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ELECTRONIC BANKING SERVICES – A PRELUDE

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ABSTRACT

Electronic Banking also referred as online banking, virtual banking, Internet banking simply means use of banking products and services through electronic means. Online banking services have become very popular among the customers from quite some time. It has become popular not only in advanced countries, but also in the other parts of the world and has offered new opportunities to the customers. It is beneficial for the customers as it is faster, convenient and provides 24X7 services to the customers irrespective of their location, i.e. e-banking eliminates the disadvantages of manual procedures like slowness, tardy, manipulation of records, etc. The customers can view their transactions, print out their statement, can transfer funds, and can make payments. Besides this, it is an efficient and cost-saving channel for banks too. In India as economic reforms introduced over 1991 banking industry has made significant progress, in which e-banking is playing a crucial role.

KEYWORDS: *Electronic Banking, Banking, Virtual Banking, Internet Banking*

INTRODUCTION

Meaning and Definition of Electronic Banking

Electronic banking is a generic term encompassing an array of banking services delivered through electronic media, such as, personal computer, mobile phones telephones or the internet. In other words, it is the process of delivery of the bank's information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and mobile phone with browser or desktop software, telephone or digital television' s-based banking is also known as cyber-banking, home banking and virtual banking which includes various banking activities that can be conducted from anywhere. The concept and scope of e-banking is still sprouting. Earlier e-banking has been in form of Automated Teller Machine and telephone transactions recently, it is transformed to a new delivery channel called internet banking which facilitated banking transactions for both customers and bank. Internet offers to fastest access to all which is convenient and available around the clock irrespective of the customer's location. Thus the term e-banking includes Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT), Electronic Clearing Service (ECS), Credit cards and debit cards, Cheque Truncation, Automated Teller Machine (ATM), Tele banking, Internet banking and mobile banking.

E-Banking Services in the Global Scenario

E-banking came into being in UK and USA in 1920s. It became prominently popular in 1960s through electronic fund transfer and credit cards. The concept of web based banking came into existence in Europe and USA in the beginning

of 1980s. While financial institutions took steps to implement e-banking services in the mid-1990s, many consumers were hesitant to conduct monetary transactions over the web. It took widespread adoption of electronic commerce, based on trailblazing companies such as America Online, Amazon.com and eBay, to make the idea of paying for items online widespread. By 2000, 80 percent of U.S. banks offered e-banking and the customer use grew slowly. In 2000, Bank of America became the first bank to top 3 million online banking customers, more than 20 percent of its customer base. In comparison, larger national institutions, such as Citigroup claimed 2.2 million online relationships globally.

E-banking is available even to the developing countries at present. In developed countries E-banking is being followed with new technologies. It is playing a vital role in the development of economy. In America, the number of thrift institutions and commercial banks with transactional websites is 1275 or 12% of all banks and thrifts. Approximately 78% of all commercial banks with more than Rs. 5 billion in assets, 43% of banks with Rs. 500 million to Rs. 5 billion in assets, and 10% of banks under Rs.500 million in assets have transactional websites of the 1275- thrifts/ commercial banks offering transactional internet banking, 7 could be considered 'virtual banks'. 10 traditional banks have established internet branches or divisions that operate under a unique brand name.

In U.K banks are offering transactional services through a wider range of channels including wireless application protocol (WAP), Mobile phone and T.V A number of non – banks have approached the Financial Services Authority (FSA) about charters for virtual banks or 'clicks and mortar' operations. There is a move towards banks establishing portals. Swedish and Finnish markets lead the world in terms of internet penetration and the range and quality of their online services. Merita Nord Bank (MRB) leads in" log-ins per month" with 1.2 million Internet customers and its penetration rate in Finland (around 45%) is among the highest in the world for a bank of 'brick and mortar' origin. StandinaviskaEaskildaBanken (SEB) was Sweden's first internet bank. Almost all of the approximately 150 banks operating in Norway had established 'net banks'. In Denmark, the internet banking service of Den Danske offers fund transfers, bill payments, etc. Internet Banking in Australia is offered in two forms: Web- based and through the provision of proprietary software.

Initial web-based products have focused on personal banking whereas the provision of proprietary software has been targeted at the business/ corporate sector. Most Australian – Owned banks and some foreign subsidiaries of banks have transactional or interactive websites. In New Zealand major banks offer internet banking service to customers, operate as a division of the bank rather than as a separate legal entity. In Hong Kong, two virtual banks are being planned. It is estimated that almost 15% of transactions are processed on the internet. Banks in Japan are increasingly focusing on e-banking transactions with customers. World over, electronic banking is making rapid strides due to evolving communication technology. Penetration of Internet banking is increasing in most countries and Wireless Application Protocol (WAP) is an emerging service in the future.

