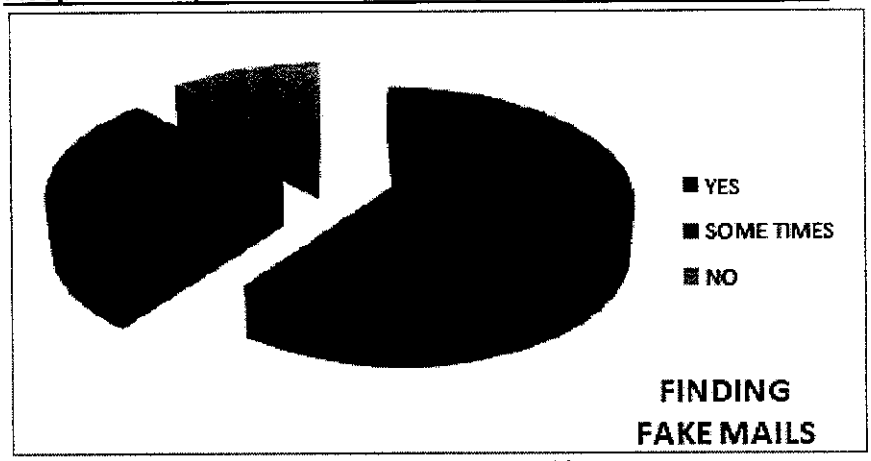


Type of Fraud



Denial of Service - 72%, Fake mails – 28%.

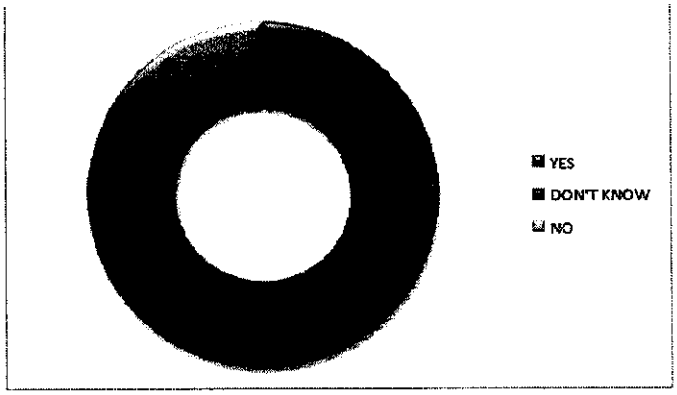
Response to question no 7 – Ability to distinguish fake mails



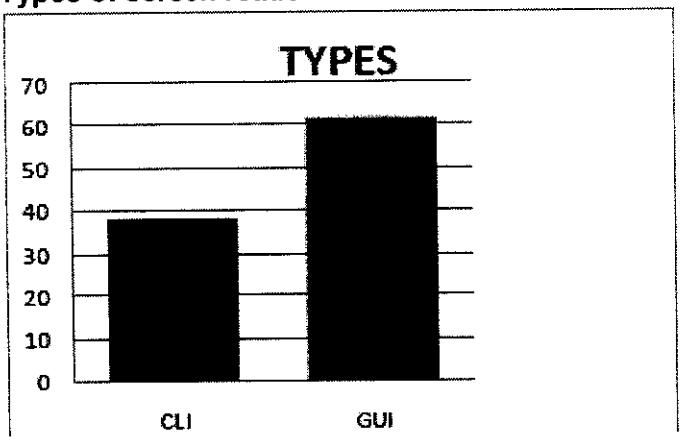
Yes- 59% , No – 12% and Sometimes 27 %

The banks should often send mails to customers regarding online frauds etc so that not only they educate the customers but cut the weeds at the starting stage itself

