

Role of Information Technology in Banking System of India

N. Suresh¹ and Dr. K. Sirisha²

¹Research Scholar, Department of Economics

Bharatiya Engineering, Science and Technology Innovation University (BESTIU)

Gownivaripalli – 515 231, Gorantla Mandal, Sri Satya Sai District, Andhra Pradesh

Email Id: suresh272.n@gmail.com

²Dept. of Economics, St. Francis Degree College for Women, Begumpet, Hyderabad, Telangana

Abstract

Information technology has been of great essence in banking system. The IT saves the time of the customers and the employees conspicuously and cuts down the expenses and IT facilitates the network transactions. Information technology (IT) and Information Communication Technology (ICT) has increasingly becoming an invaluable tool and technique economic and commodity development of a nation. The banking sector around the world is considering the Information technology (IT) it as becomes most powerful tool for improving and extension of customer service quality, reducing cost and speed up the banking operations, increase usage of banking products and services, easy attract customer to bank, easy to evaluate the performance of bank, easy to analyse weakness of the employees through user analysis, reaching global market, save the time of management, employee and also customer, improve professional efficiency of staff, increase productivity and enhancing competitiveness, easy to interact and interconnect sub-branches and effectively and efficiently provide service quality meet customer needs and expectations and also increase efficiency of management, bank and employee in this competitive world. The present paper study aims at investigating the effect of information technology in the banking system in India.

Keywords: Banking Sector, Use of Information Technology, Impact on Business and Customers, Problems facing Banking System.

1. Introduction

The development of economy depends on financial system of the country; development of financial system depends on functions of financial institutions. The IT has facilitated the development of online banking platforms and mobile applications, providing customers with convenient access to their accounts and it is further evident in enabling secure digital payment solutions, safeguarding customer data, and preventing fraud. Utilizing data analytics, IT allows banks to offer personalized services, enhancing customer satisfaction. Automation has streamlined processes, reducing manual intervention, and optimizing efficiency. Additionally, IT has enabled remote banking services, ensuring uninterrupted

access during challenging times. As technology continues to evolve, IT remains at the forefront of shaping the future of banking, delivering cutting-edge solutions for the digital age.

Information technology (IT) has transformed banking by enabling online and mobile banking, automated teller machines (ATMs), and secure digital payments, which improve customer convenience and access. It also enhances operational efficiency through automation, data analytics, and risk management, while increasing security to combat fraud. Overall, IT allows banks to reach more customers, cut costs, and provide personalized services 24/7. The sector that has been most radically affected by the information technology developments is the banking system. The information technology has become a critical business resource because its absence could result in poor decisions and ultimately business failure. Technology has opened up new markets, new products, new services and efficient delivery channels for the banking industry. Online electronics banking, mobile banking and internet banking are just a few examples. Information Technology has also provided banking industry with the wherewithal to deal with the challenges the new economy poses. Information technology has been the cornerstone of recent financial sector reforms aimed at increasing the speed and reliability of financial operations and of initiatives to strengthen the banking sector.

Internet has emerged as an important medium for delivery of banking products and services. The customers can view the accounts; get account statements, transfer funds and purchase drafts by just punching on few keys. The smart card's i.e., cards with micro processor chip have added new dimension to the scenario. An introduction of 'Cyber Cash' the exchange of cash takes place entirely through 'Cyber-books'. Collection of Electricity bills and telephone bills has become easy. The upgradeability and flexibility of internet technology is successful after unprecedented opportunities for the banks to reach out to its customers. No doubt banking services have undergone drastic changes and so also the expectation of customers from the banks has increased greater. IT does so by maximizing banks of proactive measures such as strengthening and standardizing banks infrastructure in respect of security, communication and networking, achieving inter branch connectivity, moving towards Real Time gross settlement (RTGS) environment the forecasting of liquidity by building real time databases, use of Magnetic Ink Character Recognition and Imaging technology for cheque clearing to name a few. Indian banks are going for the retail banking in a big way. Paper less banking helps in controlling deforestation thereby helps in achieving sustainable development goals by contributing in protecting cutting of trees as well as provides convenience to the customers and banks.¹

KEY DRIVERS

The key driver to charge has largely been the increasing sophistication in technology and the growing popularity of the Internet. The shift from traditional banking to e-banking is changing customer's expectations.

