

# Association of IT with Banking and Financial Services

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**Abstract** - The main aim of this paper to analyze the importance of technology in profit generation, Privacy and Confidentiality of data and major factors affecting banking and financial services. Over the last decade, there has been a major transformation on the technology front in the banking sector. There has been a sea change compared to the old days when carrying out a transaction as simple as cash withdrawal sometimes took hours. Remember, those were the days when automation had not touched Indian banks. Many companies in India have adopted this strategy and have managed to lower the interaction of the customer with the bank branches. For instance, 10 years ago, 90% of all transactions made by the customers of all banks were through the branches and 10% were through online. Now, after 10 years, the trend has exactly reversed.

**Key words** - Revenue Generation, Confidentiality of Data, Convergence

## I. INTRODUCTION

The Indian banking industry has a very large customer base but with a relatively smaller ticket size (transaction value) per customer. The ticket size in India is 1/10th of the global standard. Further, the ticket size in rural area of India is again 1/10th of the urban area. So for a bank, the physical infrastructure cost per transaction becomes very high. This poses a strong challenge for a bank. And this is where technology can help banking companies. Now, increasingly; visits to branches of banks especially in the metros and bigger towns are rare. With ATMs, internet banking and phone banking, banking has turned out to be more of an interface with a machine or in other words it has become faceless. Any evolution is a gradual process and keeps on changing with time. That's applicable to banking technology with banks now gearing up for the next level-- mobile banking.

Adoption of technology not only delights the customers in terms of convenience and satisfaction but also brings in certain other advantages-- scalability, reliability and low cost-- to the bank.

For instance, banks can carry out data analytics to gauge the customers requirements and thus offer customised products to a specific category of customers. "Banks can use technology as an enabler as well as a differentiator", said Ms Chanda Kochhar, Joint Managing Director of ICICI bank at the Forum.

For a country like India which has a legacy system, the cost of technology is much less compared to developed countries. According to one study, the cost of technology for Indian banks is only 1/5th of most European banks.

The banks in India are constantly innovating newer technology for the convenience of customers. First, it's ATM, then internet banking and now its biometric smart card with mobile banking to follow. The profile of Indian banking customers is much diversified. On the one hand, we have rich high net worth individuals (HNI) and on the other hand there are poor illiterate customers from rural and semi-urban areas. But probably the one thing common between them is the penetration of the mobile phones, at least to a certain extent, thanks to the telecom revolution in the country.

Many banks believe that the future growth for them is going to come from these two diametrically opposite customers.

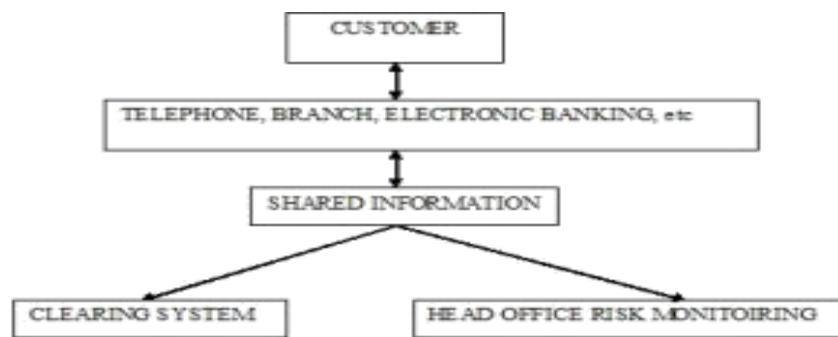


Fig 1 The New Relationship Oriented Bank

No technology is good or bad and any investment in it should be for improvement in business. The technology should be used to make better business decisions. It is very important for the senior management to decide which technology is working best for their organization. The top management obtains the feedback from different sources such as employees and customers among others. In fact, for effective use of the technology within a company, there should be continuous interaction between technology department and different business divisions. This will create more synergy and reduce the cost. Apart from this, technology can also be used for managing credit risk which has taken centre stage after the sub-prime crisis.

"The role of technology is different from what the older generation thought of. In addition to being critical for banks to perform functions faster and better, technology determines cost of operations and profitability of banks," the RBI governor said. The best bank award for excellence in banking technology category went to Punjab National Bank.

The award was received by PNB's CMD, SS Kohli, while Canara Bank's CMD, RV Shastri received special award in the same category. For Infonet usage and applications, Corporation Bank bagged the best bank award and the bank's CMD, Cherian Verghese received the award. The special award in the category was given to Andhra Bank and the bank's CMD B Vasanthan received the award.

The excellence awards are given in recognition and motivation for the banks that exploit technology to achieve their business goals.

## **II. 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

## **III. BANKING SPENDING ON TECHNOLOGY**

Indian banking and securities companies will spend 477 billion rupees on IT products and services in 2014, an increase of 12.7 percent over 2013 revenue of 423 billion rupees, according to research firm Gartner.

"Banks will continue to focus on expanding their branch network. There will be about 2,000 new branches in India by the end of this year," said Vittorio D'Orazio, research director at Gartner.