Electronic Banking in India: An Overview

The concept of e-banking is of fairly recent origin in India. Till the early 90's traditional model of banking i.e. branch based banking was prevalent, only after that there has been started non branch banking services. The credit of launching internet banking in India goes to ICICI bank followed by Citibank and HDFC Bank. To overcome the rising competition, Indian commercial banks adopted e-banking as one of the initiatives. This led to limit the branch network but increased the demand of better technology.

In India, Reserve Bank of India (RBI) played a pro-active role in the implementation of Information Technology (IT) in banking sector. RBI has been gearing up to upgrading itself as a regulator and supervisor of the technologically dominated financial system. In 1998 it availed the technical assistance project of the Department for International Development (DFID), U.K for upgrading its supervisory system and adaption of its supervisory functions to the computerized environment. It issued guidelines on ‘ risks and control in computer and tele communication system’ in February 1998, to all the banks and advising them to evaluate the risks inherent in the systems and put in place adequate control mechanisms to address the IT environment, operations and product risks. Subsequently to enhance payment, RBI also constituted Department of Regulation and Supervision of Payment and Settlement System. RBI further moved to upgrade technology to develop e-banking. In 2000, Government of India enacted the IT Act, 2000 with effect from Oct 17, 2000 which provide legal recognition to electronic transaction and other means of electronic commerce. RBI then constituted a working group on ‘Internet Banking ‘under the chairmanship of S.R. Mittal, 2001 to examine different issues relating to internet banking and recommend technology, security, legal standards, and operational standards keeping in view the international best practices. The Basel committee on Banking Supervision’s (2001) has defined risk management principles for e-banking. This primarily focuses on how to extend, adapt and tailor the existing risk-management framework to the electronic banking setting. In January 2002, RBI constituted a working group on electronic money under the chairmanship of Zarir.J.Gam. The group identified certain areas of concern from the point of view of the central bank in the context of more wide spread use of e-money so that the conduct of monetary policy is not impaired and at the same time, the integrity of the instrument is also preserved.

RBI permits National Payment Corporation of India (NPCI) to enhance the number of mobile banking services and widen the immediate payment service channels like ATMs, internet, mobile etc. Along with this NPCI is also working to bring more mobile network operators which can provide mobile banking services through a common platform, because RBI believes that growing popularity of these alternate channels of payments bring an additional responsibility on banks to ensure safe and secure transactions through these channels. On the recommendations of the Damodaran Committee (2011), the guidelines were induced by RBI that provide internet banking as totally secured and protected, zero-liability against loss for any customer induced transaction & multi-lateral arrangements among banks to deal with internet banking frauds. To deal with online banking frauds, customer can approach with their complaints to Banking Ombudsman. Under this Banking Ombudsman Scheme 2006, a customer can file their complaint against any deficiencies in banking service including internet banking, credit cards and ATM. Along with this a high level committee (2011) under the chairmanship of Dr. K.C Chakrabartyand members from Indian Institute of Technology (IIT), Indian Institute of Management (IIM), Institute for Development and Research in Banking Technology(IDRBT), Banks and Reserve Banks prepared the IT vision document 2011- 2017, for the Reserve Bank and banks which provide an indicative road map for enhanced usage of IT in the banking sector. India is achieving considerable growth rate after introducing e-banking. At present the internet users in India is 46.2 crore (Internet Live Stats, 2016) and still growing, and India will become the third largest country for internet users in the world.

Certain banks like ICICI Bank Ltd. have gone a step further within the transaction stage of internet banking by allowing transfer of funds by an account holder to any other account holder of the bank. Some of the more aggressive players in the area are HDFC Bank Ltd., UTI Bank Ltd., Citibank, Global Trust Bank Ltd., and Bank of Punjab Ltd., who are offering the facility of receipt, review and payment of bills on-line. These banks have tied up with a number of utility

companies. The 'Infinity' service of ICICI Bank Ltd., also allows online real time shopping mall payments to be made by customers. HDFC Bank Ltd., has made e-shopping online and real time with the launch of its payment gateway. The first online real time e-commerce credit card transaction in the country was carried out on the Easy3shoppe.com shopping mall, enabled by HDFC Bank Ltd., on a VISA card. These banks are thus looking to position themselves as one stop financial shops.

The race for market supremacy is compelling banks in India to adopt the latest technology on the internet in a bid to capture new markets and customers. HDFC Bank Ltd. with its 'Freedom- the e-Age Saving Account' Service, Citibank with 'Suvidha' and ICICI Bank Ltd. with its 'Mobile Commerce' service have tied up with cell phone operators to offer Mobile Banking to their customers. In India there is a possible risk of emergence of digital divide due to the fact that 29.8% of people living below poverty line will be excluded from the use of internet. The wealthy people will rapidly switch over to the internet banking and the poor, especially farmers may suffer from cost of physical infrastructure. Any effort to reduce this gap will pave way for achieving the objectives of financial inclusion.

