

A Study on E-Banking Safety and Security with Reference to Bank of India

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Abstract: *Today, in every aspect of our life, we are using information technology (IT) to make our life comfortable. Banking sector, completely based on the consumer database, using online transactions widely, also affected by IT. Rapid growth of a technology; where the main concerns are related to security and cost, Internet banking suggests that these concerns can be solved for many aspects like digital sign and electronic signatures as well. In the Internet banking, the web browsers provide simple and user-friendly interface to customers. This paper gives a survey for the required security and challenges faced by all banks in internet banking. Like technology service providers globally have firmed up cloud computing platforms that have opened vistas for agile and cost-effective solutions. Prevention of cybercrimes is the main challenge for banks with proper customer service.*

Keywords: E-Banking.

I. INTRODUCTION

Due to IT revolution various new technologies are being introduced in production and service sector. IT tools are introduced for the better performance and faster growth rate. With arrival of foreign and private banks with superior technology pushed banks to follow the latest technology to meet the growing competition and retain their customer satisfaction. Now Indian banking industry is in the mid of IT revolution. Rapid growth of a technology where the main concerns are related to security and cost Internet banking suggests that these concerns can be solved for many aspects like digital signers and electronic signatures as well. The role of Internet is becoming inevitable in a society. The Internet banking is changing the environment of banking industry and is having the major effects on banking relationships. Today, Information Technology (IT) not only facilitates automation of process and data processing but also provides more value addition to the entire banking business. Further, it is directly and visibly linked to 'value to customer'. In such a scenario should IT be delivered and managed within the Bank or outsourced? The key challenge is to proactively respond than be reactive to change. Banks are now expecting outsourced service organizations to proactively sense business needs and change rather than be told to change. While the emergence of communication frameworks has been a boon to business but integration of various structured and unstructured data will be the key for prompt and personalized services. Banks are deploying sophisticated analytical systems to enable personalized communication and services to customers. A bank that communicates well is able to sense and change faster. The internet motivated many companies to use the Internet to sell products/services online services the internet users intend to buy. 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 paper aims to protect against fraud at providing a specific focus to identify the security issues in banking system also the impact of demographics in influencing Internet users in consuming Different services online. In a survey conducted by the Online Banking Association, member Institutions, rated security as the important issue of online banking. There is a dual requirement to protect customers privacy and protection against fraud. A multi-layered security architecture comprising firewalls, filtering routers, encryption, and digital certification ensure that your account

information is protected from unauthorized access. According to the survey conducted by the internet and Mobile Association of India (IAMAI) there are estimated 20 million Internet users who are banking online now. PC Magazine Online also offers a primer: How Encryption Works. There are some key areas in banking where technology has contributed the most are: Product Development, Market Infrastructure, Risk Control and Market Research.

Electronic banking is a form of banking in which funds are transferred through an exchange of electronic signals rather than through an exchange of cash, checks, or other types of paper documents. Transfers of funds occur between financial institutions such as banks and credit unions. They also occur between financial institutions and commercial institutions such as stores. Whenever someone withdraws cash from an automated teller machine (ATM) or pays for groceries using a debit card (which draws the amount owed to the store from a savings or checking account), the funds are transferred via electronic banking. Electronic banking relies on intricate computer systems that communicate using telephone lines. These computer systems record transfers and ownership of funds, and they control the methods customers and commercial institutions use to access funds. A common method of access (or identification) is by access code, such as a personal identification number (PIN) that one might use to withdraw cash from an ATM machine. There are various electronic banking systems, and they range in size. An example of a small system is an ATM network, a set of interconnected automated teller machines that are linked to a centralized financial institution and its computer system. An example of a large electronic banking system is the Federal Reserve Wire Network, called Fedwire. This system allows participants to handle large, time-sensitive payments, such as those required to settle real estate transactions.

When Did It Begin:

For decades financial institutions have used powerful computer networks to automate millions of daily transactions. In the 1950s the Bank of America was one of the first institutions to develop the idea that electronic computers could take over the banking tasks of handling checks and balancing accounts, which was, at that time, extremely labor-intensive. Other institutions gradually joined the effort and progressed away from using paper checks and toward all-electronic banking. Data-processing machines, robotic document sorting, and the invention of optical character recognition (a computer application that translates handwritten or typewritten words into text that can be machine-edited) were a few of the developments which allowed this evolution. The first electronic banking machines were able to keep records of deposits and withdrawals from each client, make account balance information available instantaneously, monitor overdrafts, stop payments, and hold funds. The machines responsible for this work today are as exact and reliable as the banking industry requires them to be.

