



ROLE OF INFORMATION TECHNOLOGY AND ITS IMPACT ON BANKING SECTOR IN GLOBALISATION ENVIRONMENT

Dr. N. Thyaga Raju

Assistant Professor, Department of Commerce, SRI A.B.R. Government Degree College, Repalle, GUNTUR, AP-5222265.

ABSTRACT This seminar paper mainly focuses on the state of post reforms and present role of banking sector in a globalization scenario and also study the Role of information technology and its impact on banking sector in India. The progress of banking reforms since 1991 has been impressive. The RBI made substantial progress in modifying the policy framework for reforms. New initiatives were taken to strengthen the supervisory system for banks by moving towards consolidated supervision and also towards risk-based supervision. For this purpose the Research paper reveals on Technology up-gradation, Impact of information technology on service quality, Impact of information technology on human resources, Applications of information technology in banks, Current trends in information technology on banking sector, use of social media etc. it concludes that there is a prominent role for information technology tools for systematic and effective functioning of banking sector and relevant financial institutions forever evergreen in a components of a globalization scenario.

KEYWORDS : Banking sector ; Globalisation; Information Technology ; Service Quality ; Technology Upgradation ; Service Quality ; Social Media ; Advance Trends in IT Technology ;

INTRODUCTION:

The progress of banking reforms since 1991 has been impressive. The RBI made substantial progress in modifying the policy framework for reforms.. New initiatives were taken to strengthen the supervisory system for banks by moving towards consolidated supervision and also towards risk-based supervision. The response of the banks to the reforms has been impressive. The banks have adjusted very well to the new environment, though gradually. There has been considerable reduction in non-performing assets (NPAs). The striking feature of the banking system after reforms is its continuing branch expansion. By March 2015, there were more than 70,000 branches and the share of rural and semi-urban branches together was 70 percent indicating the wide reach of the banking system.

(A) TECHNOLOGY UPGRADATION:

Technology introduction and its use on a large-scale has been a reality than a myth. Indian banks have struggled a lot for the introduction of machines in the past as it was held that machines are competitive to men and their increased use may deter the employment potential. Computerization, however, has gained momentum to a large extent after liberalization. Further, the implementation of Basel- II Norms, called for large-scale use of technology in banks¹. It is to be worth mentioned that commercial banks, the world over, are among the largest consumers of information technology. Banks have realized that their future is heavily dependent on electronic delivery mechanism which alone can bring banking to the doorsteps of customers. In recent years, there has been a noticeable tilt towards technology-driven products and services. For instance, banks are installing more and more ATMs for enabling transactions. The scope of ATM centres is getting expanded to accept cheque deposits, cash deposits etc. To give customers more choice in banking operations, banks have provided self-service kiosks and cash accepting machines in e-lobbies. Mobile banking and debit cards are finding increased acceptance of the customers. Credit cards also find a significant usage. Though smart cards are currently offered by few banks, almost all the banks plan to offer these in future. Internet banking is another service which is finding wider acceptance. The growth of internet banking is faster than other products. The use of electronic mode of delivery for banking services is constantly going up. It is seen that in case of public sector banks in India, still the branch is the preferred channel for many of the customers while private sector banks score higher in the use of technology. It is estimated that about 70% of the transactions are in electronic mode in case of some of the private sector banks².

(B) IMPACT OF INFORMATION TECHNOLOGY ON BANKS:

Due to technology, the organizational structure of banks, the job roles of staff and the approach of banks to customer needs have undergone a perceptible change. Technology helped banks to strategically look at customer needs to offer newer and efficient products & services, and ensuring that the staffs are able to cope with the newer demands of technology and customer requirements. It also helped banks to improve their productivity. One of the efficiency parameter that is

usually studied is cost-to-income ratio. As per BASEL II norms, banks have to strive to achieve a cost-to-income ratio of around 40 percent. Indian banks are more or less almost near that number, down from a ratio of more than 50 percent a decade ago. Technology played a major role in achieving this favourable number.