Since the extent of use of e-banking services by farmers primarily depends on the availability of e-banking services, an understanding of the available e-banking initiative is absolutely necessary, which is presented in the following section.

Extent of Use of E-Banking Services in India

Indian banking system touches the lives of millions of people and it is growing at a fast pace. Over the years banks are facing a number of challenges like changing needs and perception of customers, new regulation from time to time and great advance in technologies. The pressure of meeting these challenges has compelled the banks to change the old way of doing business. As the new millennium and information age progress, Indian banks considered electronic banking as a panacea to cope up with the constantly changing business market trend. The various innovations in this regard are ATMs, CDMs, Mobile banking, Internet banking, Tele banking and Other Plastic cards.

Automated Teller Machines (ATM)

Automated Teller Machine (ATM), is the most revolutionary element of virtual banking, is a computerized machine that provides the customers of banks the facility of accessing their account for dispensing cash and to carry out other financial & non-financial transactions without the need to actually visit their bank branch on the insertion of an encoded plastic card. They enable the banks to transact more business by offering various services in a cost effective way on one side and to get more customer satisfaction on the other. ATMs generally accept ATM debit cards, credit cards and prepaid cards (that permit cash withdrawal) which are small plastic card with magnetic strip, containing information about the name of bank, name of customer, card number, validity period and signature panel. Majority of ATM users uses ATM to withdraw the cash, however, in addition to cash dispensing ATMs may have many services/facilities enabled by the bank owning the ATM such as; Account information, Cash Deposit, Regular bills payment, Purchase of Re-load Vouchers for Mobiles, Mini Statement, Loan account enquiry etc. The history of ATM can be traced back to the 1960s, when the first ATM machine was invented by Scot John Shepherd- Barron and used by Barclays Bank, North London in 1967. Hong Kong and Shanghai Banking Corporation (HSBC), Mumbai, introduced ATM concept in India 1987. But now almost every bank provides ATM facilities to their customers. ICICI bank has the most number of ATM centers across India. The other banks UTI, HDFC and IDBI are leading in providing ATM facilities to their customers. Public sector banks are also

taking the installation of ATM seriously for Indian market. They are either setting up their own ATM centers or entering into tie-ups with other banks. Corporation Bank has the second largest network of ATMs amongst the Public Sector Banks in India. Thus ATMs are emerging as the most useful tool to ensure 'Any Time Banking' and 'Any Where Banking' or 'Any Time Money'.

TYPE OF ATMS

White Label ATM

White label ATMs are those ATMs which set up, owned and operated by non-bank entities, which have been incorporated under Companies Act 1956, and after obtaining RBI's approval. RBI has given the license to NBFCs under Payment and Settlement Act, 2007 to increase the geographical spread of ATMs.

Online ATM

These ATMs are connected to the banks database at all times and provide real time transactions online. The withdrawal limits and account balances are constantly monitored by the bank.

Offline ATM

These ATMs are not connected to the bank's database, hence they have a predefined withdrawal limit fixed and amount irrespective of balance in the account can be withdrawn.

Onsite ATM

These are ATMs situated next to the bank branch. As they are installed within the branch premises they go in proper terms. This is known as being on site and this can be used for several purposes. Many people can use this to avoid the lines that are present in the branch and hence save on the time required to complete their transaction.

Off - site ATM

These are the machines that are set up on a standalone basis. This means that the bank has a place where there is only an ATM machine then this becomes an off - site ATM. This is done to ensure that the bank reaches out to more geographical areas and the people are able to use its services even when there is no bank branch in the area. Off-site ATMs are the ones which are installed anywhere, like shopping malls, shopping markets, airports, hospitals, business areas etc.

Advantages and Disadvantages

ATM usage in India is growing very fast. Through its features it gained momentum to a wide set of population. Still customers are facing some operational problems and this section is devoted to discuss the advantages and disadvantages of ATM.

ATM provides convenience to its customers due to its 24 hours access. Round the clock services like deposits, withdrawal, and transfer of funds can be accessed by customers from any part of the world. It is beneficial to both banks and customers as it reduces human intervention and there by cost of operations. Now a day's majority of the customers are using ATMs for shopping purposes which eliminate the risk of holding liquid money. It can reduce the phenomenon of queuing in front of the bank for taking money. Along with all these advantages ATMs suffer some threats also. ATM threats can be segmented in to three types of attacks: card and currency fraud, logical attacks and physical attacks. Card

and currency fraud involves both direct attacks to steal cash from the ATM and indirect attacks to steal a consumer's identity (in the form of consumer card data and PIN theft). The intent of indirect attacks is to fraudulently use the consumer data to create counterfeit cards and obtain money from the consumer's account through fraudulent redemption. One of the most known attack related to ATMs are the skimming attack. It involves small portable card reader used to capture the authenticated data available on the ATM magnetic stripe. The card trapping is conducted by placing a device over or inside the card reader slot to capture the consumer's card. These can be devices such as plates over the card reader, thin metallic strips covered in a plastic transparent film, wires, probes and hooks. These devices are designed to prevent the card from being returned to the consumer at the end of a transaction. Logical or data attacks include attack on ATM's software, operating system and communication network and systems. Main target is to introduce viruses intended to exploit an ATM's operating system mostly job of hackers who install malware to violate the confidentiality, integrity or authenticity of transaction-related data. Due to physical attack the cash is being physically damaged by the component part of ATMs.

