



TECHNOLOGY AND CONCEPTUAL INNOVATIONS HAS TRANSFORMED THE FACE OF BANKING

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Abstract.

The banks like other business organizations are deploying innovative sales techniques and advanced marketing tools to gain supremacy. The Information Technology has changed the structure of Banking. Computerization in banking is taking place all over the world. The purpose of computerization is to bring technology to the counter and to enable employees to have information at their fingertips. The various Financial innovations in banking and financial sector are ECS, RTGS, EFT, NEFT, ATM, Retail banking, Debit and Credit cards, free advisory services, online banking, mobile banking and many more value added products and services. The research paper focuses on how the technology and Conceptual Innovations has transformed the face of banking in India.

Keywords: *Banking, Financial Innovations, Conceptual Innovations. Information Technology*

OBJECTIVE OF THE STUDY

1. To study how technological innovations have contributed to the development of banking.
2. To study how Conceptual innovations have contributed to the development of Indian banking
3. To study advantages and disadvantages of technological innovations

RESEARCH METHODOLOGY

The present paper is concerned with the Indian banking system. For this all commercial banks have been selected for this study. The study is based on secondary data. The required data have been collected from the various issues of Banking Statistics, published by Reserve Bank of India.

INTRODUCTION

The term bank comes from the French word Banco which means a bench . In earlier days, European money- lenders or money changers used to display coins of different countries in big heaps on benches or tables, for the purpose of lending or exchanging. A bank is a financial institution which deals with deposits and advances and other related services. It receives money from those who want to save in the form of deposits and it lends money to those who need it. Oxford Dictionary defines a bank as “ an establishment for custody of money,which it pays out on customer’s order.” According to section 5(1) (b) of Banking Regulation Act, 1949; banking as; **“Accepting, for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise, and withdraw able by cheque, draft, order or otherwise.”** Financial innovation is the process through which finance managers or intermediary institutions in financial markets add value to existing plain vanilla products that satisfy the user needs. According to John Finnerty, “Financial Innovation involves the design, the development, and the implementation of innovative financial instruments and processes, and the formulation of creative solutions to problems in finance”. The various innovations in banking and financial sector are ATM, Debit & Credit cards , RTGS , NEFT , Internet banking, ECS, EFT, Retail Banking, , Free advisory services, Payments of utility bills, fund transfers, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travel cheques and many more value added services. The growing competition and growing expectations of consumers the banking industries itself adopted various innovative schemes

ATM

An automated teller machine (ATM) is a computerized telecommunications device that provides a financial institution's customers a secure method of performing financial transactions in a public space without a human clerk or bank teller. ATM can be interior (located in the branch premises) or exterior (located anywhere outside the branch premises). Banks need not obtain permission of the RBI for installation of ATMs at branches and extension counters for which they hold licenses issued by the Reserve Bank. They can also install offsite ATMs without RBI approval. However, they should obtain a license from the

regional office of DBOD (Department of Banking Operations and Development) of RBI, before operationalizing the ATM,

DEBIT CARD

A debit card is an electronic card issued by a bank which allows bank clients access to their account to withdraw cash or pay for goods and services. This removes the need for bank clients to go to the bank to remove cash from their account as they can now just go to an ATM or pay electronically at merchant locations. This type of card, as a form of payment, also removes the need for cheques as the debit card immediately transfers money from the client's account to the business account.

CREDIT CARD

A credit card is issued by a financial company giving the holder an option to borrow funds, usually at point of sale. Credit cards charge interest and are primarily used for short-term financing. Interest usually begins one month after a purchase is made and borrowing limits are pre-set according to the individual's credit rating. There has been growth in issuance of debit and credit cards by public and private sector banks. However Debit cards are a more popular mode of electronic money than credit cards.

