

BANKING SERVICES OFFERED BY INDIAN BANKS ONLINE

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Abstract

Internet has revolutionized the world. It has changed the mindset of people from staying in touch with their friends, family, distant relatives or acquaintances to do online shopping, studying, searching things online, banking online. Internet has made the lives so easy and comfortable. It has actually groomed the lives in almost all domains. Today, a researcher does not have to actually sit in the library searching the data, reading it rather the user can search anything online very conveniently. Banking sector has also grown tremendously from the brick and mortar model to online banking not offering services to access the bank accounts only but now the banks are emphasizing on Electronic Fund Transfer.

The paper highlights the various levels of services being offered by the banks online, when the banks have actually initiated e-banking in India and what kind of security measures have been taken by the banks to secure the data.

Keywords: 3D Pin, EFT, Internet banking, Token, OTP, Virtual Keyboard

1. INTRODUCTION

There is a paradigm shift due to technology enhancement; banking industry is also not untouched from it. Banking sector is immensely using the technology even in day today environment. The customers prefer not to visit the banks to withdraw cash, they prefer using ATMs, they dislike wasting time standing in long queues to update their pass books, pay bills, etc rather they prefer to do all these things online. Banks are also considering offering maximum services online so that the customer can be benefited maximum. Banking sector in India has been using electronic and telecommunication networks for delivering a wide range of value added products and services. The delivery channels include direct dial – up connections, private networks, public networks etc and the devices include telephone, Personal Computers including the Automated Teller Machines, etc. Internet is emerging as a powerful channel for banks to receive instructions and deliver products and services to their customers. This form of banking is known as Internet banking (Reserve Bank of India, 2001). In short, we can say electronic banking is a process by which a customer performs banking transactions electronically.

1.1 Internet Banking can be offered in Two Ways

1. **Virtual bank-** All traditional banks services are offered online by Internet banking no physical (brick & mortar model) existence of the bank is required. These banks are known as 'virtual' banks or 'Internet only' banks and may not have any physical presence in a country despite offering different banking services. In India such type of virtual banks are not there till now.
2. **Traditional banks + Internet banking-** Traditional banks are functioning in the same way as they earlier used to, with some specific branch timings. The

incredible growth of internet has enhanced the way the banks are offering varied services online for 24*7, better customer Relationship Management (CRM), ease and convenience of accessing the bank. Information technology has emerged as a strategic resource for achieving higher efficiency, control of operations, productivity and profitability in banking operations. Therefore, banks in India are increasingly embracing information technology to meet the increasing customer expectations and face the galloping competition.

1.2 Need for E-banking

With the rapid growth of technology the human kind is experiencing the luxury of using and connecting, getting anything or rather everything at a single mouse click or touch of a button. Technology has changed the banking domain also for the ease of customers and bankers both. E-banking is a cost-effective delivery channel for financial institutions. Consumers are embracing the many benefits of Internet banking. It is actually helping the customers by saving their time, money (they used to spend in commuting and need to pay extra at traditional bank branch). They can access to one's accounts, do any online transaction, and pay bills, etc. at any time and from any location via the internet. As banking sector is growing with the use of technology in the ATM, online banking, Phone Banking, Mobile banking etc. the banks are opening more ATMs than branches.

1.3 Advantages of E-banking

- **Convenience-** Customers do not need to worry about reaching the branch, branch timings, standing and waiting for their chance. If they are out of town, country they don't need to panic can still make transactions online or can withdraw money from any nearest ATM.

- **Time-** Can access e-banking 24*7, even on holidays,
- **Transaction speed-** Online bank sites generally execute and confirm transactions at a quicker speed than ATM processing speeds, branch teller machines.
- **Efficiency-** Can access and manage all bank accounts from one secure site.
- **Effectiveness-** Many online banking sites now offer sophisticated tools, including account aggregation, EMI calculator, stock quotes, rate alert and portfolio management.
- **Cost efficient-** opening a physical branch and hiring employees is much more expensive than ATMs and Online banking. Now e-banking has become a necessity as people are paying their bills online, shopping online, transacting, recharging, booking tickets online. In short, we can say the customer today is hooked on to the technology and making the best utilization of the services offered to them.