Response to question no 8 – Usage of Specific Screen readers

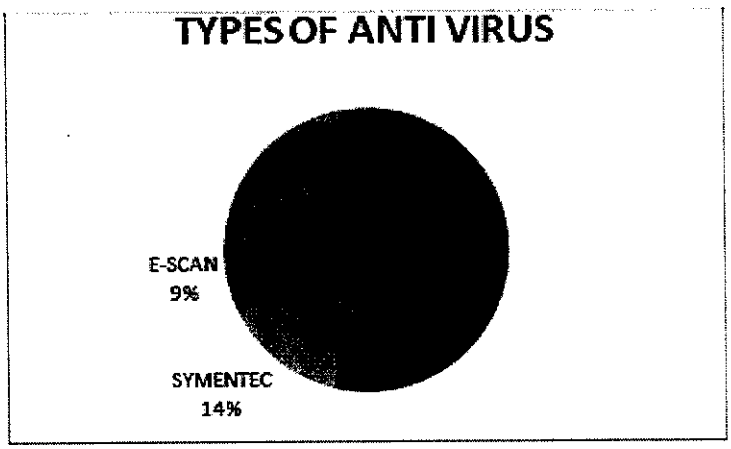


Types of screen reader used



CLI – 38 %
GUI – 62 %
Banks should also enumerate the benefits of screen readers like Command line interface or Graphic utility interface to enhance security measures and the service better

Response to question no 9 – Type of antivirus used.

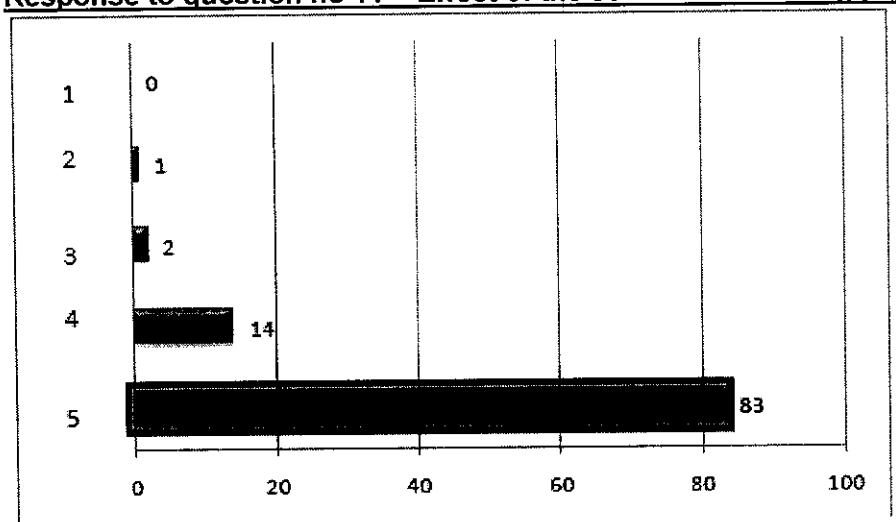


Norton – 25%,Avira – 28%,Kaspersky – 24%,Symantec 14%, and E-scan – 9%
The banks can also have agreements etc with top antivirus software companies so that the systems are more secure.

Response to question no 10 – Place of use

At Home – 81%,At Office – 89%,At a Cyber café – 4%,At a friends place – 11%.
Private use or using on personal computers should be encouraged.

Response to question no 11 – Effect of the service on Banking performance



5/5- 83%,4/5 – 14%, 3/5 – 2%,2/5 – 1%.

Response to question no 12- Valuable suggestions taken

- Avoiding or ways to Combat Double payment.
- Reduction of Charges
- Reduce complexity
- Terms and Conditions should be Clearly defined
- Instant alerts Via SMS
- Real time Settlement
- Better security enhancements
- SMS alter before sending a Important mail
- Slashing on Interest rates on loans availing via Internet Banking
- Weekly Investment advices and Tips

3) Analysis of the responses given by the banks –
Number of participating banks = 2

1) State Bank of India

2) HDFC Bank

Response no 1–(how often does the bank conduct assessment on its IT services?)
SBI – Monthly
HDFC – Monthly
Monthly assessments is quite good enough for assessing a banks IT services.

