



EMERGING TRENDS AND TECHNOLOGICAL DEVELOPMENTS IN BANKING SECTOR

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Abstract

Information technology refers to the acquisition, processing, storage and dissemination of all types of information using computer technology and telecommunication systems. Technology includes computer science and technology and with the design, development, installation and implementation of information system and applications. Information technology architecture is an integrated framework for acquiring and evolving IT to achieve strategic goals. It has both logical and technical components. Computer hardware and software, voice, data, network, satellite, other telecommunications technologies, multimedia are application development tools. These technologies are used for the input, storage, processing and communication of information. Information technology includes ancillary equipment, software, firmware and similar procedures, services etc. This paper focuses on the recent emerging trends and developments in the banking sector.

Keywords: *Computer, Information Technology, Telecommunications.*

Introduction

The service industries are mostly customer driven and their survival in competitive environment largely depends on quality of the service provided by them. In this context, quality of service furnished by banking sector is very important and profitability of their business is closely connected with the quality of service they render. Businesses seeking to improve profitability are, thus, advised to monitor and make improvements to their service quality on an ongoing basis. Technology plays a vital role in improving the quality of services provided by the business units. One of the technologies which really brought information revolution in the society is Internet Technology and is rightly regarded as the third wave of revolution after agricultural and industrial revolution. Advent and adoption of internet by the industries has removed the constraint of time, distance and communication making globe truly a small village. Financial sector being no exception, numerous factors such as competitive cost, customer service, increase in education and income level of customers, etc. influence banks to evaluate their technology and assess their electronic commerce and internet banking (I-banking) strategies. Internet banking allows banking from anywhere, anytime and is used for transactions, payments, etc. over the internet through a bank, a credit union or society's secure website. So, basically, in I-banking a client has one-to-one interaction with the bank's website, and in such a situation it is essential on the part of bank to provide high quality services over the internet. So, in contrast to traditional banking, I-banking involves non-human interactions between customers and online bank information system. Customer satisfaction, customer retention and new customer acquisition are the key factors in I-banking system. This becomes more important since the acquisition costs in online banking exceed that of traditional offline business by 20%–40% (Rubinstein, 2002). The impact of globalization trends world over it is difficult for any country big or small, developed or developing, to remain isolated from what is happening around. For a country like India, which is one of the most promising emerging markets, such isolation is nearly impossible. More particularly in the area of Information technology, where India has definitely an edge over its competitors, remaining away or uniformity of the world trends is untenable. Financial sector in general and banking industry in particular is the largest spender and beneficiary from information technology. This Endeavour's to relate the international trends in it with the Indian banking industry. All the foreign banks and newly established Private sector banks, which have fully computerized all the operations. With these variations in the level of information technology in Indian banks, it is useful to take account of the trends in Information technology internationally as also to see the comparative position with Indian banks.



Role of Information Technology

Banking system is the backbone of the economy and Information Technology (IT) in turn has become the backbone of banking activities. Technology, which was playing a supportive role in banking, has come to the forefront with the ever-increasing challenges and requirements. Technology to start with was a business enabler and now has become a business driver. The Banks cannot think of introducing a financial product without IT support. Be it customer service, transactions, remittances, audit, marketing, pricing or any other activity in the Banks, IT plays an important role not only to complete the activity with high efficiency but also has the potential to innovate and meet the future requirements. The Banking Sector was early adopter of technology and in that way set an example to the other Industries the need to opt for automation for taking full advantage in operational efficiency. The automation ensures 24-7-365 service and makes the customer feel comfortable to undertake the financial transactions with plastic cards and transact from the home. There is an apprehension whether the technology will desert the customers from bank branches and push the banks to lose the personal touch. But the IT developments has only brought the Customers closer, with the Banks able to offer multiple products/ services under Single-Window Concept and provide options to select the best. The hi-tech multiple service channels and delivery mechanism has provided a great opportunity to reach and inform the customers as well as potential customers with much ease. The technology has its own role to play and only compliment the branch banking activities with variety of options and innovative services.