Debit Card

A debit card (also known as a bank card or check card) is a plastic payment card that provides cardholders electronic access to their bank accounts at a financial institution. Some cards may bear a stored value with which a payment is made, while most relay a message to the card holder's bank to withdraw funds from a payer's designated bank account. The card, where accepted, can be used instead of cash when making purchases, in some cases, the primary account number is assigned exclusively for use on the internet and there is no physical card.

In many countries, the use of debit cards has become so widespread that their volume has ever taken or entirely replaced Coke and, in some instances, cash transactions. The development of debit cards, unlike credit cards and charge cards, has generally being country specific, resulting in a number of different systems around the world, which were often incompatible. Since the mid-2000s, a number of initiatives have allowed debit cards issued in one country to be used in other countries and allowed their use for internet and phone purchases. Unlike credit and charge cards, payments using a debit card are immediately transferred from the cardholder's designated bank account, instead of them paying the money back at a later date.

Debit cards usually also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash. Merchants may also offer cash back facilities to customers, where a customer can withdraw cash along with their purchase.

Advantages of Debit Card

Prepaid Card: Debit act as a type of prepaid card. It is so, since it already has a sufficient amount of cash balance in it holder's bank account. It permits to carry on the value of transaction to the extent of available balance in its holder's bank account.

Nominal Fee: Bank issuing a debit card charges an annual fee for the issuance and maintenance of the card. This fee charged is very nominal in nature. Generally bank charges fee on a per annum basis. Such a fee gets automatically debited from the card holder's bank account.

Alternative to Cash: Debit card act as an alternative mode of payment for executing various cash related financial transactions. It can be used for the purchase of goods and receipt of services. There is no need to carry a large amount of cash and minimize the risk of loss due to theft, damage.

Immediate Transfer of Funds*:* Debit card ensures immediate transfer of funds in merchant's or dealer's bank account. Such a transfer of funds takes place almost instantly at the moment of purchase of goods and receipt of services. With its use there is no need to visit the bank's office premises. Thus it saves precious time.

Instant Withdrawal of Cash*:* Debit card facilitates instant withdrawal of cash from any nearest ATM. In short, it acts as an ATM card to meet its holder's cash related needs anytime and anywhere.

Easy to Manage*:* Debit card is very easy to carry, handle and manage while travelling to outstations or overseas. Being small, thin, flat having a negligible rate and it easily fix in any pocket. Thus managing it is also not a big problem.

Earns Bonus Point*:* Now a day, the competition among debit card providers (banks) is challenging.Today most bank offer bonus point to encourage their card holders to make purchases using their debit cards.

Free Insurance Coverage: Debit card holders also get free insurance coverage. Such as, insurance on loss of debit cards, purchase insurance, personal insurance, accidental insurance, travel insurance and so on.

Disadvantages

Debit cards do not offer as much protection against fraudulent use as credit cards do. Also one has less protection if the debit card is lost or stolen as compared to credit card. Since the money is debited instantly at the time of purchase one has less protection if something goes wrong with the purchase because bank won't put money back into the account if purchased items are not delivered or do not work. Unlike a credit card debit card uses funds from checking account. So, there is no grace period. Balance in the account may be difficult unless recording every debit card transaction. Sometimes using debit card for ATM transaction may be costly if the ATM is not affiliated with the concerned institution.

Cash Deposit Machine

The Cash Deposit Machine (CDM) is a self-service terminal that make deposits and payment transactions by cash. All successful transactions are immediately credited and customers will be issued an advice slip confirming the transaction. To use the CDM, customers need to have either his/her Standard Chartered Bank Card (ATM or Credit Card) or know his/her card number (ATM or Credit card). With close to 13,000 billion rupees in notes issued in financial year 2013-14, RBI's data highlights the fact that 90% of monetary transactions are still takes place in cash. With the high amount of cash transactions, the need for an efficient mode to deposit cash is more than ever before. To facilitate easier deposit of cash, banks set up CDMs. A cash deposit machine is capable of accepting more cash deposit transaction in comparison to the over the counter cash depository services. For example banks usually stop their business transaction by 4 pm. However people might need to deposit cash during different times of the day and that is exactly what a CDM is designed for. The various services available on the Cash Deposit Machine are cash deposit, cash deposit to account, credit card payment, and cheque deposit to account. To start with, the banks are placing such machines in branches or designated centers for premium customers as a pilot project. Later, upon wider acceptance, banks will consider putting them at ATM kiosks next to cash dispensers. However, bank officials here are not clear on whether same funds can be recycled according to policy.