1.4 Disadvantages of E-Banking

- **Start-up may take time-**In order to register for online banking; customers have to ask (fill up form) the banks. As they used to do it for debit card, banks used to give debit card and pin to the customer. Similarly for e-banking the customers need Login credentials, so that they can transact online.
- **Learning curves** - Banking sites can be difficult to navigate at first. Banks actually need to be more organized and strategically place the details on website.
- **Bank site changes-** Even the largest banks periodically upgrade their online programs, adding new features in unfamiliar places. In some cases customers need to re-enter account information.
- **Security-** Security plays an important role in the adoption of e-banking by the customers. There are numerous threats like Spoofing, Phishing, Net extortion, Salami Attack etc therefore, the customers are still very much hesitant, reluctant to give their credentials. As many cases has actually shaken the trust of the customers many a time.

2. THE LEVELS OF BANKING SERVICES OFFERED ONLINE:

The RBI has categorically divided the level of banking websites as per the services offered by them. They can be broadly categorized into three types:

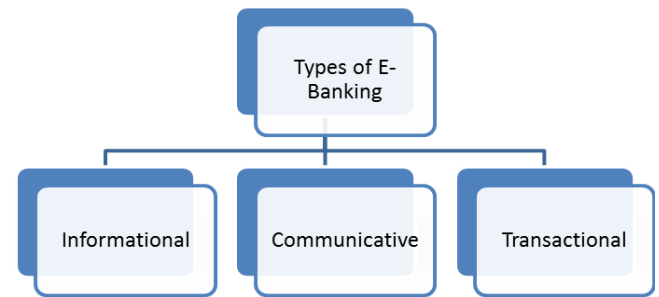


Fig. 1

1. **Information Only System or Basic Level Services:** The banking sites which falls in this category is primarily focused on disseminating information about different products and services offered by their bank like interest rates, branch location, bank products and their features, loan and deposit calculations are provided in the banks website. There exist facilities for downloading various types of application forms. The communication is normally done through e-mail. There is no interaction between the customer and bank's application system. No identification of the customer is done [1]. This kind of banking site can be provided by the banks or outsourced. While the risk to a bank is relatively low as there is no direct connection with the bank server. The server or web site may be vulnerable to alteration by hackers or other banks can copy the websites aesthetics. Banking management needs to be bit alert to prevent unauthorized alterations to the bank's server or web site.
2. **Electronic Information Transfer System or Simple Transactional Websites:** In this the banking website provides customer-specific information in the form of account balances, transaction details, and statement of accounts. The information is still largely of the 'read only' format. Identification and authentication of the customer is through password. These kind of banking websites, do not permit any fund-based transactions on their accounts. But since the customers are able to retrieve their account details through bank servers it may have a path to the bank's internal networks, the risk is higher with this configuration [6]. Therefore, banks need to have appropriate controls in the 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 [6].
3. **Fully Electronic Transactional System or Fully Transactional Websites:** These sites allow customers to operate on their accounts for transfer of funds, payment of different bills, subscribing to other products of the bank and to transact purchase and sale of securities, stocks etc. These sites allow bi-directional capabilities. This system requires high

degree of security and control. In this environment, web server and application systems are linked over secure infrastructure. It comprises technology covering computerization, networking and security, interbank payment gateway and legal infrastructure [3].

3. IMPLEMENTATION OF WEBSITES IN INDIA

India is the 2nd country in Asia to initiate technology related act. On September 17, 1996, RBI has officially launched their website and encouraged the banks to come globally. ICICI bank pioneered Internet banking in India by launching a website in 1996. Initially, it was only an informational website stating about the bank, branches, phone no, details about the products and services offered by them. In 1997, ICICI bank moved ahead with technology and was able to give the customers flexibility to check their account details by giving them the login credentials. In

November, 1999, RBI issued guidelines to banks for the issuance of debit cards and smart cards to ease pressure on physical cash. Again in 1999, ICICI bank made their website accessible for online transactions. In 2001, ICICI bank had tied up 50 utility for online payment. That gives the customer a lucrative option of paying bills online.

