



TECHNOLOGICAL INNOVATIONS IN BANKING AND PAYMENTS

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Abstract

In present scenario banking system is growing at a fast pace and touching the lives of millions. Liberalization, privatization and globalization, new market, new products and efficient delivery channels are making banking sector to update with new technology.

Commercial Banks in India are now becoming a one-stop Supermarket. The focus is shifting from mass banking to class banking with the introduction of value added and customized products.

This research paper focuses on the new services like internet banking, SMS Banking, digital deposit apps, photo bill payments apps, smart phone credit card scanners, electronic meetings, mobile payment apps, ATM, EFT, Core banking and DEMAT account , mobile banking etc. Banks are investing heavily on adoption of these new technologies.

Key Words: *Growth Of Banking, Technology In Current Scenario, Drawing Customers With Convenience, Customer Satisfaction, Cyber Crimes And Cautions, Prediction For Future And Suggestion*

Introduction

The term “Banking Technology” refers to the use of sophisticated information and communication technologies together with computer science to enable banks to offer better services to its customers in a secure, reliable and affordable manner and sustain competitive advantage over other banks.

Some of the new technologies in banking sector are as follows:

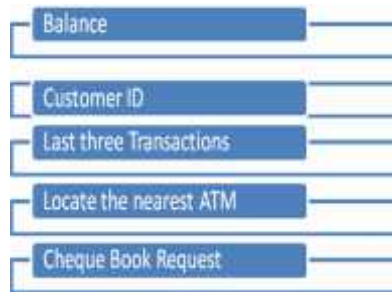
Internet banking: Internet banking which is popularly called as “Online banking” is the performance of banking activities via the Internet. Via internet banking, account information can be accessed anytime, day or night, and can be done from anywhere.

It lets you carry out:



SMS Banking: SMS Banking service lets you keep round the clock watch on your account. Every debit or credit in your account is intimated to you by an SMS as soon as it happens. Lets you detect any unauthorized access to your account.

You can request for the following information:



Mobile Banking: Mobile banking is a service provided by banks that allow its customers to conduct a range of financial transactions using a mobile device such as a mobile phone or tablet, and using software, usually called an app, provided by the financial institution for this purpose.

Some examples of banking apps are as follows:

- **Digital Deposit Apps:**
Lets you deposit cheque directly into your eligible bank account using Android/ Apple/Windows mobile devices, by clicking photos of the front and back of the cheque and sending it. You can also get confirmations on your device by E-mail for each successful deposit.
- **Photo Bill Payments Apps:**
This facility transmits information from the bill into the individual's bank account using a digital photograph of the bill.
- **Smart Phone Credit Card Scanners:**
This app allows the smart phone to act like a credit card reader using which a credit card holder can process his credit card payment transactions.
- **Electronic Meetings:**
It is one of the future banking technology which allows teleconferencing with a bank teller or loan officer in lieu of a personal meeting at the local branch. This is relatively new and likely to be a big players in future banking technology.
- **Mobile Payment Apps:**
Here the user loads their credit and debit card information into the app. The consumer selects a card to use from the menu on their Smartphone & then touches the phone to an in-store reader. This payment is processed like a regular credit or debit card transaction.

ATM: Using an automated teller machine, customers can access their bank deposit or credit accounts in order to make a variety of transactions such as:

- Cash withdrawals
- Check balances
- Deposit cheques
- Deposit cash
- Change PIN, etc

The customers can access their bank accounts by using a plastic ATM card popularly called as “Debit card” by entering a personal identification number (PIN).

Electronic Fund Transfer: Electronic funds transfer (EFT), is simply the use of electronic means to transfer funds directly from one account to another, rather than by cheque or cash. The benefits of EFT include reduced



administrative costs, increased efficiency, simplified bookkeeping, and greater security. The growing popularity of EFT for online bill payment is paving the way for a paperless universe where checks, stamps, envelopes, and paper bills are obsolete.

Core banking: Core banking is a banking service provided by a group of connected bank branches. Here customers may access their bank account and perform basic transactions from any of the member branch offices. Core banking covers basic depositing and lending of money.

The core banking services rely heavily on computer and network technology to allow a bank to centralize its record keeping and allow access from any location.

DEMAT Account: A DEMAT a/c replaces physical shares certificate that earlier existed, converting them into an electronic form. It is a safe and convenient means of holding securities. It reduces brokerage charges, makes pledging/hypothecation or shares easier enable quick ownership of securities resulting in increase liquidity, and provides easy receipt of public issue allotments.

Objectives:

Without a sound and effective banking system a country cannot have a healthy economy. The banking system should not only be hassle free but it should also be able to meet new challenges posed by the technology and any other external and internal factors.

With reference to the above the main objective is as follows:

- To study the various technologies adopted in the banking sector
- To study the how technology has helped banks draw more customers.
- To study the ill effects of technology in banking sector- Cyber crimes.
- To study the ways of preventing cyber crimes and suggestions to banks.

Literature Review:

The Role of Information Technology on Banking Service Delivery Quality:

According to the research done by Bradley and Stewart (2003), nearly every bank will have technology services available by the year 2011. Surprisingly, they found out that small banks have benefited from the emergence of the technology in banking and also helped them to strengthen their competitive position. Poon (2008) indicates that privacy and security are the major sources of dissatisfaction, which have momentarily influenced users' satisfaction. Meanwhile, accessibility, convenience, design and content are sources of satisfaction. Besides, the speed, product features availability, and reasonable service fees and charges, as well as the bank's operations management factor are critical to the success of the e-banks.