New Initiatives

1. The technology is yet to reach the rural/semi urban centers in a big way, though such centers have substantial population utilizing the banking services. The IT needs to be suitably packaged such as using biometric technology (capturing fingerprint) for ATM cards.
2. System integration to be further enhanced to enable the customers to access all services from deposits, remittances, loans, tax payments, other payments, insurance, mutual funds and DP account at a single point.
3. RTGS has already set the tone for remittances within seconds. Introduction of cheque truncation facility will be another dimension to reduce the collection time of instruments.
4. Virtual branches with minimum infrastructure can be made available to provide all information to the customers who can use the touch-screen technology. No doubt that the marriage of banking and technology is over, but compared to the level of automation adopted in some of the developed Countries and also considering the unexplored potential of IT, it is imperative to further improve and stabilize the mechanization process in Indian Banking Industry.

The Future of IT and synergy between IT and BPR

1. Electronics and Information Technology have worked wonders for all the functional segments and more so in the field of Banking. The influence will be, no doubt, much more conspicuous in the future and is bound to pervade all the banking functional segments in the days ahead ushering in an era of enhanced levels of efficiency and productivity. The focus of the Banks therefore will be to identify the feasible areas and transforming them to a customer centric and business oriented model to derive maximum mileage.
2. Appropriate BPR exercises will enable the Banks to achieve these objectives and deriving maximum business mileage thereof. Implementation of technology in the Banks is to be driven by business compulsions rather than regulatory requirements. The technology implementation plan of the Banks is to be drawn up with a clear vision as to the goals to be achieved. Expansion on the technology front without bearing these objectives in mind is going to be disastrous as there will be no convergence of the objectives and the means to achieve the same. The role of BPR assumes utmost importance in this context as the provider of the vital link between technology and business goals. Cost of Technology, although an important factor is not the sole criteria based on which Technology initiatives should be driven. However, every effort is to be made to keep the cost at the lower level and to reduce the gestation period so that the commensurate benefits are visible in the shortest possible time. This in turn will encourage further



investment in technology. If on the other hand, investment in technology is made without taking other requisite steps like process re-engineering and preparing the organization for absorption of technology, it can prove to be an expensive affair. The greatest challenge for every Bank therefore is to invest optimum amount in technology and realize the benefits faster so as to convert technology into a savior. BPR has a key role to play in IT delivery in the perceivably extremely competitive days ahead. BPR and IT has to be seen as integral components of a strategy to succeed in business with quality. IT implementation lacking focus on quality of deliverables and unmindful of the impact on the processes is not worthy of the effort and would prove to be costly. The synergy between IT and BPR can only provide the ideal technology environment catering to the stated business objectives and in this direction clear focus on the various objectives of undertaking a BPR exercise should be the focus.

Electronic Payments

In India the payment system is primarily cash dominant, is now at a faster pace of transforming from paper to online payment. The share of electronic payments in non-cash payments has shown an upward trend. The electronic payment system primarily comprises Real Time Gross Settlement (RTGS), Electronic clearing services (ECS), credit and debit payments and electronic fund transfers (EFTs) / National Electronic Funds Transfer (NEFT). C2G (Consumer to Government) & G2C (Government to Consumer), Business to Business, Customer to Customer Payments remain the focus area for the regulator and government alike, both to drive inclusion and increase efficiencies in payment processing and collections. The E-commerce and M-commerce platforms are focused for a big stride in coming years. The Indian payment system, which is primarily cash dominant, is now at a faster pace of transforming from paper to electronic. The share of electronic payments in non-cash payments has shown an upward trend. The electronic payment system primarily comprises Real Time Gross Settlement (RTGS), Electronic clearing services (ECS), credit and debit payments and electronic fund transfers (EFTs) / National Electronic Funds Transfer (NEFT). At present the most of the customers are adopting Internet banking and Mobile banking services provided by the banks. Multiple payment apps and gateways are developed in order to make the speedy transactions.

Review of Literature

Ramnath.K.(2001) mentioned on his research that consumer motives for the adoption of internet banking services strongly concern in the following four consumer motivational clusters.

1. Trust of the System
2. Legal support issues
3. Instant gratification
4. Hassle avoider

Haunt (1994) & Turban (2001) in his theory mentioned that customer frequently do not trust Internet banking to three reasons.

