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Review Article

Technological Transformation in Indian Banking Sector: A Conceptual Framework

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Abstract

The banking sector plays an important role in the development of one country's economy. The development of banking sector depends upon the services provided by them to the customers in various aspects. New entrants to the market, new business models, changing customer expectations and fragmentation of traditional services are all contributing to put traditional banks under pressure to launch new technology in their operations. The banking sector in India has seen a number of changes. Most of the banks start innovative banking with object to create more value customers. ATM, RTGS, NEFT, Internet banking, Mobile banking, SMS Banking and cheque truncation system are some existing innovations. But there are some new innovations used by the non-banking institutions and few foreign banks. These new innovations may be grabbed by the Indian banks. So, this paper enlightens the knowledge light on banking sector.

KEYWORDS: *Banking Sector, New innovations, Banking products and services, Digital technologies, ATM, RTGS*

Introduction

Globalisation and liberalization were forcing drivers for transformation that is taking place in Indian banking sector today. Since 1990s LPG Indian banking sector has witnessed a tremendous change. Such transformational changes are accepted by the players of banking sector in India. It has become the need of the day for all Indian banking players. Competition, technological advancement, change in market structure, global presence, foreign players, liberalised policies, etc. are the drivers for bankers to adopt innovative approach. As the market is experiencing a customer driver era, where mere satisfaction of customer is no more an objective, instead creating value to customers so that they are retained as patrons is vital for every player in the industry. Lot of innovative efforts are made by players to sustain and survive in the changing scenario. Such innovations are covered in this paper to understand what those are and how they are benefiting the Indian banking sector to grow.

Banking in India has been through a long journey. Indian Banking Sector has witnessed a number of changes. In the 1990s, the banking sector in India saw greater emphasis being placed on technology and innovation. Banks began to use technology to provide better quality of services at greater speed. Internet banking and mobile banking made it convenient for customers to do their banking from geographically diverse places. Now all the banks have started with the concept of multi- channels, like ATMs, credit cards, debit cards, telephone/mobile banking, internet banking, call centers, etc. The role of banking is redefined from a mere financial intermediary to service provider of various financial services under one roof acting like a financial supermarket. Intense competition among the banks has redefined the concept of the entire banking system. The banks are looking for new ways not only to attract but also to retain the customers and gain competitive advantage over their competitors.

Review of Literature

Vivek Kumar Tiwari has found that Banks are required to restructure, re-invent and reengineer themselves go meet the necessary performance improvement and get the competitive edge due to the introduction of information technology (e-banking) being an important output of ;information technology has ushered in an era which is transforming the entire functioning of banks. Introduction and or development of information technology will not only affect the banking system of our country but the entire banking system of the world. It is high time to advise and train the banking personnel on the acquisition, installation and use of the information technology. The flexibility of e-banking offers unprecedented opportunities for the bank to reach out to its customers. With the rapid expansion of the Internet facilities, e-banking is all set to play a very important role in the 21st century. **Jayakumar** has said that, with the help of technology banks are able to provide plethora of products and services to their customers which suit them. Major services provided by the Indian banks that are of international standards are Any time banking, Anywhere banking, Global ATM and Credit Cards, Internet banking facility etc. The global environment is posing a challenge for Indian banking industry. They need to adopt few practices on immediate basis viz., greater professionalism, greater emphasis on diversification and sources non-interest income, consultancy services, cost management, bench marking of service standards to improve productivity and proficiency, a self- regulatory organization to monitor the activities of banking, etc.

Varun Kesavan has studied the policies and strategies of IndusInd Bank and found that bank is providing very innovative services to its customers by all modes of innovation. But still performance can be enhanced by means of customer satisfaction and also by handling customer’s grievances in a more effective manner. He also mentioned that innovation can give the better success to the banking sector. But provided it must showcase an exemplary performance in gaining customer satisfaction by all means, and it is the only way of gaining success for a bank.

Binija George has discussed the various challenges and opportunities like transparency, growth in banking sector, global banking, managing technology etc. Banks are striving to combat the competition. The competition from global banks and technological innovation has compelled the banks to rethink their policies and strategies. Finally the banking sector will need to master a new business model by building management and customer services. Banks should contribute intensive efforts to render better services to their customer. Nationalized and commercial banks should overcome the challenges and to get advantage of opportunities in changing banking scenario.