Challenges of Technology on Banking:

Thomas et al. (2002) stated that although technology opens up new dimensions of scope and timing but it creates the possibility for crimes to be committed very quickly. Lack of privacy and security were found to be significant obstacles to the adoption of technology on banking services (Sathye, 1999). Challenges on technology is inevitable, therefore care must be taking in handling technology since its negative effect can cause the bank billions of money. Breaches of security and disruptions to the system's availability can damage a bank's reputation.

Importance of Technology on Banking Services

Study by Agboola (2001) reveals that, Technology has been discovered to be the main driving force of competition in the banking industry.

Information Technology (IT) services offer relative advantages when compared to branch banking and other alternative methods in terms of price, convenience and performance (Suki, 2010). The intangible benefits brought by IT on banking services are competitive advantage, customer retention and attraction. Very promising for the banks is also that IT will eventually increase revenues and reduce costs. However, acceptance of this new



technology has not yet been found to be equal in all parts of the globe indicating a lack of a common generalization (1999) states that, use of technology on banking has steadily been growing worldwide for the past decade, and seems to continue to do so.

Drawing Customer With Convenience-Customer Satisfaction.

Using advanced technology in banking sector acts like a magnet that helps attract more customers into the banking reach without physical expansion of the bank's premise.

Many customers have agreed that the following are the benefits of IT in banking:

- Accessibility of account.
- Proper management of finance.
- Cost Reduction.
- Convenience and Easy access to information.

But like every coin has two faces, every advantage is followed by an unavoidable disadvantage. Some of the challenges faced by users of IT facilities in the bank are as follows:

- Security.
- Trust.
- Privacy.
- Risk.
- Limited Skill.
- Lack of Familiarities.
- High Charges and Low Knowledge of IT.

In addition to the above, additional challenges are:

- Atm cards sometimes stuck in the atm.
- Shortage of cash in the atm.
- The atm may not function well due to internet connectivity problems.
- You cannot withdraw bigger amount with the atm.
- Due to internet fraud many customers fear to do business via the internet.
- it avoids personal interaction, making it difficult to get instant solutions to problems.
- Regular break down.

Cyber Crimes And Cautions:

Cyber crime:

When any crime is committed over the Internet it is referred to as a cyber crime. They are crimes that involve a computer and a network. In some cases the computer may have been used to commit the crime, and in others, the computer may have been the target of the crime.

As the world's reliance on technology grows, the cost and incidence of cyber crime is expected to increase.

There are many types of cyber crimes and the most common ones are as follows:



Hacking:

"Hacking" is a crime, which means an unauthorized access made by a person to cracking the systems or an attempt to bypass the security mechanisms, by hacking the banking sites or accounts of the customers.

Credit Card Fraud:

Credit card frauds occur when electronic transactions are not secured due to which credit card/ debit card details and password can be stolen by the hackers who can misuse this card by impersonating the credit card owner for which the customer's card used or hacked is suffered.

Email Fraud:

Emails have become the preferred means of communication due to its speed and ease. Frauds committed by using emails are called email frauds. Here false information is shared with the victim forcing him to disclose his bank account details which will be used to hack his bank a/c.

Phishing:

Here the fraudster gains access to the victim's bank account by impersonating the victim's bank and sends messages requesting them to enter their username, secret word or other individual data on specified websites to access their account for some reason.

Reasons For Cyber Crime:

- Capacity to store data in comparatively small space
- Easy to access
- Negligence
- Loss of evidence

Precautions:

Banks are a prime focus for cyber terrorists who consistently make crafty endeavors to break into banks.

Banks are tossing tremendous assets to face this problem. JPMorgan is using \$250m a year on cyber security and has contracted around 1,000 pro staff to work in the zone.

Cyber security specialists say banks still need to work on cyber risk identification and work together to face extortion and cyber assaults.

Although the banks are taking the necessary steps to identify and tackle cyber threats, the users of the bank's technology have an equal part to play. Some of the precautions which the users of banking technology can adopt are as follows:

- Customer's bank accounts can be protected against hacking by advising them to change their login pin and transaction pin every 3 months.
- Credit card frauds can be avoided if credit card details like card number, cvv and pin are not shared with others or on unsecured websites.



- Email frauds and phishing can be avoided by making the customers aware about such happenings by their banks.
- Banks should also advise customers not to login from Internet browsing centers / publicly available internet machines.
- Online login portals should have virtual keyboards for a secure login.
- It is advisable to use a security programme(Anti virus) and to make sure its running and up to date before logging into your bank account on computer devices.

Prediction for Future And Suggestion:

Forecasting the future of technology is for dreamers who hope to innovate better tools and for the benefit of people who make use of it.

Many inventions are born in the lab and never make it into the consumer market, but here are some of our suggestions:

- Banks should conduct workshop about the use of computers, mobile phones, ATM'S and other electronic devices to people who are not familiar with the recent technological changes.
- Pre-recorded voice instruction must be provided as an option in ATM'S to aid first time users.
- Using credit cards and debit cards at retail outlets must be accompanied with biometrics of the card holder along with pin.
- To aid confusion free transfer of funds online, the A/C number of the recipient/transferee must be accompanied with his/her photograph.
- All banks should introduce mobile phone apps such as smart phone credit card scanner apps, electronic meeting apps etc..
- Banks should come up with eye catching short videos which make viewers aware of ongoing cyber crime & simple ways to protect themselves from falling pray for the same.

Conclusion:

The introduction of technology in banking sector has benefits for both for the banks as well as the customer. Although customers prefer IT services in banking services, traditional bank system cannot be under estimated or replaced totally by IT. This is because there are many services that cannot be offered via technology alone. Bank branches and its employees are still relevant irrespective of the level of technology adoption.

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Cyber Crime

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