NEFT

According to Reserve Bank of India, National Electronic Funds Transfer (NEFT) is a nationwide payment system to facilitate one-to-one funds transfer. Under NEFT, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme. The funds under NEFT can be transferred by individuals, firms or corporates maintaining accounts with a bank branch. Even individuals not having a bank account can deposit cash at the NEFT-enabled branches with instructions to transfer funds using NEFT. However, such cash remittances will be restricted to a maximum of Rs.50, 000/- per transaction. Such walk-in-customers have to furnish full details including complete address, telephone number, etc. NEFT, thus, also help in transfer of funds even without having a bank account. This is a simple, secure, safe, fastest and cost effective way to transfer funds especially for Retail remittances.

RTGS SYSTEM

The acronym “RTGS” stand for Real Time Gross Settlement . RTGS system is a funds transfer mechanism where transfer of money takes place from one bank to another on a “real time” and on “gross” basis .This is the fastest possible money transfer system through the banking channel.Settlement in ‘real time ‘ means payment transaction is not subjected to

any waiting period . The transactions are settled as soon as they are processed.” Gross Settlement” means the transaction is settled on one to one basis without “Gross settlement” means the transaction . Considering that money transfer takes place in the books of the Reserve Bank of India , the payment is taken as final and irrevocable.The RTGS system is primarily for large value transactions , The minimum amount to be remitted through RTGS is Rs. 1 lakh. There is no upper ceiling for RTGS transactions

MOBILE BANKING SERVICES

It refers to the use of banking services with this help of mobile phones . In India ,large banks especially private sector banks and foreign banks offer this facility . The customer registers with the bank for this facility and gets a number code or password. The customer can use this service in respect of, request for bank balance , Request for stop payment of cheques, Request for issue of cheque book,

INTERNET BANKING

The internet banking was adapted first in 1995 (Furst, et al., 2000). It was referred as a remote delivery channel through the use of Internet for traditional banking services. There are two type of banking services: informational and transactional.

1 INFORMATIONAL SERVICES

The informational type of web services provide basic information of the bank, for example, the location of local branch can be found simply using the postcode that is provided by consumers (Gopalakrishnan, et al., 2003). The website can also be used as a marketing tool for the bank (Jayawardhena & Foley, 2000). The bank web page has the capability to publish and maintain marketing advertisements for a long period of time without additional cost (Quelch & Klein, 1996). Unlike traditional branch, which has limited spaces for advertisement, the bank web page can be designed to contain as much advertisements about new and existing products as the bank desire, while still maintain stability and availability 24 hours a day. Initial development and maintenance costs are very limited and significantly less than those traditional media. The bank can also include a more complex services such as interactive guide and financial calculation tools. Through a list of guided categories, customers will find services and products that suited their demand and profile. For example, customers want to take out a loan, they will then fill out their profile such as level of income, loan required and assets for security. The bank web page will show a list of available services that suitable for them to choose from. This interactive guide is similar to traditional credit officers and advertisement’s mail, however, it is more effective as it is customised and cheaper. Another basic function of informational services is the ability to access to customer account balance (Gopalakrishnan, et al., 2003). This is the view-only function that banks

provide according to demand from customers based on several studies that observed bank telephone support centres (Gandy, 1998). Automatic teller machine (ATM) already done this task excellently. In addition, Internet banking provide customer with accessible and convenient delivery channel while they are at home, work or have limited access to other channels.

2 TRANSACTIONAL SERVICES

The transactional services including the ability to transfer funds from a saving account to current account, transaction history, bills payment, ordering checks and credit card services (Sullivan, 2000) (Chou & Chou, 2000). The ability to pay the bill for third party is very important. It will enhances the active management of the cash flow of household. The direct debit and standing order timing is not the best option for bill payments as household expenditure is largely made up by bills. The transactional services provide customer with the newest delivery channel to access to most retail banking services. It is the facility that open twenty-four a day, and seven day a week. Most daily banking services is offered to customers. Customers now can do their everyday banking activity without any delay, which they have used to wait in a queue in telephone line or an actual branch.