It is a 24*7 self-service banking terminal, which accepts cash deposits using ATM. Customer's account will be instantly credited with the cash deposited. A receipt will be issued to you for each successful deposit. Deposit service is available 24 hours a day, 7 days a week. For the convenience of the customers, the customers can deposit cash without the need for a card or passbook. They can simply touch the screen and follow the step by step guide. This machine accepts

cash deposits only and does not dispense cash and is accept only Indian currency. The accepted denominations by the machines are 5rs, 10rs, 20rs, 50rs, 100rs, 500rs and 1000rs.one of the main feature of the machine is that it is detecting the fake currencies. The cash limit that can be withdrawn at a time Rs.49999. It is set so to avoid income tax issues. The bundle of notes can comprise of mixed denominations place in any order. The respective account is credited immediately after detecting the fake currencies. If notes are either crumpled, soiled, defaced or folded the machine will not accept them. So it should ensure that notes are properly straightened i.e. without folds, dogged-ears etc. before depositing..

Advantages and Disadvantages of Cash Deposit Machine

Due to the emergence of cash deposit machine human intervention is totally eliminated from the process of depositing money. It brought several advantages and disadvantages to the customers.

Customers don't want to approach banks, waiting long queues and fill cash deposit slips for getting money deposited in the current account and savings account (CASA). In this arrangement of cash to be deposited is also done by the machine its self. Machine also gives immediate receipts after the completion of transactions. Any time access and there by its time saving quality adds to its benefits. It also prevents the circulation of fake notes. Other than depositing money it also facilitates balance enquiry and mini statements of accounts.

CDMs haven't gained great momentum in the present scenario. So the number of CDMs are less compared to ATMs. Presents of various constraints deviates certain customers from availing the services. The constraints include lack of education, security concern, personal impediments etc. certain limitations are imposed on transactions using CDMs. The cash limit that can be withdrawn at a time is Rs.49999 only. Misusing of debit card if misplaced, stolen or lost is another problem. As the machine does not accept the crumpled, soiled, defaced or folded notes, customer found it difficult to place the same again and again. And sometimes the customers may lost the personal touch with the bank.

INTERNET BANKING

Internet is rapidly turning out to be a tool of worldwide communication. The increasing use of internet earlier promoted producers and entrepreneurs to sell their products online. It has also become an important source of information and knowledge. Due to this, many banking and finance organization have come up with the idea of internet banking. Internet banking can be defined as a facility provided by banking and financial institution that enable the user to execute bank related transactions through internet. The biggest advantage of internet banking is that people can expend the services sitting at the home, to transact business. Due to which, the account holder does not have to personally visit the bank. When small transactions like balance enquiry, record of recent transaction, etc. are to be processed, the internet banking facility proves to be very handy. Internet banking is different from online banking and personal computer banking. Online banking is a wider term which includes internet banking, phone banking, mobile banking, banking through ATM and personal computer banking. On the other hand (personal computer) PC banking is making transaction through a PC at one's home or office, which connected to a particular branch through a modem. PC banking is available only when the branch is opened and available through a particular PC only. But internet banking enables to do the same through any PC connected to the internet, at anytime from anywhere in the world.

Internet banking enables a customer to do banking transactions through the bank's websites on the internet. It is a system of accessing the accounts and general information on bank products and services through a computer while sitting

in office or home. Thus internet banking has changed the way of banking. The concept of internet banking has been simultaneously evolving with the development of World Wide Web. Programmers working on banking data bases came up with ideas for online banking transaction, sometime during the 1980s. The creative process of development of these services was probably sparked off after many companies started the concept of online shopping. The online shopping promoted the use of credit cards through internet. Many banking organization had already started creating data warehousing facilities to ease their working staffs. The development of these data bases were widely used during the development of ATMs. Thus the concept of internet banking become a revolution in the field of banking and finance.

Evolution of Internet Banking in India

However the impact of Information and Technology (IT) was mainly observed in the developed countries. Various measures were taken to introduce IT in banks although the pace of development was not same as in developed countries. The technology adoption in the Indian banks was a process, which was stemmed out of the recommendation of three committees formed by the Reserve Bank of India. The first two committees in 1983 and 1988 respectively were formed under the chairmanship of Dr. Rangarajan, the then deputy governor of RBI. The third committee was set up in 1994 under the chairmanship of Shri Saraf, executive director of RBI. In the meantime the technology adoption issue was also examined by a high-powered committee set up by the Government of India in 1992 and 1997 on restructuring of banking industry in India under the chairmanship of Dr.Narasimham.