(C) IMPACT OF IT ON SERVICE QUALITY:

Banking is primarily a financial service industry. The most visible impact of technology on banking is seen in the way banks respond to challenges in making IT's effective use for efficient service delivery. For instance, small and relatively new banks, by integrating IT in their operations with a limited network of branches are able to compete with big and well established banks. All the same, technology helps banks irrespective of their size to have a level playing field for pricing their products³. In addition, technology helped in commoditizing some of the financial services. It is compelling banks to develop strategies for the on-line delivery of almost all their products. Above all, when properly adopted, technology helps in accelerating the service delivery to customers thereby it ensures customers satisfaction.

(D) IMPACT OF INFORMATION TECHNOLOGY ON HUMAN RESOURCES:

Technology, when introduced in a planned manner, results in enhanced productivity with better placement of employees. At the same time, it is seen that with increased use of information technology, there is an ever increasing demand for specialized personnel in the fields of IT and Management resulting in a high turnover rate of computer-skilled manpower. Banks should develop appropriate talent management policies to retain these professionals⁴, these and many other things that are available today have happened today due to the power of information and communication technology. more particularly due to the continuous innovations that have happened in i.e. over the past three decades with the device and using the network, it is possible to access a service / product anywhere, anytime, manage bookings, reservations, shopping, pay bills etc. not only that, all the payments can also be made on-line. the merchants, the buyers / customers and the banks, payment service providers are all linked to provide an easy, highly available, seamless experience of e-bookings, e-payments, and e-commerce.

• IMPACT OF TECHNOLOGY ON BANKING SECTOR IN INDIA:

The advancement in technology has caused a tectonic shift in the entire eco-system. While earlier the consumer was at the mercy of the sellers, today she is the queen. She is more informed, and in control of the situation. The merchants and the service providers have to constantly innovate and find ways to get the business. Armed with better control, information and access from anywhere, anytime the consumer gets the best deals and best value for money. Banking cannot be an exception to this paradigm shift. Hence, banks will have to keep changing the strategy and constantly innovate in order to be in the race, if not ahead of the competition. What exactly is the impact of technology in the banking industry today⁵.

• **Organizational impact:**

Information technology is a means for increasing productivity. It can bring about newer concepts of self regulating systems and principles in the organization. The impact of IT with regard to organizational structure and orientation of the banking sector are as follows.

• **Customer expectations**

As mentioned in the beginning of this article, earlier, customers had few choices. At that point of time what differentiated one bank from another was pricing, and possibly the quality of service. But today with the emergence of various alternatives, thanks to banking technology, the customer expectations are expanding from pricing and quality to include brand, content, and mode of delivery and finally timeliness of delivery. Needless to say all these are required to be packed into a fast and efficient mechanism. In the not so distant future the expectation will include customized products. Banks are able to do these things because new generation personnel are joining it in large numbers. Banks are able to leverage their skills in use of technology for maximizing productivity and achieving excellence in customer service.

• **Impact on human resources**

Technology, when introduced in a planned manner, results in enhanced productivity with better placement of employees. At the same time it is seen that with increased use of information technology, there is an ever increasing demand of the specialized personnel in the fields of IT management resulting in a high turnover rate of computer-skilled manpower. Banks must have appropriate talent management policies to retain these professionals within the organizations.

• **Development of the IT area in the new millennium**

At the client end, the accessing device is no longer only a PC, desktop or a laptop. The PCs of yesteryears have to now compete with the smart phones, the tablets and other mobility devices. Google's android operating system is being used in many of these smart devices. While Apple has its own iOS operating systems, Microsoft uses the Windows operating system. Note that Microsoft pioneered first the DOS and then the Windows operating system for the PCs and the lower end servers. Not to be left behind in the race for the accessing devices, Microsoft has acquired the handset business of Nokia. However, these devices with the Windows operating system are yet to make an impact in the market.

The way the processing power is being packed in a micro-processor chip, devices are going to be smaller and smaller and yet more powerful. Combined with Moore's Law is also Gilder's Law, according to which improvements in bandwidth will occur at thrice the speed of Moore's Law. People who are older than GenY or the Digital Natives (i.e. born before 1978) would re-call the constraints faced due to poor speed of connectivity in getting through a dial-up line in 1995. It was an incredible 8 kilobits per second. Even today the broadband in the land line in many of third world countries is of the order of 256 Kbps or may be 1 Mbps. But as per Gilder's law, in the year 2016, you can look forward to 1 G bit per second download speed on your mobile devices. Since 2010, there has been a paradigm shift in the field of software development. This has been in the area of the client end or from user point of view. Earlier application development used to be under the assumption that it would be accessed by someone through a desktop or a laptop computer. Now focus is on accessing it through these smart and mobile devices. This has resulted in millions of apps being available for all types of needs of the end-user.