Response no 2 – (% of account holders having or activated Internet banking service ?)
SBI- 30 %
HDFC – 75-80 %
Citing SBI large chunk of account holders the percentage of users is very low and also citing that most of the non-users of service who told that bank did not approach them with any kind of promotional activities from State bank of India . In terms of the users in HDFC it has done very well keeping in mind the number of users and a large number respondents who said that they were approached by promotional activities were from HDFC Bank.

Response no 3 - (Beneficial in terms of cost cutting activities)
SBI – Very much useful
HDFC - Very much useful
The positive responses given by both the banks show that there is a positive inclination towards the inclination with can benefit either ways .

Response no4 - (Growth in terms of customer relationship)
SBI – Yes
HDFC – Yes
As per analysis of the of users questionnaire the users have come in into a better understanding so as to how the banking works the relationship between the Bank's and its customers has grown tremendously .

Response no 5 – (Proximity of lapses per e-transaction on a basis of per 10)
SBI – 1-5/10
HDFC – 1-5/10
Although the number are quite low the banks can do something about it since as the previous results show users are a lot concerned about the lapses , acknowledgements etc and also the nonusers are bothered about the complexity of sites bank can concentrate on these areas so as to encourage customers to use more of these services.

Responses no 6 – (how the banks sent its promotional activities for customers to use the Internet banking)
SBI - Available on the website
HDFC – Available on the website
This is sort of laid back approach is reducing the opportunities for the banks as large number of the customers have been complaining about banks not promoting it properly personal emails or mails can benefit the cause a lot as the banks have also mentioned this service has benefited it a lot in cost cutting activities .

Response no 7 – (Victim of online fraud)

HDFC – Yes
HDFC has seen the problem of Fake mails being sent to its customers asking for certain personal details in this aspect **HDFC** should take care that the customer data does not get misused it's a internal problem and the bank should necessary activities as the bank , as most of the nonusers have citied reasons such as bad publicity which is stopping them from availing the service.

Response no 8 – (approximity of e-transactions accordance with normal transactions)
SBI – 20%-40%
HDFC – 40%-60%
This shows that SBI has scope for larger improvement and also that both of the banks mentioned that the service has proved to be very profitable to the banks if given percentages increase with better promotional activities the bank make more profits.

Response no 9 – (Reason for using less of e-banking services)
SBI – Less awareness of benefits
HDFC – Spread of the Internet services and Less awareness of benefits
Although the spread of internet is growing day by day the reasons for awareness of benefits the onus is on the banks as they have not promoted their service better as they constrained themselves to making the information only available on their Websites.

Response no 10 – (IT training activities being provided to employees)
SBI – Yes
HDFC – Yes
IT training activities is very much essential to employees a not constraining to those activities also since the organization needs to advance with technology to keep up the pace in a fast growing market.

Response 11 – (on Outsourcing operational activities)
SBI – Partial
HDFC – Partial
Outsourcing of certain activities can increase the profits of the bank but at some time certain mishaps can affect the integrity of the Banks Image .

Response no 12 – (Processing activities that banks have agreements with that of third party vendors of its e-banking services)
* It is to be noted that the respondents have said to extent to which they have an idea about since some of contracts and agreements are kept with the Top level management
SBI – Internet banking activities(website host) , core application software ,
Imaging items, ACH, pay roll , Networks , Telephone banking .
HDFC - Core application software, Imaging items and documents , Website
Hosts, Trust application software , Core application software and
Telephone banking.
Since both the banks are seen to be outsourcing most of their activities although it helps them in cost cutting activities developing certain activities like Core application software etc could benefit them in the long run.

Response no 13 – (Scanning of systems)
SBI – Weekly
HDFC – Weekly
Scanning systems once in a week and finding threats is good but still weekly twice or thrice can make the banks security system more fool proof .

Response no 14 – (Type of network connection)

HDFC – Leased lines
SBI can follow **HDFC**'s way of leased lines as leased lines, even though they cost a little extra it can help increase the networking activities by more than two folds .

Response no 15 – (Availability of features)
SBI – All
HDFC – All
Since they have all the products in their portfolio better promotional activities can benefit their cause better.