Karamjit Kaur has found that in the past few years, the Indian banking sector has completely transformed. The banks are facing many challenges and many opportunities are available with the banks. Many financial innovations like ATMs, credit cards, RTGS, debit cards, mobile banking etc. have completely changed the face of Indian banking. But still there is a need to have more innovative solutions so that the challenges can be solved and opportunities can be availed efficiently by the banks.

Ajay Thakare has expressed that India is one of the top 10 economies in the world, where the banking sector has tremendous potential to grow. Indian banking industry has been witnessing a tremendous growth over last decades. A lot of innovations are taking place in the banking sector in India. However, Indian banking industry faced the numerous challenges such as increasing competition, pressure on spreads, and systemic changes to align with international standards have necessitated a re-evaluation of strategies and processes in order to remain competitive in this dynamic environment.

G.S. Popli has found five key trends that will determine market success in 2015 are customers taking control, niche competitors, a new work force, regulated transparency and sharp focus on technology. There are several challenges in future which may require new technologies, better processes of credit and risk appraisal, product diversification, robust internal controls and corporate governance and efficient human resource management. Commercial Banks are also facing increased market risk uncertainties on account of rising interest rates as a result of growing global financial imbalances.

Seema Malik has said that banks have to adopt a holistic approach to fulfill the ever-changing needs of customers and to grab a better market share. Development of sophisticated products with low cost technology is the key. This calls for in-depth analysis of customer needs the market and competitor trends.

In this context, it becomes interesting to analyze the innovations that are taking place in the Indian banking sector. Hence the paper is structured to analyze the innovative products and services, their benefits, and challenges faced by Indian banking sector in today’s ever-changing scenario.

Present Scenario of Indian Banking Sector

Banks in India are considered to be the backbone of our economy. They play a catalytic role in activating and sustaining economic growth. As per KPGM-CII report9 , India’s banking sector is expanding rapidly and has the potential to become the fifth largest banking industry in the world by 2020 and third largest by 2025. The Indian banking system consists of 26 public sector banks, 20 private sector banks, 43 foreign banks, 56 regional rural banks, 1589 urban cooperative banks and 93550 rural cooperative banks. The public-sector banks dominate the market by over 80% of share enjoyed by them. The Indian banking sector's assets reached 1.8 trillion US dollars in 2014-15 from 1.3 trillion US dollars in 2010-11, with 70 per cent of it being accounted by the public sector. Total lending and deposits increased at a compound annual growth rate (CAGR) of 20.7 per cent and 19.7 per cent, respectively, between 2007 and 2014 and are further poised for growth, backed by demand for housing and personal finance. Indian Banks have successfully adopted the Basel II norms of international banking supervision and as per the Reserve Bank of India (RBI) majority of the banks have already met Basel III capital norms prior to its deadline of 31 March 2019.

Innovations in Indian Banking Sector

Driving force for growth can be tagged to emerging innovations in the products and services, liberalization of policies governing the banking industry, globalization impact on competition, usage of technology, economic growth, various initiatives taken up by the Government of India, etc. All these have forced theIndian bankers to rely completely on innovation to sustain and survive in this environment where clients and customers are no longer loyal. Customers and clients are having an open eye on the market to observe the marginal benefit that they gain from shifting their bankers. Hence competition among the bankers has resulted in lot of innovations in products and services. Few of such innovations are due to technological advancement. The paper tries to understand those innovations which are resultant of technological advancements.

ATM - A Cash Machine, also known as an Automated Teller Machine, is an electronic telecommunications device that enables the customers of a financial institution to perform financial transactions, particularly cash withdrawal, without the need for a human cashier, clerk or bank teller. Now, the banks provide this facility in a more sophisticated way that a customer of one bank and branch can withdraw from any other banks, at any other branch, nationwide. This is possible only through worldwide networking and communication system. ATM can be interior (i. e., 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 operational zing the ATM, so as to be in conformity with section 23 of the Banking Regulation Act.