Electronic banking laid the groundwork for speed and convenience in individual and commercial (business) banking. The spread of personal computer use has added another layer convenience and speed to the process. Electronic banking allows customers of most banks to do their banking at any hour of the day, regardless of the bank's operating hours. If customers choose to do such things as transfer funds or pay bills, they can usually do so from anywhere Internet access is available. Online banking typically offers bank statements, electronic bill payment, funds transfers between a customer's checking and savings accounts (or to another customer's account), loan applications and transactions, and purchasing or sales of investments, all of which allow customers to maintain their accounts without making a trip to the bank itself. When funds are transferred between accounts by electronic means, it is called an electronic funds transfer (EFT). The Electronic Fund Transfer Act, passed by the federal government in 1978, established that an electronic funds transfer is any financial transaction that originates from a telephone, electronic terminal, computer, or magnetic tape (storage tape of the sort used in video or audio cassettes).

A wire transfer is the electronic transfer of funds across a network controlled and maintained by hundreds of banks around the world. Usually wire transfers are reserved for moving large sums of money. Wire transfers allow people in different geographic locations to transfer money easily. The wire transfer payment system called Fedwire (Federal Reserve Wire Network) links the offices of the Federal Reserve (the central bank of the U.S. government), the U.S. Treasury (the department of the federal government that manages the country's revenue), and other government agencies and institutions. One of the largest companies that provide electronic money services is Western Union. The company started out in 1851 as a transmitter of telegraphs, messages sent through wires as coded electronic pulses. As the telegraph became an obsolete form of communicating information in the mid-twentieth century, Western Union

redefined itself as a provider of electronic financial transactions. Now named Western Union Financial Services, Inc., the company specializes in electronic money transfers and business communications services. Another prominent provider of electronic financial transactions is PayPal, a service founded in 1999. It is used to process payments when people buy or sell things on the Internet. The service first gained popularity among people who used the auction website eBay. Most of the sellers on the site were not professional merchants and so were not equipped to accept credit cards; PayPal enabled them to receive electronic payments while also giving buyers an alternative to mailing paper checks or money orders. In 2002 eBay acquired PayPal

II. OBJECTIVES

- To study the present status of e-banking services in India with respect to ATMs, Internet banking, Mobile Banking, Credit Cards and Non-cash retail payments.
- To study the security & privacy issues and regulatory environment of e-banking services in India.
- To examine and compare the Pre-login and Post-login security and privacy features of selected banks online banking portals.
- To measure and compare the level of security and privacy concern among customers of selected banks regarding the use of e-banking services.
- To find out the relationship between security & privacy concern and security & privacy satisfaction.
- To understand the opinion of non-users of e-banking services

III. EXPLANATION

RESEARCH GAP:

A Study on E-banking Safety and Security with reference to Bank of India E-banking has attracted the considerable amount of interest of researchers in the recent times. Majority of the studies conducted in this field, primarily, focused on the identification of factors Affecting the adoption of e-Banking services i.e. ATM Internet Banking, Mobile banking, phone banking, ECS, Credit/debit Cards, RTGS, NEFT etc. Review of various studies has revealed that reliability, ease of use, personality, accessibility, accuracy, security and efficiency could influence the adoption of e-banking services (Joseph et. Al., 1999; Meter et al., 2000; Yang & Jun, 2002; Joseph & Sone, 2003; Long & Mc Mellon, 2004). However, number of studies found that concern for security and privacy 'is the most important factor influencing the adoption of e-banking (Palatable & Kin, 2001; Devlin & Young, 2003, Srivastava, 2007). The concern for security and privacy issues in adoption of internet banking is justifiable from the fact that according to Reserve Bank of India (RBI), in 2010-2011, Indian banks lost about Rs 2,289 Cr. In bank frauds while the loss in 2007-2008 was Rs 1,057 Cr (Jagdish Mahapatra, 2012) Similarly, according to the annual report of the Indian Computer Emergency Response Team (CERT-In), the team handled about 374 Phishing incidents in 2009 ((Jagdish Mahapatra, 2012). A recent study conducted by PwC (2012) found that data security concerns and lack of clarity on regulatory stance are two major roadblocks in the adoption of internet banking (Cloud Computing) in Indian banks. Therefore, it is evident that with electronic banking on the rise, customers are vulnerable to the risks of e-banking frauds, even as regulations are becoming more stringent as far as know your customer (KYC) rules are concerned. In this background, it is apparent that concern for security and privacy' is the major roadblock in the adoption of e-banking services. So, there is a need to study the security and privacy issues in depth from customers 'perspective. An analysis of security features of online banking portals will help the bankers to make their non-mortals more secure by embedding the advanced security and privacy features in their online portals. Along with the study of online portals, the opinion of e-banking services users toward the security and privacy issues will help bankers to understand customers 'concern for security and privacy while using e-banking services. Hence, the present study has been designed to study the security and privacy issues in e-banking analyzing the contents of selected internet banking portals and the opinions of users of e-banking services.