Response no 16 – (type of environment that the Internet banking site operates in)
SBI – Memo post
HDFC – Memo post
Both the banks can upgrade to real time like ICICI bank and Citi bank as that mode of transaction is better and it makes the customers carry out more number of transactions .

Response no 17 – (Offering Guarantee when a payment is not properly made through the bill payment system)
SBI – N.A.
HDFC – N.A.
Both the banks have mentioned that it solely depends upon the transaction that took place and area of mishap and the conclusion so as to where it occurred.

Response no 18 – (Establishment of Customer care services)
SBI – YES
HDFC – YES
Although their customer care restrains to activities such as queries etc it should focus more on trying to sell their services such as these as media alone would not be sufficient enough to carry out these kind of activities.

SWOT ANALYSIS of the Primary data

Strengths and Opportunities–

- The Age group (20-45)
- The number of non-users of the service
- The Computer literacy rate
- When the student population goes to work the number of users would increase
- Banks have also mentioned that a large chunk is still untouched
- More number of Saving account holders so good source of funds
- A number of transactions take place every day and weekly
- Although card usage is more survey indicates that Internet service banking would over lap card type transactions in the future
- [illegible] of the service availability

- Ready to use Trail versions if available
- The income group is also a rising middle class
- The range of Utilization of the service and range of Transactions
- Increased performance of banking as one uses the Internet banking activities
- Helps the Banks in Cost cutting activities
- Growth in customer relationship
- Customer care services
- As computers and Internet connections get cheaper due to entry of new players the growth or scope for the technology is greater
- As there is very less chance of documentation loss this technology is usually preferred for many important transactions
- The funds transfer etc happen in quick time so this type of service is preferred over other modes of transfer system so it stands a very good chance
- The Investment into the IT sector glooms to be large and is very much beneficial to this service in the long run.

Weakness and Threats

- The card mode of transaction is preferred more as it is considered to be more convenient to use .
- Banks not approaching with Promotional activities
- Security constrains,
- Lack of resources among a lot
- Complicated in terms to use
- Cost factors ie Monthly rental etc
- Bad publicity due to mishaps that occurred in the start
- The range of utilization of the service is usually very low when compared to number of features available
- The range of difficulties faced while using the service ranging from logging in to funds transfer
- Online Banking fraud such as Fake mails , Denial of service etc
- The morphed fake mails resemble original mails a lot .
- Virus attack and Hacking problems

- The non users are not aware much of the advantages and benefits
- The lapses occurring during a e-transaction is quite a lot .
- Promotional activities constraining to the website itself
- The play of Third party vendors is usually very large and if someone hacks or gains access to their components the concerned banks can get affected a lot
- The type of environment in which most of the banks work is not on real time and as a result of this the transparency is very less
- Loss of job opportunities is quite large if everything becomes technology oriented
- As opening of accounts ,transactions etc take place online the chance of identifying offenders and criminals is very less.
- If there are no proper backups data lost cannot be regained very fast as most are stored in virtual memory drives.

Conclusion

It is believed that everything will be determined by content and context, and where execution will be key. From a customer and service provider perspective, this is where the world is moving-it is going to be real-time, on-line, personalisation for both marketing and the service experience. If existing banks don't want to disappear, it is this challenge of Integration that they need to embrace in order to win and survive. The more things change, the less they change. In the months and years-ahead are going to be how Service Providers integrate and market their offerings across different channels. The strategic and executional battles of the future are going to be fought for Channel Integration. What does Channel Integration means? It means that an institution presents an identical face to the customer-be it in the branch, on the web, at an ATM or for that matter, through a sales representative or a broker. An identical face, an identical message. Or better still, messages that reinforce each other. If a sales representative tries to sell you a housing loan, you get e-mail a day later reminding you about the loan. That's called Integrated Sales, which results in incremental economic activity and improved efficiencies of communications. Channel Integration across the phone web can clearly lead to a gain of several percentage points of GDP. The beauty of this approach is that one channel does not displace another. They feed on each other to create incremental value for the customer, as well as the institution. The incremental value comes from two distinct sources.