GREEN BANKING

The concept of Green Banking is attached to Triodos bank (established in 1980) from Dutch origin which started the environmental sustainability in the banking sector from the very first day. In the year 1990 the bank launches ‘Green fund’ for funding environment friendly projects and all other projects follow later. Taking example from this bank the banks all over the world start taking green initiatives in the banking sector. Institute for Development and Research in Banking Technology defines Green Banking as ‘*Green Banking is an umbrella term referring to practices and guidelines that make banks sustainable in economic, environmental, and social dimensions. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment*’. The India Banks Association defines it as “Green bank function like a normal bank along with considering the social and environmental factors for the protection of natural resources”. According to RBI (IDRBI, 2013) “Green banking is to make internal bank processes, physical infrastructure and Information Technology effective towards environment by reducing its negative impact on the environment to the minimum level” . Green Banking concept can be defined in a number of ways in a broader perspective; it is the environment friendly banking practices that promote their customers to reduce the carbon footprint through their banking activities.

SHARED PAYMENT NETWORK SYSTEM-

The Indian Banks Association has implemented this system in 1998 by signing an agreement with HMA Data System, Under this system , ATMs of various banks in Mumbai are linked together to a central hub customers of participating banks can use ATMs OF any bank and funds are settled through electronic funds transfer system.

MICR CHEQUES

Magnetic ink Character Recognition technology has been introduced by RBI for faster clearance process. There is a code at the bottom of each MICR cheque which contains number indicating Cheque number(first six digits), Place (three digits) ,Bank(three digits) ,Branch(last three digits).MICR equipment is used to decode the numbers , which in turn facilitates quick clearance cheques.

REMOTE AREA BUSINESS MESSAGE NETWORK

It is a satellite based communication network.It was set up in 1991 by the Dept. of Telecommunication. It is capable of linking far away areas and remote areas. SBI was the first bank to use this network.

ELECTRONICS FUND TRANSFER SYSTEM

It is introduced by RBI to help banks that offer their customers money transfer services from any bank branch to any other bank branch . Under this system , fund transfer is possible from one branch of a bank to any other branch of the bank, both intra city and inter-city

ELECTRONIC CLEARING SERVICE

This system can be used by those organisations that have to make large number of payments to several parties . For instances ,in the case of dividend or interest payments , companies can directly deposit the amount into the bank accounts of the shereholders or investors without issuing paper instruments to the shareholders or investors. even individuala can use ECS for making payments of bills like telephone bill, electricity bill,etc.

CENTRALIZED FUND MANAGEMENT SYSTEM

The centralised funds management system (CFMS) provides for a centralised viewing of balance position of the account holders across different accounts at different locations. The first phase of the system covering the centralised funds enquiry system (CFES) was made available to the banks ,the second phase comprising the centralised funds transfer system is also made available.

BANK ON WHEELS

It is introduced in the North-East Region of India . The mobile Banking scheme provides banking services in remote areas, where banking set up is not feasible. The bank collects

deposits and makes payment at a certain place and timings. The bank employees operate a van or vehicles for this purpose.

VIRTUAL BANKING

It denotes the rendering of banking and related services through extensive use of IT without direct physical recourse to the bank by the customer. The services are delivered to the customers by relying solely on IT. The most important types of virtual banking services are Automated Teller Machines, electronic fund transfer, phone – banking, credit card, debit card, smart card, banking and so on.

POINT OF SALE (POS)

The PoS terminal is a machine that facilitates transactions through swipe of a card in an online environment. Merchant business establishments operate point of sale in their premises in order to accept plastic cards. The PoS terminals facilitate electronic funds transfer. PoS system identifies the cardholder and checks whether the customer's account has sufficient funds to cover the purchase. The customized PoS terminals can support both debit and credit cards and can also be made to support different kinds of plastic including magnetic and smart chip based cards to make the transaction possible.