"This strategy – triggered by the need for expansion and for getting market share – is also underpinned by the new bank licenses released by the RBI. The modernization of the back-office, as well as the need to be compliant with international regulations, and increased challenges from new more demanding customers are other trends we see in these markets."

This forecast includes spending by financial institutions on internal IT services (including personnel), IT services, software, data center technologies, devices and telecom services.

IT services will be the largest segment in overall spending in the banking and securities market at 149 billion rupees in 2014, due to the continuous focus on the financial services sector by IT services providers. The IT services segment is forecast to increase at the third-fastest growth rate at 15.3 percent compared to 2013.

Internal services (that includes IT personnel) is projected to be the fastest growing segment at 21.6 percent in 2014, largely due to the expansion strategies of banks across the country, especially in rural areas, which require more personnel on the field.

Software is expected to be the second-fastest growing segment, with 19.2 percent growth in 2014. In the software segment, vertical specific software is the fastest sub-segment due to core banking system replacements and other back-office consolidation which will steer banks from internally developed software to external packages.

## **IV. REVIEW OF LITERATURE**

William J. Wilhelm, Jr.,Boston College\*(1999),The banker's network of personal relationships is perhaps the central element of the production technology of the 20th-century investment bank. In his classic history of Investment Banking in America (1970), Vincent Carosso argued that investor networks began to take shape in the 1870s as the evolution of the corporation increasingly required banks to distribute large blocks of securities.<sup>1</sup> More recently, in an article published in this journal, Charles Calomiris and Carlos Ramirez traced bank relationships with client firms to the rise of "financial capitalism" in the late 19th century. A distinguishing feature of this form of capitalism was the presence of powerful financiers on corporate boards, which provided companies with the "certification" necessary to raise capital from outside investors.<sup>2</sup> And, in their 1988 book on investment banking, Harvard professors Robert Eccles and Dwight Crane added to this general argument by showing how the banks' relationships with corporate clients have provided them with a constant flow of information that has shaped the design of products and services.<sup>3</sup>

Dr.K.Uthayasuryan, &Dr.S.Kesavan, (2012) Initiation of Information Technology and Communications networking system is set to change the operating environment of banks drastically. Technology has already enabled some of the banks to introduce innovative products to their customers in the form of ATM facility, Telebanking, Home Banking, 'Anytime' and 'Anywhere' banking, etc. Technology can also be harnessed in automating and networking the branches that will ensure timely flow of information and aid decision making process .The banks that can adopt and absorb the new technology faster will have a competitive edge over their rivals. The changes brought about by IT (Information Technology), new products, more sophisticated customers, changing cost structures, and enhanced competitive pressures have all combined to transform the structure of the banking industry. And with further development of new technologies, the industry will likely continue to evolve. Customers of banks have felt the positive impact of technological solutions implemented by banks. The customers of banks of today have a

virtual menu of options as far as delivery channels are concerned and all these are the benefits of technology. With the most visible benefits happening in the areas of payments for retail transactions, a variety of cards, Automated Teller Machines, Electronic based funds transfers, Internet banking, Mobile banking are all some of the latest technology based payment solutions, which have gained large acceptance amongst the Indian banking public. With technological solutions rapidly evolving, more new products and services may soon become the order of the day. Though infrastructure and communication advancements remain an area of concern, in the rural areas, standards are being formulated to make banking a secure and pleasant experience and banks have bridged the divide caused by distances by offering 'Anywhere and Anytime banking'.

Shirley J. Ho& Sushanta K. Mallick(2006)This paper develops and tests a model to examine the effects of information technology (IT) in the US banking industry. It is believed that IT can improve bank's performance in two ways: IT can reduce operational cost (cost effect), and facilitate transactions among customers within the same network (network effect). The empirical studies, however, have shown inconsistency on this hypothesis; some agree with the Solow Paradox, some are against. Since most empirical studies have adopted the production function approach, it is difficult to identify which effect has dominated,hence the reasons attributed have been the difference in econometric methodology and measurement. This paper attempts to explain the inconsistency by stressing the heterogeneity in banking services; in a differentiated model with network effects, we characterize the conditions to identify these two effects and the conditions for the two seemingly positive effects to turn negative in the equilibrium. The results are tested on a panel of 68 US banks over 20 years, and we find that the bank profits decline due to adoption and diffusion of IT investment, reflecting negative network effects in this industry.

Line Ricard, and Lise Préfontaine(2001),New information and communication technologies are constantly emerging, altering business methods, and particularly, the relationship an organization establishes with its customers. Therefore, it is essential to analyse the impact of these technologies on customer behaviour. The purpose of this study is to explore, in the banking sector, the impact of customers' use of self-service technologies on their interest in a relationship approach, and consequently in a long-term personalized relationship. A survey of 242 adult students reveals that there is no real impact of the use of self-service technologies on interest in a relationship approach. Respondents who use these technologies extensively do not place more or less importance on their relationship with a given bank.