E-Banking

The banks have modernized their services with the facilities of computer and electronic equipment's. The electronics revolution has made it possible to provide ease and flexibility in banking operations to the benefit of the customer. The e-banking has made the customer say good-bye to huge account registers and large paper bank accounts. The e-banks, which may call as easy bank offers the following services to its customers:

- ❖ Credit Cards/Debit Cards
- ❖ ATM
- ❖ E-Cheques
- ❖ EFT (Electronic Funds Transfer)
- ❖ DeMAT Accounts
- ❖ Mobile Banking
- ❖ Telephone Banking
- ❖ Internet Banking
- ❖ EDI (Electronic Data Interchange)

Benefits of E-banking

To the Customer

- ❖ Banking no matter wherever the customer is in the world. Balance enquiry, request for services anywhere, issuing instructions etc., from anywhere in the world is possible.
- ❖ Anytime Banking — Managing funds in real time and most importantly, 24 hours a day, 7days a week.
- ❖ Convenience acts as a tremendous psychological benefit all the time.
- ❖ Brings down “Cost of Banking” to the customer over a period a period of time.
- ❖ Cash withdrawal from any branch / ATM
- ❖ On-line purchase of goods and services including online payment for the same.

To the Bank

- Anywhere Banking no matter wherever the customer is in the world. Balance enquiry, request for services, issuing instructions etc., from anywhere in the world is possible.
- Anytime Banking — Managing funds in real time and most importantly, 24 hours a day, 7days a week.
- Convenience acts as a tremendous psychological benefit all the time.
- Brings down “Cost of Banking” to the customer over a period a period of time.
- Cash withdrawal from any branch / ATM
- On-line purchase of goods and services including online payment for the same.

- Innovative, scheme, addresses competition and present the bank as technology driven in the banking sector market
- Reduces customer visits to the branch and thereby human intervention
- Inter-branch reconciliation is immediate thereby reducing chances of fraud and misappropriation
- On-line banking is an effective medium of promotion of various schemes of the bank, a marketing tool indeed.
- Integrated customer data paves way for individualized and customized services.

Impact of IT on the Service Quality

The most visible impact of technology is reflected in the way the banks respond strategically for making its effective use for efficient service delivery. This impact on service quality can be summed up as below:

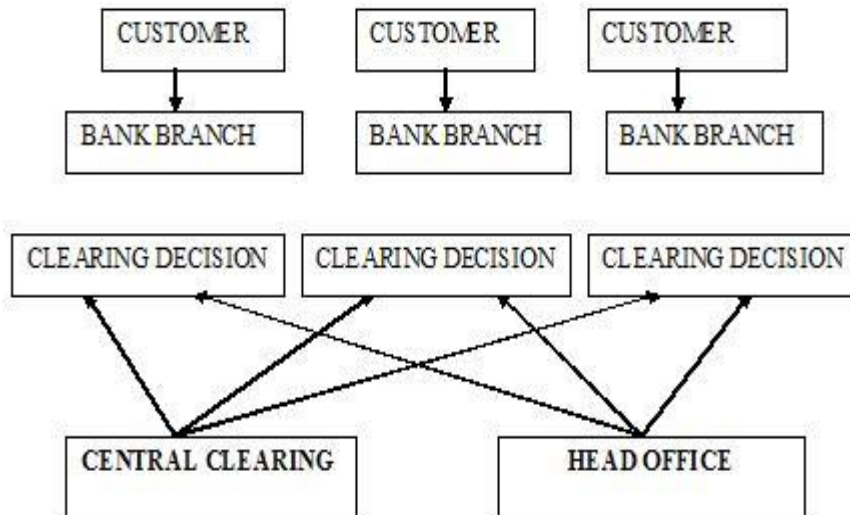
- With automation, service no longer remains a marketing edge with the large banks only. Small and relatively new banks with limited network of branches become better placed to compete with the established banks, by integrating IT in their operations.
- The technology has commoditizing some of the financial services. Therefore the banks cannot take a lifetime relationship with the customers as granted and they have to work continuously to foster this relationship and retain customer loyalty.
- The technology on one hand serves as a powerful tool for customer servicing, on the other hand, it itself results in depersonalizing of the banking services. This has an adverse effect on relationship banking. A decade of computerization can probably never substitute a simple or a warm handshake.
- In order to reduce service delivery cost, banks need to automate routine customer inquiries through self-service channels. To do this they need to invest in call centers, kiosks, ATM's and Internet Banking today require IT infrastructure integrated with their business strategy to be customer centric.²