DOOR STEP BANKING

This means banking services and products made available to a customer at his place of residence or work. Under this system, there is no need for the customer to visit the branch for getting services or products from the bank.

MOBILE BANKING

It is an extension of internet banking. It gives everybody with a mobile phone to access banking services, irrespective of their location. In this system, a customer can access his account details on a mobile phone by using the Short Messaging Service (SMS) technology. It provides many services such as account balance, mobile alerts about credit card or debit card transactions, mini account statement and so on.

TELEBANKING

It is another form of electronic banking through which banking services or products are rendered through telephone to its customers. It is a 24-hour banking facility to the customer. It is based on the voice processing facility available on bank computers.

ADVANTAGES OF TECHNOLOGY AND CONCEPTUAL INNOVATIONS

All the advantages of technology and conceptual innovations are closely related to each other; from convenience to efficiency.

1. Benefits and Rewards

A lot of online banks offer more benefits and rewards to their customers that not only benefit the bank but also benefit their customers. Online banks are willing to offer higher interest rates and better transfer services to their customers who regularly use online banking. This happens partly due to the fact that the banks have to bear reduced costs when serving online customers. Therefore, the overall banking experience is obviously better than that of visiting a physical bank branch and handling the same transaction.

2. Notifications and Alerts

Customers are instantly alerted or notified about new changes in the system. From changes in the policy to logins from new devices, customers get instant notifications and alerts. However, if you're associated with a real bank, you would probably get a text alert or a customer service agent will call you to notify about major changes. Chances are, you're missing out on a lot of changes. Banks also endorse new products, services and schemes like new investment options, changes in the loan policies, etc. to online customers first.

3. Faster Transactions

You don't have to wait for your turn to transfer funds – you can do that with a single tap of your finger or a single click of your mouse. Funds from one account will be transferred to another in a matter of a few seconds. Anything that requires quick payments can be done with the help of e-banking. For instance, you are required to immediately pay your child's school fees. You can do it via the bank's app or website or you can physically go to the bank to withdraw cash and then going to the school to deposit the fees. You'll probably end up wasting half the day to perform this transaction which with the app's help could've been performed in a matter of minutes.

4. Convenience

You can conveniently handle your account transactions without all the hassle of being in the queue on a sultry afternoon. E-banking is extremely convenient if you have a decent internet connection (wifi or 3G/4G data). You can access the website from anywhere without actually having to visit the bank. If your banking needs don't involve the assistance of any staff member or a manager, online banking is the best option for you.

5. Security

With internet banking, you can always monitor your account activities. This not only serves as a history of all the transactions but also helps you identify threats and suspicious activities before any severe damage can be done to your account. Online accounts are protected with encryption software that ensures complete safety to the user. Alerts related to passwords and digital signatures are sent periodically to maintain the security of the account.

6. Easy Access

Customers can enjoy easy access with online accounts by simply typing in the log-in credentials. In addition to that, customers can also handle several accounts at a time. Since the internet remains the medium of connection, users can also access different accounts in different banks from a single device.

7. Speed and Efficiency

In a hurry to apply for an educational loan? Or quickly need to pay bills? Or perform any banking transaction without having to waste half your day? Do it via the internet. There's no waiting nor do you have to rush through anything – you can take your time and perform all banking transactions with patience and it will be done in nearly 1/10th the time spent on actually driving down to the bank and getting it done.

8. Lesser Limitations

Traditional banks have several constraints like operating hours, the physical location of the bank branch, holidays, etc. You don't have to wonder if it's a holiday with online banking, or what time is it to perform a transaction. Be it Sunday or the middle of the night and you will still be able to do everything (and even more) through their app or website as it's available twenty-four hours a day, throughout the year.