Communication Media

In 1995, media was mostly a physical wire for common people. Organisations did have some RF (Radio Frequency) and Satellite connections. Today there exists a plethora of media, mostly wireless. While CDMA and GSM are mostly used for voice and data, GPRS, cellular Wi-Fi and the 3G technology are used for video, images and much more, in addition to voice and data. Though these devices are mostly wireless, still communication between two devices is largely happening through a service provider. With Bluetooth, data and information can be exchanged between two devices provided they are within a range of say about 10 meters. The latest development however is Near field communication (NFC). It is a set of standards for smart phones and similar devices to establish radio communication with each other by touching them together or bringing the min to proximity, usually no more than a few inches. Present and anticipated applications include contact less transactions, data exchange, and simplified setup

of more complex communications such as Wi-Fi. Communication is also possible between a NFC device and an unpowered NFC chip, called a "tag". For example, Google Wallet allows consumers to store credit card and store loyalty card information in a virtual wallet and then use an NFC enabled device at terminals that also accept MasterCard transactions. Many countries are running trials with NFC ticketing systems for public transport.

Swipes the card of the customer on the card reader³. Customer either 'signs' on the display screen or enters his PIN and⁴. The payment is made. For all the on-line retailers, struggling with ways to secure the cash collections by the delivery boys in the COD(cash-on-delivery) model, this will be a boon where there is no need to handle cash at all. E-tailing is growing with geometric progression and such solutions will only be adding to the boom.

Role of Channels in Retail banking transactions:

As per Brett King, in his book Bank 3.0, the rate of interactions of customers with various channels by the year 2016 is predicted to be Mobile : 20 to 30 per month Internet / Tablet : 7 to 10 times per month ATM : 3 to 5 times per month Contact Centre : 5 to 7 times per month Branch 1 or 2 times per month Given these indicators it makes sense for both bank and the customers to move to newer delivery channels, in view of cost efficiency, in addition to the ease and convenience of banking. As per Bank 3.0 referred above, whereas Cost per transaction at the branch could be about `50, it is about `15 at ATM, `5 through Mobile and negligible when done through Internet. The economic aspect is also going to play a big role in the transactions shifting to the delivery channels. Of course, as far as Financial Inclusion of the non-banked is concerned, it can only be done with innovations using technology.

Going Card-less:

So how long will the plastic cards continue? We are approaching an era where whether at the shopping malls at homes, consumers will not be required to fish out their plastic card and swipe at the POS terminals. Wallet applications on the mobile phones, waved near the POS device of the merchant would complete the transaction quickly and efficiently. And what if the customer needs to withdraw money. Well now it is possible for a customer to withdraw money from ATM WITHOUT A CARD!

APPLICATIONS OF INFORMATION TECHNOLOGY IN BANKS :

- (A) Banks had started use of modern technology about thirty years ago. The process has matured in a gradual way, with all the banks having set up the basic infrastructure of a core banking solution with various delivery channels like Internet banking, ATMs, Mobile banking, call centres etc.
- (B) Essentially the technology takes care of the transaction processing of large volume of transactions, and increased customers and business volumes. It is worth recalling here that the growth in banking business in the two decades; post nationalisation till early 90's came through massive branch expansion. As against this, in the last two decades there has been an exponential growth due to technological innovations in banking business as can be seen from the following table and behavioral patterns are also getting stored.
- (C) Together all these constitute the 'Big data'. Given this Data Analytics is the tool that is going to be the game changer. Data Analytics would enable banks to offer personalized products and services, with innovative ways of delivery. In this background, globally, the banks are recognizing the need to embrace technology in the area of products and services to compete successfully in the years ahead.
- (D) Information technology at the very basic level is defined as Input é Process é Output Co-incidentally, banking is also somewhat similar from a process point of view.
- (E) It is due to this similarity that commercial banks, the world over, are among the largest consumers of information technology. Banks have realized that the future of the financial services industry is heavily dependent on electronic delivery mechanism which alone can bring banking right into the customer's homes.
- (F) In the recent years there has been a noticeable tilt towards technology-driven products and services. Following trends are visible in the banking systems: Banks are installing more and more ATMs for enabling transactions⁵. The scope of ATM centers is getting expanded to accept cheque deposit, cash deposit etc To give the customers more choices for collecting their cash,