But even today in India, few banks like Vijaya bank are offering only informational level websites. When the Transactional level websites were launched, security had a major issue. It was breached many a times for which the banks have initiated some security prevention measures. Like the hackers used to send viruses along with any files on emails. Later when the user clicks on that mail the virus or Trojan or any, malicious program gets installed and here comes the actual problem of Key Loggers. The moment user types the login credentials all information will be sent to the hacker. For which, many banks have implemented the use of Virtual Keyboard.

Table 1: Types of banking websites

	Informational	Communicative	Transactional
Type of site	Informative Site	Account details can be retrieved	EFT
Services Offered	Only banks information	Bank information and can check own Account details	Bank information and can make transactions
Site Updations	Not very regular	Often	Regular
Security	Very Low	Moderate	Very High
Interaction with bank server	Very Low (No interaction between Bank and customers except mail)	Moderate (customer credentials will give customers access to his account)	Very High (bi-directional online transactions will take place through banks server only)
Way to communicate	Only email	Email, Login credentials	Email, Login credentials, OTP, 3d Pin, Grid Matrix, Tokens etc
Anti Virus and Firewalls	Yes	Yes, Essential	Yes, Mandatory

4. SECURITY MEASURES IMPLEMENTED BY BANKS

As banking domain deals directly with money it is one of the riskiest sector. The banks need to be really cautious for privacy violations due to the sensitive and highly personal nature of information that is exchanged, recorded, and retained. Individuals must trust banks with personal identifying information, their financial records, transacting online, and their credit history. The banks have to ensure the customer that the personal information and other details should not be compromised at any cost. The RBI has periodically issued guidelines, regulations and circulars which require banks to maintain the confidentiality and privacy of customers. RBI has also instructed the banks to educate the online customers about phishing, spoofing, what security measures the bank is using and about the password

not to disclose it with anybody. The banks are really trying hard to secure the customer by applying various authentication measures. Authentication process is preceded by Authorization, which in the banking context, is preceded by Identification. Authorization, involves verifying that an authenticated subject has permission to perform certain operations or access specific resources.

4.1 Types of Authentication-

1. **Single Factor Authentication-** As the name suggests it take only single factor to authenticate the user. This is the basic authentication method. (Login credentials- Only ask for username and password was recommended in communicative level website to view the account details).

2. **Two Factor Authentication-** It takes two factors to authenticate a user. This is primarily used in ATMs. The bank has issued a debit/ credit/ smart card along with the PIN.
3. **Multi Factor Authentication-** In this banks allows customer to use more than 2 factors for security reasons. Like these days, transacting online needs login credentials, along with OTP (One Time Password) and 3Dpin (Same bank), or along with OTP and Grid (merchant bank), or at times the bank issues extra device such as tokens to the valued customers. Some banks have also tried their hands on biometric such as Iris scan, finger scan along with some Pin.

Table 2: Authentication Techniques

Easy to implement--Difficult to implement-->	1. Login credentials along with OTP (by SMS or hard token) is easy to use and difficult to crack 2. Login credentials along with Grid is easy to use and difficult to crack	1. Authentication using smart cards and hard tokens (security devices) is difficult to use and difficult to crack. 2. Biometric authentication is also difficult to crack and difficult to use. 3. Multi factor authentication also provides strong authentication but at high cost.
	1. Username, password is easy to use and also easy to crack.	
	Easy to crack ----- Difficult to crack □	

5. CONCLUSION

In this paper, the highlight was on exploring the banking sites and checks the services and security offered by individual banks. The online banking sector in India is growing with time. Almost every bank now is offering Electronic Fund Transfer facility through its site. The banks have to be more cautious for securing the transactions. The security issues like viruses, other malicious software, key loggers, and any other security breach possibility has been the primary concern of the banks. They are using virtual keyboard to resolve key loggers problem, firewall, SSL, anti-virus, HTTPS, using VeriSign for assurance of security. Many banks are using tokens and biometric services for their valued customers. These days RBI has issued strict guidelines to all banks, banking site should have basic security information for the naïve users like not to share the passwords, change password, not to tell even bankers on

phone their personal credentials etc. The banking site tells what online features are being offered by the banks and what security measures and policies their banks are taking and what kind of action will be taken against the person found guilty. The IT laws has also become more firm.

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BIOGRAPHIES

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