Firstly, you reduce inefficiencies. You don't send people junk mail because you know that they are not likely to buy a particular product or service today. That results in net saving for the economy. Secondly, you persuade people at the right time (the right time from the customer's perspective, not from the service provider's perspective) to opt for a tailor made offering. This too increases value. Actually, this has to do with the Internet itself, and more to with the underlying technologies of the Internet which allow incremental efficiency, and empowers the customer to make more enlightened and timely choices.

Lastly the product range is another issue which becomes important. It will take a technological revolution to make available advanced banking products on the net and given the rate at which the technology is developing we can expect this to happen in near future.

STRATEGIES TO BE ADOPTED BY INDIAN BANKS

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:

1. For long term success, a bank may follow:
   - Adopting a webs mindset Catching on the first mover's advantage
   - Recognising the core competencies
   - Ability to deal multiplicity with simplicity
   - Senior Management initiative to transform the organisation from inward to outward looking
   - Aligning roles and value propositions with the customer segments
   - Redesigning optimal channel portfolio
   - Acquiring new capabilities through strategic alliances.

2. 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, mail box, check book issue, stop payment, financial and customised 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.

Appendix

1) MARKETING SURVEY QUESTIONNAIRE on Internet banking for non users

Name:
Gender: - Male/ Female
Age Industry:
Marital Status:
Contact No: E-mail Id:-
Annual family Income –

Less than 3 Lakhs

3Lkh- 5 lkh

5lkh above

1) What kind Of account do u hold with the bank ?

a) Current account

b) Savings

c) Others (Plz specify) _____

Which Bank ? _____

2) How often do you do Transactions in the bank ?

a) Daily

b) Weekly

c) Fortnightly

d) Monthly

3) Since you don't use internet banking services with the bank what other service do you use (can tick more than one)?

a) ATM Card

b) Debit/Credit Card

c) Cheque

d) Others (Plz specify) _____

a) Yes

b) No

5) Has the bank approached you with any kind of promotional activities regarding e-banking ?

a) Yes

b) No

6) What are the Constrains holding back from using these kind of services (can tick more than one) ?

a) Security

b) Lack of proper resources

c) Complicated

d) Cost factor (monthly fees for usage charges)

e) Bad publicity regarding Misuse

f) Banks services are not upto the mark

g) Adaption

h) Problem of third party vendors in the foray

7) Would like using a trail version if offered by the bank for certain period of time ?

a) Yes of course

b) Not interested

c) May be .

8) Are you a computer Literate ?

a) Yes

b) No

c) A little

9) For you to Use the services please mention extra additional features (other than existing

Thank you for spending your valuable time .....

2) MARKETING SURVEY QUESTIONNAIRE for the Service users

Name:
Age: Gender: - Male/ Female
Industry:
Marital Status:
Contact No:
Annual Family income-

Less than 3 lkhs

3lkhs-5lkhs

Above 5lkhs

1) Which bank's Online service do you use ? or which are the banks in which you have activated this service ?

_____
_____
_____

2) How regularly do you use this service ?

a) Daily usage

b) Weekly

c) Fortnightly

d) Monthly

e) Few times a year

3) Used for what type of Transactions ?

a) Only Major (More than 1000k)

b) Only Minor (Less than 1000k)

c) Both

4) What do you use the e-banking for? Please put Ticks in front of your Choices.?
a) Fund's Transfer
b) Internet Shopping
c) Bill Payment
d) Others (please specify) _____

a)logging in
b)Funds transfer
c)Receiving acknowdledgements fast
d)Complexity of the websites
e)loading of pages .
f)No Difficulties

6) Have you ever been a victim of online banking fraud? Please answer "Yes"
or "No".
If yes, can you briefly explain the nature of it?

7) Are you able to separate genuine emails received from your bank and Phishing type emails (fake emails)?
a)Yes
b)Sometimes
c) No

8) Do you use any specific screen reader for online banking? Please answer "Yes" , "No" or don't know .
If your answer is "Yes", please briefly explain which screen reader and how easy is it to use?

9) Please specify the anti-virus and anti-spyware brand you use to protect your computer ?