banks are resorting to self-service kiosks, cash accepting machines in e-lobby and other similar installations Mobile banking and debit cards are finding increased acceptance of the customers. Credit cards also find significant usage.

- (G) Though smart cards are currently offered by only a very few of the banks, almost all the banks plan to offer these in the future. Internet banking is another service which is finding wider acceptance. The growth of internet banking is faster than other products discussed above.
- (H) Advancement in technology area has enabled the following to the banks and customers : Providing new and innovative banking products and services, consistently, uniformly and across. Geographies and more importantly at very minimal land affordable cost to the customer. Offering service to customers through various delivery channels like ATMs, Internet / Phone / Mobile banking at all times Fast and efficient payment and remittance facilities across banks.
- (I) Customers can transfer funds from one bank to another almost instantly. Cheques are becoming redundant. Also for the bank, technology helps in establishment of a reliable centralised data repository, which facilitates data warehousing and data mining technologies for business intelligence. In the process, banks today are repositories of huge amount of transaction data. With the arrival of mobile banking and social media, geo-location data.
- (J) Use of electronic mode of delivery for banking services is constantly going up. It is seen that in case of Public Sector banks in India, still the branch is the preferred channel for many of the customers while Private sector banks score higher in the use of technology. It is estimated that about 70% of the transactions are in electronic mode in case of some of the private sector banks⁷.
- (K) IT leads to faster access to information and better control which has a direct impact on reducing the tiers in the hierarchical systems in the banks. This helps in establishing a closer and direct link between the top management and the field functionaries.
- (L) Managerial attitudes also undergo a change under the impact of IT. This is manifest in the way the top executives look at IT as a functional requirement and apply it for improving organisational efficiency and effectiveness. IT helps in engineering a change in the overall orientation of the management.
- (M) The organisational change can facilitate the increased involvement of information systems in the mainstream product offerings in the banking and financial sector. vi) Finally the impact of the IT is best felt, when banks do vetail their processes to the IT systems, in order to derive maximum advantage.

• CURRENT TRENDS IN INFORMATION TECHNOLOGY:

An unintended outcome of the technology implementation is that banks today are becoming information behemoths. Banks are now repository of terra-bytes of data. Another development is that the customers have tasted the power of technology in their day-to-day life including the way banking is done. Currently, banks are offering services that they feel would attract customers. Herein the customer has to adapt to the processes laid down by the bank. Can a bank offer products and tailor the processes in such a way that they are as per the customer needs? Banks have to now think seriously along these lines. Technologically this is feasible, thanks to the emergence of SMAC. It is the banking processes that need to evolve to achieve customized products. The current trends and development in technology are in the areas of **Social Media, Mobility, Analytics and Cloud**⁸. Collectively they are referred to as **SMAC**. SMAC will drive banking or banks will leverage SMAC for their business and providing products and services. Analytics and Cloud would form the backbone and be at the back-end. Social media and mobility is what people and customers would use to access these applications.

Social Media

Banks the world over are traditional and conservative. The mere mention of use of social media for banking would send shivers down the spine of bankers. But the time has come, when they can no longer ignore the power of social media. Social media is enabled by the internet. Easy availability and cheap tariffs have boosted Internet adoption which in turn has played a significant role in the emergence of a completely new medium called "Social Media". Further, the advent of the Smart phone coupled with all the 'apps' that are available; make adaptation to social media very easy. It is often said that after China and India, Face book is the third largest population in the world, having about 1.3 billion users. Studies have revealed that more than 80% of the people who access on-line content are active on social media. Even in