9. More Features

Apart from being flexible, some banks go out of their way to satisfy their customers by not penalizing on withdrawals on the certificate of deposits, letting customers maintain accounts with no minimum balance, etc. Moreover, banks generally offer more offers and discounts on credit and debit cards used by customers who have online accounts.

10. Better Customer Service

Banking websites and apps come with customized web pages to solve customer queries and often have a dedicated 'Frequently Asked Question' (FAQs) section that helps in answering common customer queries. You can chat with a customer service agent or call them if you need more help. This not only saves the time of the customers but also that of the bank employees who can shift their focus to more important things.

Disadvantages of technology and conceptual innovations

Everyone and everything has some shortcomings. Similarly, there are some limitations of technology and conceptual innovations; from security to technology issues.

1. Difficult for Beginners

Newbies often face difficulty in trying to get the hang of e-banking. Initially, customers are scared of losing their money and are often hesitant to explore all the options and features that

are available on the website or on the app. New users often give up and stick to traditional banking if timely assistance isn't provided.

2. Trust and Responsibility

Fake websites and phishing sites are common in this age of technology. Can you really trust all websites? Is it wise to trust an online site with all your money? What if the website folds up and all your money is gone? This wouldn't happen in a real bank. There is trust between the bank and their customers – you know your money is safe with the bank – because they take responsibility for your money. Real banks are permanent and reliable while some websites are not.

3. Inconvenience

Sure, online banks are open throughout the year but they are a serious cause of inconvenience in certain instances. For example, if you get locked out of your account you will be unable to perform any banking transactions. However, in a real bank, you establish relationships with the staff, who know you on a personal level and will be willing to assist you in such cases. You wouldn't have to be on the phone explaining your situation to an unknown customer service agent which by the way, might also take several days. Also, a few online banks don't allow cash deposits.

4. Inability to Handle Complex Transactions

While you can easily pay bills and transfer funds, you can't perform complex transactions online. When a large sum of money is involved, it is advisable to visit a real bank and sort it out in-person rather than doing it online. Some financial transactions also need a document verification (like buying a house) so it is better to submit them physically than digitally.

5. Financial Jargon

Financial jargon can often get between you and your money. Knowledge is power-or, in this case, knowledge is money. Though financial literacy can't be achieved overnight, it can be helped along by a grasp of the basic terms that are commonly used by advisors, analysts, economists, and commentators.

6. Security Issues

Sure, most banks are well-reputed and established, there are times when you face security issues. There's always a risk of actual and/or identity theft. It's also possible to get unauthorized access to your account via a stolen or hacked log-in credentials.

7. Technology Issues

If you don't have a decent connection or there are bugs in the software, or say, there is a power cut or maybe the servers have gone down – websites are bound to crash and you will

undoubtedly face a lot of technological issues. While you may get various types of customer service at the moment but sooner or later, you will get frustrated. However, someone is always around to help you in a real bank.

8. Virtual Assistance

When you need assistance during e-banking, your concern is generally assigned to an anonymous customer service agent who is unlikely to know you. Wouldn't you rather talk to a personal banker when you're in a fix than an unknown agent? A personal banker will also know your transaction history, your personal details and will be in a better position to assist you.

9. Complicated Websites

Some websites look like a page straight from a super complex scientific experiment. Written in a secret code language with bizarre fonts and colors. I mean, sure some websites are simple and you can get all the things done in a jiffy. But some websites are downright complicated and confusing. With pop-ups, errors, links, and interlinks, redirections to probably a million pages, it gets really difficult to understand.

CONCLUSION

The paper concludes that the banking sector has tremendous potential to grow. Technological and Conceptual Innovations have produced favorable effects on commercial banks and because of this Innovation is taking place almost in all categories of the banks. It has also realized that the profitability of the public sector banks appears to have started improving but despite this, the foreign and private sector banks take a big share of cake. Our public sector banks are still lagging behind regarding the various financial parameters in comparison with other banks. It is also true that presently, they are facing many internal and external challenges, which are hindering their performance.

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