_____

10) Where do you mainly use Internet banking (tick multiple options if applicable)?
a) At home
b) At work / College
c) At a Cyber cafe
d) At a friends place

11) Using the Internet banking systems would improve your performance in conducting banking Transactions (1-strongly disagree, 5-strongly agree)

1 2 3 4 5

12) Could you please briefly explain your wishes and any other comments to securely conduct your online banking?

_____
_____
_____
_____

THANK YOU for Your Valuable time and Response .....

3) MARKETING SURVEY QUESTIONNAIRE on INTERNET BANKING for Banks

Name:
Designation:
Name of the bank :
Address of the Bank :
Contact No:
Email ID :

1) How often does the Bank conduct assessment on the Bank's IT services ?

a) Monthly

b) Quarterly

c) Once in 6 Months

d) Yearly

2) Approximately how much percentage of the account holders use this mode of Transaction ?

_____

3) How Far Has it Been beneficial for the Bank in Cost cutting activities ?

a) Very Much useful

b) Good

c) Average

d) Does not make a Difference

4) Does the customer feel satisfied with these approaches ? ie Has the relationship built further ?

a) Yes

b) No

c) Cant say

5) What is the proximity of lapses being reported per E transaction ?

a) 1/10

b) 1-5/10

c) 5-7/10

d) 7-10/10

6) Has the Bank encouraged the customers to use E-banking or has it sent protocols so as to how to use it ?

a) Yes

b) No

c) It is available on the website

7) Has the Bank been a victim of Online Fraud ?

a) Yes

b) No

If Yes please tell Briefly the nature and steps put forth to overcome it .....

8) Approximately how many transactions done are E-transactions ?

a) >10%

b) 10-20%

c) 20-40%

d) 40-60%

e) <60%

9) What do you think is the reason for people using less of e-banking ?

a) Security concerns

b) Complexity

c) Spread and usage of Internet services

d) Cost factor (ie monthly fees for services)

e) Less Awareness of Benefits

10) Is IT/electronic banking training provided to employees of the bank?
a) Yes
b) No
c) Under process

11) Do you Outsource some of your operational activities In E-banking sector ?
a) Yes
b) No

contracts/agreements with third party vendors ?
Core application software (license agreement)

- ✓ Internet and/or PC Banking activities (web site host, Internet banking vendor)
- ✓ Trust application software (license agreement)
- ✓ Telephone banking
- ✓ Networks
- ✓ Item processing
- ✓ Any contracts/agreements with customers using electronic banking products and services. (including Internet banking, wire transfer, ACH, POS, etc.)
- ✓ Imaging – item or document.
- ✓ Payroll
- ✓ Investments
- ✓ Merchant Capture

13) How often are the server systems being Scanned and new Security threats found and dealt with ?

a) Every day

b) Weekly

c) Fortnightly

d) Monthly

14) What is type of Internet connection that the bank uses for its operational activities ?

a) Dial up

b) Leased lines

c) Broad band

d) Usb Modem

e) Wireless

f) Optic fiber lines

- ✓ Viewing of account balances
- ✓ Bill payment
- ✓ 24/7 customer service by phone or email
- ✓ Online mortgage and CD applications
- ✓ IRA and brokerage account information access
- ✓ Viewing of account history
- ✓ Ordering checks online
- ✓ Transfer of funds between accounts
- ✓ Bill presentment
- ✓ Online application for checking and savings accounts
- ✓ Viewing of loan status and credit card account information
- ✓ Checkbook reconciliation
- ✓ Viewing of digital checks online
- ✓ Issuing stop payment orders online

16) What type of environment does the Internet banking site operate in?

- ✓ real time (is the main frame updated immediately?)
- ✓ batch processing
- ✓ memo post

17) Does the bank provide a guarantee or warranty when a payment is not properly made through the bill payment system?

Yes **No** **NA**

18) Has management established programs and/or procedures for the following?

Yes **No** Customer service, support, and education

Yes **No** Customer demands, problems, and complaints

Thank You for spending your Valuable time .....