1. Security of the system
2. Reliability
3. Worries about the reliability (perceived risk) of Internet services
4. Responsiveness
5. Distrust of service providers.

From the customer perceptive the issue of trust can be caused by having the following must elements embedded within the true model (Chellapps, 2001).



Jones.S in his research pointed out that customers who adopt electronic financial services are more likely to perceive problems related to loss of privacy, as the Internet seemingly allows other people to access their information easily.

Jun. M Cal.S (2001) pointed out that security in the main dimensions in Internet banking service quality, Reputation is important as distrust of the service provider is a related factor.

Farhomand, (2002) indicated that some researchers have mentioned negative attitudes cause resistance to change and lack of management commitment reducing the company's resource allocation and motivation to use the technology

Objectives of the study

1. To study the recent developments in the Banking sector
2. To know the Impact of new technologies on employees and bank

Recent Developments in Banking Sector

1. Internet
2. Society for Worldwide Inter-bank
3. Automated Teller Machine (ATM):
4. Cash Dispensers:
5. Electronic Clearing Service
6. Bank net
7. Chip card
8. Phone banking
9. Tele banking
10. Internet banking

Operational Challenges

1. Frequent challenges in technologies used focusing up grades in hardware and
2. software, attending to that implementation issues and timely roll out.
3. Managing technology, security and business risks.
4. System re-engineering to enable. Defined and implemented efficient processes to be
5. Able to reap benefits off technology to its fullest potential.
6. Upgrading the skill of work force spread across the country.

Modern Technologies

Chat bots

In the present times the customers do not have the time and patience to wait for long hours and get their queries resolved. Instead, they demand quick response and effective resolution of their issues. Chabot has made this possible in banking organizations. Supported by Artificial Intelligence technology, chat bots are used by many finance companies to reduce costs and meet ever-changing expectations. Now, users no longer depend on traditional methods of two-way communication like email, phone, etc. Report by Gartner states that more than 85% of customer service interactions will be handled by chatbots in 2020.

Chatbot helps in encouraging conversational banking by providing an exceptional experience that can be personalized to meet exceeding customers' expectations. Brands like Bank of America, Capital One, etc. have been using bots for many years to resolve simple queries. However, today's advanced bots could offer financial tips, detect fraudulent activities, and even assist customers during registration. They can help in making smart conversations with millions of customers, just at a fraction of the cost that would have taken by using human customer agents. This technology not only helps the banking world to provide centralized financial management but also improve the way customers connect with their banks. The right Chatbot Development Company is all you need to get your own banking boot and replace human agents for better savings.



Big Data

With the impact of increasing amount of data generated every day by in banking sector, it is becoming difficult to extract actionable insights that can help in growing more opportunities. Big Data is the answer! This technology has undoubtedly put all the banking data i.e. debit/credit card transactions, ATM withdrawals, money transfer, etc. to make informed decisions and process it effectively to gain valuable information that is needed to stay competitive in the future. Big Data helps in making banks learn about their customers in a better way enabling them to make real-time business decisions through analysis of customer's purchase habits, sales management, etc. Other added benefits of big data are better marketing, product cross-selling, fraud detection, customer feedback analysis and many more. Additionally, it aids in identifying the latest market trends and streamlining internal processes to reduce risks.

Block chain Technology

It is known for creep to currency like Bit coin that helps in keeping track of transactions in a secure and verifiable way. Talking about security in banking institutions, block chain will surely disrupt banks by improving security, saving money and improving customer experience. As block chains are highly secure and easy to operate, it can be used for promoting transparency during payments & currency exchange in banking. block chain acts as a decentralized database and helps in protecting customers' personal and financial data by storing all the information about real-time payments & profile details on multiple block chain servers. This resolves issues like fraud detection and cyber attack prevention. The need for third parties will be removed in the loans and credit system using block chain making it more secure to borrow money and reduce interest rates.