IMPACT OF IT ON BANKING SYSTEM

The banking system is slowly shifting from the Traditional Banking towards relationship banking. Traditionally the relationship between the bank and its customers has been on a one-to-one level via the branch network. This was put into operation with clearing and decision making responsibilities concentrated at the individual branch level. The bank monitored the organization's performance and set the decision making parameters, but the information available to both branch staff and their customers was limited to one geographical location.³

Traditional Banking Sector

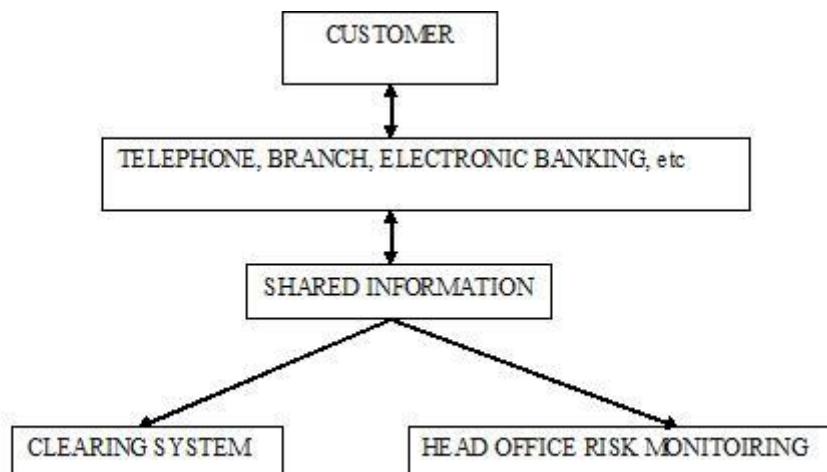
The traditional banking sector has been shown diagrammatically.



The modern bank cannot rely on its branch network alone. Customers are now demanding new, more convenient, delivery systems, and services such as Internet banking have a dual role to the customer. They provide traditional banking services, but additionally offer much greater access to information on their account status and on the bank's many other services. To do this banks have to create account information layers, which can be accessed both by the bank staff as well as by the customers themselves. The use of interactive electronic links via the Internet could go a long way in providing the customers with greater level of information about both their own financial situation and about the services offered by the bank.

The New Relationship Oriented Bank

The new relationship oriented banks is shown in the following figure.



Impact of IT on Privacy and Confidentiality of Data

Data being stored in the computers is now being displayed when required on through internet banking mobile banking, ATM's etc. all this has given rise to the issues of privacy and confidentiality of data are:

- The data processing capabilities of the computer, particularly the rapid throughput, integration, and retrieval capabilities, give rise to doubts in the minds of individuals as to whether the privacy of the individuals is being eroded.
- So long as the individual data items are available only to those directly concerned, everything seems to be in proper place, but the incidence of data being cross referenced to create detailed individual dossiers gives rise to privacy problems.
- Customers feel threatened about the inadequacy of privacy being maintained by the banks with regard to their transactions and link at computerized systems with suspicion.

Aside from any constitutional aspect, many nations deem privacy to be a subject of human right and consider it to be the responsibility of those who concerned with computer data processing for ensuring that the computer use does not revolve to the stage where different data about people can be collected, integrated and retrieved quickly. Another important responsibility is to ensure the data is used only for the purpose intended.

INFORMATION TECHNOLOGY IN BANKING SYSTEM

Enhancing customer experience

- **24/7 access:** Banks offer services like online and mobile banking, and ATMs, allowing customers to manage their accounts, transfer funds, and make payments at any time and from anywhere.
- **Convenience:** Customers can use debit cards and mobile apps for purchases and bill payments, eliminating the need for cash or physical branch visits.
- **Personalized services:** Data analytics and AI allow banks to analyze customer behavior and offer tailored products and services.