Plastic Cards- A bank plastic card is a modern all-purpose payment instrument allowing its holder to pay for goods and services at various retail and service enterprises accepting cards; to receive cash at ATMs and to pay for services rendered by mobile phone providers, municipal services and make other non-cash payments. It includes Debit Cards and Credit Cards. It provides the benefits of total control and roundthe-clock access to owner's account, possibility to make municipal payments, pay for services rendered by mobile phone providers and make other non-cash payments both in self-service devices and in bank (departments) branches, possibility to issue an additional card for members of account holder's family and other proxies. It is reliable as each card is protected by a Personal Identification Number (PIN code) ensuring safety of account holders' means, if lost a card the bank will terminate account operations at account holder's request.

Debit Cards- A debit card (also known as a bank card or check card) is a plastic payment card that can be used instead of cash when making purchases. Debit cards usually also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash. 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. Debit card is a prepaid card with stored value, whereas credit card is postpaid with fixed limits.

E-Banking- Online banking, also known as Internet Banking, E-Banking or Virtual Banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. The online banking system will typically connect to or be part of the core banking system operated by a bank and is in contrast to branch banking which was the traditional way customers accessed banking services. E Banking in India Opening up of economy in 1991 marked the entry of foreign banks. They brought new technology with them. Banking products became more and more competitive. As a result a lot of revolutionary products and services which were only meant for developed nations before entered the Indian banking industry. Few of them are discussed below-

EFT- Electronic funds transfer (EFT) is the electronic transfer of money from one bank account to another, either within a single financial institution or across multiple institutions, through computer-based systems and without the direct intervention of bank staff. EFTs are known by a number of names. In the United States, they may be referred to as electronic checks or e-checks. The EFT System was operationalized in 1995 covering 15 centers where the Reserve Bank managed the clearing houses. Special EFT (SEFT) scheme was introduced with effect from April 1, 2003, in order to increase the coverage of the scheme and to provide for quicker funds transfers.

NEFT- National Electronic Funds Transfer is one of the most prominent electronic funds transfer systems of India. Started in Nov.-2005, NEFT is a facility provided to bank customers to enable them to transfer funds easily and securely on a one-to-one basis. It is done via electronic messages. This is not on Realtime. This is a "net" transfer facility which is executed in hourly batches resulting in a time lag. NEFT facilities are available in 30,000 bank branches all over the country and work on a batch mode. NEFT has gained popularity due to it saving on time and the ease with which the transactions can be concluded.

RTGS- The acronym 'RTGS' stands for Real Time Gross Settlement, which can be defined as the continuous (real-time) settlement of funds transfers individually on an order by order basis. 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually (on an instruction by instruction basis). Considering that the funds settlement takes place in the books of the Reserve Bank of India, the payments are final and irrevocable. The RTGS system is primarily meant for large value transactions. The minimum amount to be remitted through RTGS is Rs. 2 lakh. There is no upper ceiling for RTGS transactions. Under normal circumstances the beneficiary branches are expected to receive the funds in real time as soon as funds are transferred by the remitting bank. The beneficiary bank has to credit the beneficiary's account within 30 minutes of receiving the funds transfer message.

IMPS- Majority of the funds transferred using electronic channels are processed via NEFT or RTGS. But as the funds could only be cleared in batches using these transfer gateways, the National Payments Corporation of India introduced a pilot mobile payment project also known as the Immediate Payment Service (IMPS). Available to Indian public, IMPS offer instant electronic transfer service using mobile phones. IMPS interbank transfer service is available 24X7 and allows you to use your mobile phones to access your account and to authorize transfer of funds between accounts and banks. The IMPS service also features a secure transfer gateway and an immediate confirmation on fulfilled orders. IMPS is offered on all the cellular devices via Mobile Banking or through SMS facility.

Electronic money- or e-money, is the money balance recorded electronically on a stored-value card. These cards have microprocessors embedded which can be loaded with a monetary value. Another form of electronic money is network money, software that allows the transfer of value on computer networks, particularly the internet.

EFTPOS - Electronic Funds Transfer at Point of Sale is an electronic payment system involving electronic funds transfers based on the use of payment cards, such as debit or credit cards, at payment terminals located at points of sale. EFTPOS technology originated in the United States in 1981 and was adopted by other countries.