Indian banking industry, today, is in the midst of an IT revolution. The technology changes have put forth the competition among the banks. This has led to increasing total banking automation in the Indian banking industry. New private sector banks and foreign banks have an edge over public sector banks as far as implementation of technological solutions is concerned. However, the latter are in the process of making huge investment technology. The financial reforms that were initiated in the early 90s and the globalization and liberalization measures brought in a completely new operating environment to the banks. Services and products like anywhere banking, tele- banking, internet banking, web banking etc. have become the buzzwords of the day and the banks are trying to cope with the competition by offering innovative and attractively packaged technology based services to their customers.

Like most of other activities in banking RBI also set up two committees in quick succession to accelerate the pace of automation of operations in the banking sector. In the early 80s, a high level committee was formed under the chairmanship of Dr. C Rangarajan, the then governor of RBI, to draw up a phased plan for computerization and mechanization in the banking industry over a five year time frame of 1985-89. The focus by this time was on customer service and two models of branch automation were developed and implemented. Having gained experience in the earlier mode of computerization, the second Rangarajan, committee constituted in 1988 drew up a detailed perspective plan for computerization of banks and for extension of automation to other areas like fund transfer, e-mail, BANKNET, Society for Worldwide Interbank Financial Telecommunication (SWIFT), ATMs, Internet banking etc. The Government of India enacted the Information Technology Act, 2000, with effect from 17th October 2000 to provide legal recognition to electronic transactions and other means of Electronic Commerce. Over the years RBI constitutes various committees on internet banking to focus on major areas of internet banking, technologies and security issues, legal issues and regulatory and supervisory issues. RBI had accepted the suggestions and recommendations of these committees and is accordingly issuing guidelines to banks to implement internet banking in India..

Advantage and Disadvantages of Internet Banking

The benefits of internet banking are plentiful as witnessed by the consequential reaction of a tremendous rise in usage and application. But as there always two sides to a coin, internet banking also has a bane side. The following are the benefits and risk associated with internet banking services.

Less Waiting Time

It offers less waiting time and more convenience as compared to the traditional banking system and significantly lowers the cost structure than traditional delivery channels. It also reduces the time and place limitation. It provides various benefits to consumers so that they feel convenient while doing banking activities.

Ease and Convenience

Internet banking is considered as more efficient in term of ease of use and access. It allows the consumers to make transactions on internet provide them comfort of home or office without going outside. It also enables consumers to keep an eye on their transactions or account activities from their home, office or elsewhere so they can feel satisfied and convenient. Even non transactional facilities like ordering check books online, updating accounts, inquiring about interest rates of various financial products etc. have become much simpler on the internet.

24*7 Availability

With the help of internet banking, customer can access their banking facilities and services all around the clock i.e. 24 hours and 365 days from anywhere anytime. They don't need to wait for timing of bank branches.

Self-service channel: Internet banking provides their customer a self-service channel for various banking services they have not to depend on the bank's staff and other depending process to avail their services. Internet banking is one of the most popular self-service banking technologies. Continued use of self-service technology is positively affect the buyer's perceived usefulness.

Save Time and Money

Now customers don't have to go to branch to avail banking services it consist various advantages such as: it will save time, save fuel, do away from traffic, save the environment in term of reducing the use of motor vehicles and reduce the waiting time.

However the current trend of exclusively using the internet banking to make all kinds of transactions has a few pitfalls.

Relationships

Online transaction take a toll on the relationship with the banker which the traditional visit to branch office used to foster. Personal relationship with staff at the banks come handy when requesting for faster the loan approval or a special service which may not be available to the public.

Complex Transaction

There are many complex transactions, which cannot be sorted out unless there is a face to face discussion with the

manager that is not possible through internet banking. Solving specific issues and complaints require a physical visit to the bank and cannot be achieved through the internet.

Security

This is the biggest pitfall of the internet banking scheme. Despite the host of sophisticated encryption software is designed to protect the account, there is always scope of hacking by smart elements in the cyber world. Identity theft is yet another area of grave concern for those who rely exclusively on internet banking.

Phishing Attack

Phishing is an attempt by fraudsters to 'fish' for banking details of customers. A phishing attempt usually is in the form of an e-mail that appears to be from customer's bank. The e-mail usually encourages customer to click a link in it that takes him to a fraudulent log-on page designed to capture authentication details such as password and Login ID. E-mail addresses can be obtained from publicly available sources or through randomly generated lists.

Spoofing

Website spoofing is the act of creating a website, as a hoax, with the intention of performing fraud. To make spoof sites seem legitimate, phishes use the names, logos, graphics and even code of the actual website. They can even fake the URL that appears in the address field at the top of your browser window and the Padlock icon that appears at the bottom right corner

Vishing

Vishing is a combination of Voice and Phishing that uses Voice over Internet Protocol (VOIP) technology wherein fraudsters feigning to represent real companies such as banks attempt to trick unsuspecting customers into providing their personal and financial details over the phone.

Further Malware, Viruses, Trojans, Key-loggers, and Spywares etc. are common methods of identity theft used by fraudsters in internet banking.