Improving operational efficiency

- **Automation:** IT automates many manual processes, reducing errors and freeing up staff for more complex tasks.
- **Cost reduction:** Automation and the shift to digital channels help lower the costs associated with handling cash and managing physical branches.
- **Faster transactions:** IT enables faster and more efficient payment and settlement systems, such as real-time gross settlement (RTGS) and instant fund transfers.

Strengthening security and risk management

- **Fraud prevention:** Banks use IT to implement robust security measures to safeguard customer data and prevent fraud and other security breaches.
- **Risk control:** Technologies like AI and advanced data analysis help banks improve risk assessment, compliance, and overall risk management.
- **Data security:** IT systems are used to store and process vast amounts of sensitive financial data electronically, with constant improvements in security to protect it. ⁴

PROBLEMS IN USE ICT APPLICATIONS BY THE BANKS

Behind every new initiative, there is some error and inconvenience to use or access the product, service and facility. It is difficult to design and development a complete product to all requirements. Due to following reasons, the ICT also cannot provide effective and efficient service to customers.

Cost of hardware & software peripheral

These hardware equipments and software banking applications will bring more fruitful benefits for banks as well as customer. But some hardware peripheral and application software purchasing cost may be very high, small kind of banks difficult to purchase and government controlling banks may not be interest invest on it.

Computer or digital literacy

The banks are facing the issue with lack of computer, digital literacy among the users and professional staff of the banks.

Skilled professional

The banks are facing lack of experience and expertise of employee – in use, handle and maintain the technological peripheral and applications.

Update software packages

Lack of updates and maintenance of software packages, because, the software developer frequently release updating models, versions and packages and incorporate new features to increase the efficiency of the packages. In this regards, technical and expertise staff required to update innovative features which had incorporated by the developers.

Financial support

The banks are facing of proper financial assistance provide by government or bank management and societies to bring and adopt innovative service in banks.

Infrastructure

Most of the central and its branches have insufficient physical and ICT infrastructure to initiative and implement new innovative technological applications and facilities in financial institutions.

Training of employees and customers

The banks are not give proper training for employees to handle & implement and awareness of customers to use of ICT applications and facilities which are already used or plan to acquire and adopt by the banks.

Insufficient professional staff

Most of the banks, especial government or autonomous banks like public sectors and co-operative banks are suffering with insufficient manpower support to handle both traditional and digital

services. It difficult handle by present available staff and it create work pressures and professional stress on working employees, no employee will properly work in professional stress.⁵

Conclusion

Digitalization has had a significant impact on the Indian banking system, transforming various aspects of the industry. The ICT plays a pivotal role in process and progress of banking and finance activities. It has become an essential to fulfill the customer satisfactions but also attain the competitive advantages. Moreover, the ICT helps to banker to provide diversified services to customer with the advantages of cost-effective, faster, convenient, legal and systematic manner and also it is difficult to design and development a complete product to all requirements. Information Technology has undoubtedly become the backbone of digital banking, revolutionizing the way financial services are delivered and accessed. As technology continues to evolve, IT will remain pivotal in shaping the future of banking. Banks and financial institutions must invest in cutting-edge IT infrastructure and skilled professionals to stay competitive and meet the evolving demands of tech-savvy customers. The digital transformation made ample access to basic financial services. This has helped in reducing the dependence on cash transactions and promoting a digital economy. Embracing the power of IT, the financial sector can look forward to an exciting and dynamic future, where innovation and customer-centricity are at the heart of the digital banking experience.

References

1. Ahsan Ahmed. (2020), The Impact of Digitalisation on Indian Banking Sector, *Int. J. Adv. Multidiscip. Res.*, 7(8): 83-92..
2. Madhushree, M. (2018), Impact of Information Technology on Banking Sector Emerging areas of IT Applications in Management, Education and Social Sciences, Oct-2018, ISBN No:978-81-938040-5-6
3. Paritosh Kumar, Impact of Information Technology in Indian Banking Industry published in bankingfinance.in
4. Rajesh Tiwari and Rakesh Kumar (2012), Information technology in the banking sector, *Asia Pacific journal of marketing and management review*, 1(1), 25-33.
5. Dr.Ashfaq Ali -ICT in Banking Sector- Issues and Challenges