respect of seniors (65 years and above) and baby-boomers (between 50 and 65 years), more than 55% are active on social media. In India, 40 million use internet on the go on mobile handsets and 82% of these users use social media. Indian Banks have started using social media in the irregular operations in various forms and are at different stages of maturity. As of now, some private banks provide regular updates on the latest offers and allow basic customer operations through popular social media sites. A large private bank in India has hosted Face book application on its secure servers allowing balance amount check, cheque book request, giving stop payment instructions, etc. Some of the private banks are using their Face book page to provide customers, exclusive offers, product details and customer care services. As some of the banks have taken the lead the direction is set for other banks to offer online financial services through such platforms in the immediate future. ICICI Bank offers e-purse for the Face book users⁹.

The banks adopt the social media in

- Anything which is available when a person is born is taken as normal
- Innovations taking place till a person is of thirty years of age, excites her very much. Adaptation is immediate and many make even a living or career out of it
- However, developments that take place in the later stage of a person's life are considered as against natural order of things, but here again if these developments sustain for say, about 10 years, we adapt that also.

Payment Banks

Recently, Reserve Bank of India has issued draft guidelines on allowing payment banks to be set up. As per these guidelines, payment banks will be allowed to take deposits and facilitate payment and remittance services. Obviously these banks will have to play the technology card effectively. Ideally large Telecom companies, to whom already limited license has been given for issuing e-purse, would be best placed to setup these banks¹⁰. Combined with technology, they have a huge network of retailers to be leveraged.

Going Card-less

We are approaching an era where whether at the shopping malls at homes, consumers will not be required to fish out their plastic card and swipe at the POS terminals. Wallet applications on the mobile phones, waved near the POS device of the merchant would complete the transaction quickly and efficiently. And what if the customer needs to withdraw money¹¹. Well now it is possible for a customer to withdraw money from ATM without a card

REFERENCES

1. Firdos T. Shroff, "Impact of Technology on Banking In Public Sector Banks", Journal Of Indian Institute Of Banking & Finance, October-December, 2010, pp.11-19.
2. Poojaraj.G & Christian SR, "Innovative Technology And Private Sector Banks: A Study Of Selected Private Sector Banks Of Anand District", International Journal Of Research in Commerce, IT & Management, Volume.2, Issue.1, November 2012, pp.51-53.
3. Chen, SH, "Establishment Of A Performance-Evaluation Model For Service Quality In The Banking Industry", The Service Industries Journal, vol. 29, No. 2, 2009, pp.235-247.
4. Anurag B Singh & Priyanka Tandon, "Asset - Liability Management In Indian Banking Industry", Asia Pacific Journal of Marketing & Management Review, Vol.1 No. 3, November 2012, pp.121-132.
5. N.kavitha, "An Assessment - Asset and Liability Management of Scheduled Commercial Banks In India", International Journal Of Marketing And Technology, Volume 2, Issue 4, 2012, Pp.20-44.
6. P.Sheela & Tejaswini Bastray, "Asset-Liability-Management-A Comparative Study of a Public and Private Sector Bank", International Research Journal Of Business And Management, Volume - VIII, Issue 1, January - 2015, pp.34-43.
7. M. Neelakantaiah, "Human Resource Management and Practices in Indian Banks", International Journal of Research in Management, Social Sciences & Technology, Vol-9, Issue No. 9, Jan 2015, pp.1-8.
8. Prachi Mittal, Sneh Singh Jadaun & Manoj Kumar Dash, "Computerization In Banks - Some Issues", IOSR Journal of Business and Management, Volume 8, Issue 4, March - Apr. 2013, pp. 1-11.
9. T.Vasanthi & D.Gowri, "Customer Perception towards Service Quality Attributes of Public Sectors Banks and Private Sectors Banks", International Journal of Scientific and Research Publications, Volume 3, Issue 2, February 2013, pp.1-7.
10. My.Khan, "Financial Services", Tata Mc Graw Hill Education Pvt Limited, New Delhi, First Edition, 2010, pp.11.18-11.21.
11. S. Selvakumar & P.G.kathuravan, "A Study Of Profitability Performance Of Public Sector Banks In India", Indian Journal Of Finance, Volume 6, issue 2, September 2009, pp.3-13.