Prepaid Payment Instruments (PPI)- Prepaid payment instruments are those which facilitate purchase of goods and services against the value stored on such instruments. The value stored on such instruments represents the value paid for by the holder, by cash, by debit to a bank account, or by credit card. The Prepaid instruments can be issued as smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers and any such instruments which can be used to access the prepaid amount (collectively called Payment Instruments hereafter).

ECS - Electronic Clearing Service is an electronic mode of funds transfer from one bank account to another. It can be used by institutions for making payments such as distribution of dividend interest, salary, and pension, among others. It can also be used to pay bills and other charges such as telephone, electricity, water or for making equated monthly instalments payments on loans as well as SIP investments. ECS can be used for both credit and debit purposes.

MICR - Magnetic ink character recognition code (MICR Code) is a character-recognition technology used mainly by the banking industry to ease the processing and clearance of cheques and other documents. The MICR encoding, called the MICR line, is at the bottom of cheques and other vouchers and typically includes the document-type indicator, bank code, bank account number, cheque number, cheque amount, and a control indicator. The technology allows MICR readers to scan and read the information directly into a data-collection device. Unlike barcodes and similar technologies, MICR characters can be read easily by humans. Actually, the MICR is the name given to the technology used in printing the code. Apart from being a security bar code to protect your transaction, the MICR code is also an indispensable part for online money transfers. Every bank branch is given a unique MICR code and this helps the RBI to identify the bank branch and speed up the clearing process.

Mobile Banking- Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct a range of financial transactions remotely using a mobile device such as a mobile phone or tablet, and using software, usually called an app, provided by the financial institution for the purpose. 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 a limit on the amount that can be transacted. The types of financial transactions which a customer may transact through mobile banking include obtaining account balances and list of latest transactions, electronic bill payments, and funds transfers between a customer's or another's accounts. Some also enable copies of statements to be downloaded and sometimes printed at the customer's premises; and some banks charge a fee for mailing hardcopies of bank statements. Mobile banking service is primarily available over SMS (Short Messaging Service) or through GPRS (General Packet Radio Service) or sometimes through USSD (Unstructured Supplementary Service Data). The services available are: Funds transfer (intra and interbank), balance enquiry services/mini statements, request services (cheque book), utility bill payments and credit card payments, demat account services, mobile top up, merchant payment, life insurance premium, stop payment instructions, etc.

Recognizing the potential of mobile as a channel for offering financial services in the country, the Reserve Bank issued the first set of guidelines on mobile banking in October 2008. The guidelines issued by RBI in October 2008, permitted banks to facilitate funds transfer from one bank account to another bank account, both for personal remittances and purchase of goods and services. Banks were directed on the regulatory/supervisory issues, registration of customers for mobile banking, to ensure technology standards, interoperability, interbank clearing and settlement arrangements for fund transfers, customer grievance and redressal mechanism and transaction limits in an attempt to ensure safe, secure transfer of funds.

Core Banking- Core banking is a banking service provided by a group of networked bank branches where customers may access their bank account and perform basic transactions from any of the member branch offices. Core banking is often associated with retail banking and many banks treat the retail customers as their core banking customers. Businesses are usually managed via the Corporate banking division of the institution. Core banking covers basic depositing and lending of money. Normal Core Banking functions will include transaction accounts, loans, mortgages and payments. Banks make these services available across multiple channels like ATMs, Internet banking, mobile banking and branches. 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. It has been the development of banking software that has allowed core banking solutions to be developed.

Conclusion

The Banking sector in India has become stronger in terms of capital and the number of customers. It has become globally competitive and diverse aiming, at higher productivity and efficiency. Exposure to worldwide competition and deregulation in Indian financial sector has led to the emergence of better quality products and services. Reforms have changed the face of Indian banking and finance. The banking sector has improved manifolds in terms of Technology, Deregulation, Product & Services, Information Systems, Etc. The pre and post liberalization era has witnessed various environmental changes which directly affects the aforesaid phenomena. It is evident that post liberalization era has spread new colors of growth in India, but simultaneously it has also posed some challenges. Banks have to adopt a holistic approach to fulfill the ever-changing needs of customers and to grab a better market share. Development of sophisticated products with low cost technology is the key. This calls for in-depth analysis of customer needs the market and competitor trends. This analysis plays a very important role in devising new strategies, products and services. The better the banks understands their customers, the more successful they will be meeting their needs.

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