Artificial Intelligence (AI)

Banks have benefitted enormously by adopting newer technologies like AI resulting in lower costs and more revenue through multiple channels. A report from Business Insider Intelligence says the average estimated cost savings for banks using AI is \$447 billion by 2023. Let's find out banks are using AI! It is mainly used to streamline customer experiences with robots and chat bots. One common example is using AI to facilitate mobile banking enabling customers to get 24/7 access for any banking operations.

Cyber Security

Banking is one such industry that deals with sensitive & personal information, which has made it an attractive target for cybercriminals. Though it is impossible to prevent all the cyber-attacks due to the diverse interactions with customers' money, security is essential and bank institutions must be ready with the plans to minimize the damage if any mishap occurs. Banks must share best practices and knowledge to help customers avoid the chances of cyber-attacks. Additionally, they should invest in technical measures like working with the government to prioritize cyber security, educating customers about their cyber security responsibilities, roles in keeping their data safe.

Robotic Process Automation (RPA)

Using RPA, the bank can use customer service bots to deal with low-priority questions from customers like account balance check, payment queries, etc. and save the time of human agents to deal with high-priority concerns. This will not only improve productivity but reduce labor/operational costs and the error rate. With instant resolution through RPA, users can make a quick decision for their credit card application without getting any human agents involved in the process. Though robotic innovations are still in the adolescent phase, banking organizations should be aware of all the benefits it offers to maintain long-term AI results. Leverage RPA technology to deliver the best possible customer experience in the banking world through robots and virtual assistants. Automate your repetitive tasks without human intervention and save costs efficiently.

Cloud Computing

Another latest trend of the banking industry is cloud computing that will make 24/7 customer service possible providing any time service to customers. This enhances the performance of financial institutions and scale-up



services more quickly. Customers will only pay for the services they need enabling banks to control costs. One can easily avail pay-as-you-go pricing by paying the cloud provider as per the usage, making it easy for individual customers or businesses to use the cloud. In the banking industry, cloud computing can promote safe online payments, digital money transfers, wallets, etc.

For the bank

During the last decade, banks applied Information Technology to a wide range of back and front office tasks in addition to a great number of new products. The major advantages for the bank to implement Information Technology are Availability of a wide range of inquiry facilities, assisting the bank in

1. Business development and follow-up, Immediate replies to customer queries without reference to ledger or any financial book.
2. Terminals are provided to Managers and Chief Managers. Automatic and prompt carrying out of standing instructions on due date and
3. Generation of reports. Generation of various MIS reports and periodical returns on due dates
4. Fast and up-to-date information transfer enabling speedier decisions, by
5. Interconnecting computerized branches and controlling offices.

For the Employees

IT has increased their productivity through the followings: Accurate computing of cumbersome and time-consuming jobs such as

1. Balancing and interest calculations on due dates. Automatic printing of covering schedules, deposit receipts, pass book / pass
2. Sheet, freeing the staff from performing these time-consuming jobs, and enabling them to give more attention to the needs of the customer. Signature retrieval facility, assisting in verification of transactions, sitting at
3. Their own terminal. Avoidance of duplication of entries due to existence of single-point data entry

Conclusion

With the introduction of new technologies, the face of the banking industry has changed tremendously over the years. Now, the banking process is much faster than before and more reliable. The customer relationship with banks has not only improved but the number of the customer base has also increased because of the benefits like anywhere banking. While banks deal with rising demands, increasing flexibility needs, new demographics, etc., technologies come into action to deliver efficient customer experiences. Chat bots is one of the most emerging trends that will impact the banking industry by saving costs and improving productivity. Get in touch with experts of artificial intelligence, Chabot solution providers to drive a tremendous shift in the banking world with these top trends in 2020 and beyond. Technology should be customer centric to derive optimal benefits and banks will have to equally focus on customer retention and increasing share of wallet rather than only acquisition. With increased use technology also comes increased risk of security breaches. Banks will have to develop with real time alert systems and governance policies to manage the threats for early detection and damage control. In addition banks will also need to focus on operational performance improvement including training, work flow automations and business process re-engineering to simplify process flows for increased return from technology. The future IT vision and strategy of banks will have to balance value delivered to the firm. It will need to be aligned to the strategic objectives of the firm and be accountable for the delivering valuable services to the customers.



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