## V. TRENDS AFFECTING THE BANKING AND FINANCIAL SERVICES

Technology has been instrumental in changing the way the Banking and Financial sector functions and CIOs in this sector must address the challenges associated with cost, efficiencies and process to ensure these interactions are effective and profitable, and enhance digital interactions. Regulatory and compliance requirements associated with most parts of the work means that such institutions not only have to manage vast amounts of data on a regular basis, but they also have to ensure that they put this data to the best use. The convergence of mobile, social, cloud and information has the potential to transform the way such firms enhance customer experience. Time and again organizations in the sector have seen considerable benefits from deploying technology to their advantage in an innovative manner. For instance, Bajaj Capital, an investment services company, was experiencing rapid growth in the volume of financial data being generated. The company wanted a storage solution that could provide long-term scalability and meet unpredictable storage requirements. In order to resolve this, the company deployed a virtualized storage solution for its financial services and applications. This enabled Bajaj Capital to achieve a four-fold improvement in processing speed that could scale electively, improve processing performance and ensure regulatory compliance. In light of this, here are the top technologies trends affecting the financial services sector are:

1. **Mobile and Virtual Banking:** The mobile phone in its ubiquity has played an important role in shaping the customer of today, especially when it comes to the Financial Services sector. Rising customer expectations and newer technologies are constantly advancing mobile banking. Additionally, the rising popularity of wearable technologies like Google Glass and smartwatches is likely to give a whole new meaning to managing finances online. Mobile banking has also become such a common part of our life and this is evident through the evolving mobile banking and marketing strategies for delivering services and communicating value to their customers. The concept of Virtual Banking is also gradually gaining popularity. As majorities of banking customers today have moved to mobile and online mediums, banks are realizing that running a physical branch, which would include real estate costs, human resource costs and operational expenses, may not justify investment in branch network expansion. Virtual banking solutions on the other hand – for example virtual ATM machines that let customers use video conference with a remote teller in addition to regular functionality, video kiosks with interactive touch screens etc. are better investments and are in the long-term easier on the pocket. Such solutions will offer most of the services that are today being offered in branch locations as customers are able to virtually interact with customers virtual tellers, virtual customer service reps, loan consultants, etc.
2. **Newer modes of payment ;**Banks today are changing and reinventing payment architecture models in order to drive a greater deal of revenue while at the same time establishing a competitive differentiation from other banks at controlled costs. Another additional factor that banks need to consider is the improvement of risk and liquidity management through their payment models. The consumer is simultaneously changing in that commercial customers' business processed are becoming less visible to banks, while customers have a better view of their financial choices via new competitors and interfaces. As a result of this there is likely to be a growth in P2P payments, money transfers, new bill payment capabilities, and virtual currency. Additionally, key non-banking service providers are attempting to accelerate their offering to differentiate themselves from others in the marketplace through disruption.
3. **Social Business:** Social collaboration solutions are today putting power in the hands of business users. Financial services organizations need to have the strategy, processes and tools in place to effectively manage the content generated on the internet, captured and stored through electronic documentation or used for internal communication.

4. **Use of Advanced Analytics to drive customer experience and business;** the age of information has resulted in greater expectation from customers from their online business. Customers want better service, options, prices and delivery of products or services. Technology gives such customers the opportunity to research information, compare products and engage on social media. With Big Data, banks have an opportunity to impact the success of their marketing efforts to both new and existing customers. The best way to successfully utilize this data involves transforming it into truly actionable insights by layering in analytics and combining it with other sources of data. Some of the additional capabilities that companies in the Financial Services are using advanced analytics for are: (i) Segmentation: The key to successfully utilizing social data lies in transforming it into truly actionable insights by layering in analytics and combining it with other sources of data. This involves taking advantage of data in order to determine which customer is likely to buy which product. (ii) Understanding Customer Preferences and Pain Points Online data with the help of analytics can also be used to find out customer preferences and pain points. This forms a ready pool of research based on which future products/ solutions/ services can be tailored.
5. **Convergence;** Banking and Financial institutions are looking towards converged infrastructure, which combines storage, networking and compute in one unit thereby reducing the complexities associated with heterogeneity within their environments. Convergence reduces costs and increases efficiency in a data center. Convergence also reduces the cost of running applications, foster faster infrastructure deployments, simplicity and speed of management and improved time to value for application and cloud deployments. Organizations can choose from physical converged infrastructure offerings – where server, storage, networking and management are included in the same chassis – or a software-based management layer that aggregates customers' heterogeneous infrastructure investments into a virtual converged infrastructure.

## VI. CONCLUSION

IT development has certainly brought-in vast benefits to banks, particularly in terms of efficiency increases, cost reduction through labour saving and increased profitability. As a result, IT development in banks has become more product centric and retail and wholesale IT products have positively influenced productivity and profitability. IT use has increased outputs and reduced costs as both IT capital investments and IT human resources have a constructive relationship to productivity. Banks should stay ahead of the game and sustain growth by taking bold decisions to survive and beat competition. The time has come to move towards a customer-centric approach, as customers should be given an opportunity to enjoy their share of benefits stemming from IT development. This would increase banks' competitiveness through differentiation and customer service improvement, reduced transaction costs, better risk avoidance, and maintaining a stable customer base and market share.

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