3.1 LIMITATIONS OF THE STUDY

Studying a sample spread across the state would not have been feasible considering the geographical spread and diversity within the state. Therefore, it was felt appropriate to restrict the sample area to Gorakhpur.

The first plinth of research was carried out for the submission of this research proposal.

Communication is a very big challenge as the participation of all the people is not to be seen as ofnow because of the language barrier

3.2 SCOPE OF THE STUDY

Scope of Electronic Banking electronic banking means 24 Hour access to cash through an automated teller machine (ATM) or par cheques deposited directly into checking or saving accounts. Electronic banking also known as ELECTRONIC FUNDS TRANSFER (EFT)uses computers and electronic instruments and technologies as a substitute for cheques and otherpaper transactions. EFT, is initiated through devices such as cards or codes that you use to take access to your account. Many financial institutions use an automated teller machine (ATM) cardand a PERSONAL IDENTIFICATION NUMBER (PIN) for this purpose.

The federal Electronic Fund Transfer Act (EFT A CT) covers some consumer transaction Scope of Electronic Banking:-Today the people demand the services of banks 24 /7 where he lives even he is on the airplane, parkour an institute. Now in this age of technology theall banking system has been revolutionized due to large internet technology. Now all the business like commerce, trade, import, export, purchase and sale of goods is depending upon electronic banking. By using the new and modern electronic technologythe banking services are fast and economical. There is a saving time and saving of money in the use of E. banking. If any country wants to work in the international market, it will have to improve the banking services at international level because old traditional banking is not acceptable in the changing modern and global economic situation.

The online banking facility has been provided by the large number of commercial banks. On other hand credit card facility is also available in the various commercial banks.

3.3 SIGNIFICANCE OF THE STUDY

- It saves time spent in banks.
- It provides ways for international banking.
- It provides banking throughout the year 24/7 days from any place have internet access.
- It provides well-organized cash management for internet optimization
- It provides convenience in terms of capital, labour, time all the resources needed to make atransaction

3.4 HYPOTHESIS OF THE STUDY

The principal instrument in any research is the Hypothesis of the research. A hypothesis is a proposed explanation for the research problem to be solved. The integral part of aresearch project is the framing of the hypothesis. Hypothesis framed has to be clear, precise and specific. Hypothesis framed should consider the objectives of the research.

There are two types of hypothesis:

Null Hypothesis:

The Null Hypothesis is a typical statistical theory which suggests that no statistical relationshipand the significance exists in a set of given single observed variable, between two sets observeddata and measured phenomena.

H0: E-Banking doesn't provide Safety and Security to Bank of IndiaAlternative Hypothesis:

The Alternative Hypothesis is a statement used in statistical inference experiment. It is contradictory to the null hypothesis and denoted by Ha or H1. We can also say that it is simplyan alternative to the null.

H1: E-Banking provide Safety and Security to Bank of India.

In hypothesis testing, an alternative theory is a statement which a researcher is testing.

IV. CONCLUSION

In summary, this study examined the crucial facets of the security and safety of online banking, concentrating on the functioning of Bank of India. The results show a complex picture in which the financial industry's technical innovations are accompanied with a pressing demand for strong security protocols.

The Bank of India's dedication to protecting client assets and data is demonstrated by the examination of its E-banking security architecture. It has been determined that the use of encryption methods, multi-factor authentication, and ongoing monitoring systems are efficient ways to reduce the risk of cyberattacks.

But it's important to recognize that cyber dangers are dynamic, so security protocols must always change. According to the report, Bank of India and other comparable financial institutions should continue to exercise caution, keep up with new risks, and proactively modify their security frameworks to meet evolving threats.

Customer education also became apparent as a crucial element in strengthening the security ecosystem as a whole. Increasing user knowledge of potential hazards and safe online banking procedures can make a major contribution to the E-banking system's resilience.

Notwithstanding the progress made in guaranteeing the safety and security of electronic banking, financial institutions, regulatory agencies, and cybersecurity specialists must continue to work together. Staying ahead of the sophisticated strategies used by cybercriminals requires teamwork.

To sum up, Bank of India has shown an admirable dedication to the security and safety of online banking. But the ever-changing digital environment demands constant attention to detail and flexibility. By placing a high priority on innovation and teamwork, the financial industry can strengthen its defenses against new threats and give consumers access to a safe and reliable online banking environment.

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