Tele Banking

Telephone banking is a service provided by a bank or other financial institution which enables customers to perform a range of financial transactions over the telephone, without the need to visit a bank branch or automated teller machine. Telephone banking times are usually longer than branch opening times, and some financial institutions offer the service on a 24-hour basis. Most financial institutions have restrictions on which accounts may be accessed through telephone banking, as well as a limit on the amount that can be transacted.

The types of financial transactions which a customer may transact through telephone banking include obtaining account balances and list of latest transactions, electronic bill payments, and funds transfers between a customer's or another's accounts.

From the bank's point of view, telephone banking minimizes the cost of handling transactions by reducing the need for customers to visit a bank branch for non-cash withdrawal and deposit transactions. Transactions involving cash or documents (such as cheque) are not able to be handled using telephone banking, and a customer needs to visit an ATM or

bank branch for cash withdrawals and cash or cheque deposits.

Telephone banking and the first banking services using classic telephone lines for communication date back to the turn of the sixties and seventies of the last century. A bank client can obtain the necessary information on dialing a telephone number specified in advance. Before the requested banking service information is provided, the client's identity is determined using contractually agreed terms. Using this banking service enables bank clients to obtain information concerning active and passive banking products, but a client can also actively use the bank payment system and request, for example, a payment order or a collection order, open or cancel a term deposit or a current account. In this case a fax connected to the telephone serves as an output communication channel.

Advantages and Disadvantages

Although much of today's banking is carried out over the internet there are still customers who prefer to use the now rather old fashioned telephone banking facilities.

The big advantage of telephone banking is the ability to speak to another human being and discuss with them any issue that may not be mentioned on the website, speaking to a call center staff member allows for the provision of information about payments waiting. This conventional method of asking queries and advices from experts and seeking clarifications in local language adds to its advantage. Certain banks are offering 24- hour service to its telephone banking clients. There is no issue of identity frauds in telephone banking; these features attract customers towards it.

With regard to the disadvantage, the most common one would be that not all banks and building societies offer 24- hour telephone banking. In most cases, banking services availed from tele banking is limited to checking balance or recent transactions and customer is not satisfied with this limited services. This may be the vital reason for the decreasing popularity of tele banking. Also telephone banking is not available over bank holidays such as Christmas or New Year and it becomes another operational constraint faced by the customers.

Mobile Banking

Mobile Banking means the usage of mobile telecommunication devices for carrying out banking and financial transactions. Since the penetration rate of mobile phones in India is much higher than the penetration rate of internet, mobile phones is an excellent delivery channel to reach banking customers. Mobile phone subscribers in the country is increasing day by day. Most of the commercial banks have already launched mobile banking. The number of transactions has been growing rapidly. The terms m-banking, m-transfers, m-payments, and m-finance refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds. Mobile Banking (M-Banking) involves the use of a mobile phone or any other mobile device to undertake financial transactions linked to a client's account. M banking is one of the newest approach to the provision of financial service through ICT, made possible by widespread adoption of mobile phones in developing and underdeveloped countries. The rollout of mobile telephony has been rapid and has extended access well beyond already connected customers in these countries. Mobile banking is usually available on a 24 hour basis. Some financial institutions have restrictions on which accounts may be accessed through mobile banking, as well as limit on the amount that can be transacted. The types of financial transactions which a customer may transact through mobile banking includes obtaining account balance and list of latest transactions, electronic bill payments, fund transfers between customers or another's

account. Some also enables copies of statements to be downloaded and sometimes printed at the customer premises: and some banks charge a fee for mailing hard copies of bank statements.

From the bank's point of view. Mobile banking reduces the cost of handling transactions by reducing the need for customers to visit a bank branch for non- cash withdrawal and deposit transaction. Transaction involving cash or documents (such as cheque) are not able to be handled using mobile banking, and a customer need to visit an ATM or bank branch for cash withdrawals and cash or cheque deposit. The most frequently used service is sending account statements at agreed periodicity to the client's mail box.

History of Mobile Banking

The earliest mobile banking services used SMS, a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking has until recently (2010) most often been performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (Operating system) have o led to increasing use of special client programs, called apps, downloaded to the mobile device. With that said, advancements in web technologies such as HTML5, CSS3, and JavaScript have seen more banks launching mobile web based services to complement native applications.

Advantages and Disadvantages

Mobile banking, which is presently accepted as most convenient delivery channel for banking products and services have number of advantages and certain limitations too.

Anytime Banking

Mobile banking gives the privilege of anytime and anywhere banking. One can do most of the banking transaction after banking hours from anywhere.

Mobile Banking is Free

The service provided by bank is free of charge, there is no limit for number of times one can access his account.

Wide range of services

Various banking services provided include Account Balance Inquiry, Credit/ Debit Alerts, Bill Payment Alerts, Transaction History, Fund Transfer Facilities, Minimum Balance Alerts etc.

Secure Banking

Apps coming with advanced encryption technologies is making mobile banking safe and secure.

To make maximum benefit of mobile banking one should have smart phone. Some banks have specific software for specific mobile. So people have to download different apps based on the smart phone they own. Chance of 'smishing' attack is there for mobile banking users in which user receives a fake text message asking for bank account details from a hacker.

OTHER PLASTIC CARDS

Plastic card is a device that enables its owner to make a payment by electronic fund transfer. Cards that are made of plastic are called plastic cards. Now a day electronic cash is being used in place of hard cash. Plastic money is the name given to all type of plastic bank cards, this polymer money is a new and easier way for paying goods and services. Plastic money was introduced in 1950s and is now an essential form of ready money which reduces the risk of handling a huge amount of cash. It includes KCC cards, Smart card, Credit Card etc. Card issuers refer to the leading six digits on the card as an "issuer identification number" (IIN). The remaining numbers on the card are referred to as the Primary Account Number or PAN. IINs and PANs have a certain level of internal structure and share a common numbering scheme. IIN otherwise Bank card numbers are allocated in accordance with ISO/IEC 7812. This technical standard has two parts – part 1 identifies the structure of the Issuer Identification Number. Part 2 identifies the application procedures and eligibility requirements for obtaining an IIN. IIN identifies the issuer of the card, which is then electronically associated by the issuing

Credit Card

A credit card is a payment card issued to users (Cardholders) as a method of payment. It allows the card holder to pay for goods and services based on the holder's promise to pay for them. The issuer of the card creates a revolving account and grants a line of credit to the cardholder, from which the card holder can borrow money for payment to a merchant or as a cash advance.

A credit card is different from a charge card, where it requires the balance to be repaid in full each month. In contrast, credit cards allow the consumers a continuing balance of debt, subject to interest being charged. A credit card also differs from a cash card, which can be used like currency by the owner of card. It typically involves a third-party entity that pays the seller and is reimbursed by the buyer, whereas a charge card simply defers payment by the buyer until a later date. Credit cards have a printed or embossed bank card number complying with the ISO/ IEC 7812 numbering standard. Many modern credit cards have a computer chip embedded in them for security reasons.

Advantages and Disadvantages

Credit cards are convenient to use in a wide variety of places, shops, on the phone or online. It is safer than carrying a lot of cash. The card holders are not responsible for charges if the card is stolen as long as they report it. It is postpaid card in which customers can use up to a certain limit. All advantages of debit card is applicable to credit card too.

Credit cards can lead to debt and it will negatively affect the credit history if it is not managed properly. Also if the cardholder makes the payment late or do not pay the balance in full or exceed the credit limit. He or she will have to pay an extra interest and fee. Similarly if the cardholder do not track the purchases it can be difficult to know how much spend in one month until the statement arrives. All other limitations of debit card is applicable in case of credit card.

KISAN CREDIT CARD (KCC)

Kisan credit card schemes was introduced by NDA government in august 1998 with the aim to provide adequate and timely short- term credit needs of farmers during the cropping season. It was first proposed in the budget 1998-99 by the then finance minister YashwantSinha. Consequent to this, NABARD has prepared a model Kisan credit card scheme in

consultation with the major banks on the basis of R.V Gupta committee. Due to lack of awareness among farmers and unnecessary delays, cumbersome procedures and improper practices adopted by institutional linking agency; a large number of farmers heavily depend on non- institutional sources of credit for their frequent needs to purchase farm inputs such as seeds, fertilizers, pesticides etc. the non-institutional credit was not only expensive, but also counterproductive. The Kisan credit card schemes was launched to provide adequate timely and cost effective institutional credit from the banking system to the farmers for their cultivation needs. Farmers can not only purchase inputs but also withdraw cash from this credit card for their input needs.

Kisan credit cards are issued to the farmers on the basis of their land holdings and other criteria such as timely payment of last credits etc. farmers covered under the Kisan credit card schemes are issued with a credit card and pass book or a credit card cum pass book incorporating the name, address, particulars of land holding, borrowing limit, validity period, a passport size photograph of the holder etc., which may serve both as an identity card and facilitates recording of transactions on an ongoing basis.

CONCLUSIONS

With the advancement of technology, everyone needs changed and more developed means of transaction. And e-banking is a very essential tool to fulfill the needs of customers and has become necessary survival weapon for the fundamental change in the banking industry as a whole. While the private sector and foreign banks have been fast in adopting internet technology in client servicing, there is a gradual trend for major public sectors and numerous co-operative units to move in the same direction. The mix of policy support and guidelines issued by RBI from time to time is also propelling further e-banking adoption in India. Thus, on one hand e-banking is a key to universal banking to reap profitability and economies of scale and on the other hand for boosting up financial inclusion. Any effort to increase the use of e-banking services will benefit the economy as a whole and farmers in particular.

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