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TECHNOLOGICAL INNOVATIONS IN INDIAN BANKING SECTOR: AN INSTRUMENT FOR ECONOMIC GROWTH

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LUCKNOW

ABSTRACT

Over the last three decades the role of banking in the process of financial intermediation has been undergoing a profound transformation, owing to changes the global financial system. Technological innovation is one of the most important catalysts for the transformation of the banking industry in terms of its transactions processing as well as for various other internal systems and processes. In the context of Indian banking system, it touches the lives of millions of people and it is growing at a fast pace. In India, banking industry is facing number of challenges like business strategies, changing needs and perceptions of customers, new regulations from time to time and great advances in technologies. The pressure of meeting these challenges have required banks to change the traditional method of doing business. The various innovations in banking and financial sector are ATM, Debit and Credit cards, ECS, EFT, NEFT, RTGS, POS, Retail banking, net banking, mobile banking and many more value added products and services. This paper studies about financial innovation in banking in India. It also highlights the benefits and challenges of innovative banking trends. Banks boost technology investment spending strongly to address revenue, cost and competitiveness concerns. The purpose of present study is to analyze such effects of innovation in banking on growth and development of India.

KEYWORDS

Indian banking, financial innovations, technological changes, mobile banking, ATM, debit & credit cards.

1.0 INTRODUCTION

Globally, there has been a rapid advancement in Information and Communication Technology (ICT), which has reflected in bank's business strategies, customer services and organisational structures, among others. The banking industry in India has a huge canvas of history, which covers the traditional banking practices from the time of Britishers to the reforms period, nationalization to privatization of banks and now increasing numbers of foreign banks in India. Indian banking sector has witnessed a number of changes. It has undergone a huge transformation in the years since Independence. Over the years, the Reserve Bank of India has laid special emphasis on technology infusion in the day to day operations of banks. The role of technological innovations in banking sector enabling to meet the challenge of economic growth and ensuring financial stability that is now at the forefront. Effective use of technology has a multiplier effect on growth and development. Technology enables increased penetration of the banking system, increases cost effectiveness and makes small value transactions viable. Technology, apart from increasing the efficiency of banking services, is expected to boost the ongoing process of financial inclusion emphasized by the Reserve Bank.

To be more specific for commercial banking business, it has changed dramatically over the past 25 years, due in large part to technological changes. Advances in telecommunications, information technology, financial theory and practice have jointly transformed many of the relationship focused intermediaries of yesteryear into data-intensive risk management operations of today. Consistent with this, commercial banks embedded as part of global financial institutions that engage in a wide variety of financial activities. Technological changes relating to telecommunications and data processing have encouraged financial innovations that have altered bank products and services and production processes. The various innovations in banking and financial sector are ECS, RTGS, EFT, NEFT, ATM, POS, Retail Banking, Debit & Credit cards, free advisory services, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travel cheques and many more value added services.

2.0 TECHNOLOGICAL DEVELOPMENT IN INDIAN BANKING

Innovative use of information and communications technologies improves the front end operations with back end operations and helps in bringing down the transaction costs for the customers. The important events in the field of information technology in the banking sector in India are:

TABLE 2.1: VARIOUS TECHNOLOGICAL INNOVATIONS IN BANKING SECTOR

Sr. No.	Technological Innovations	Introducing year
1	Arrival of card-based payments – Debit/Credit card in late	1980s and 1990s
2	Introduction of Electronic Clearing Services (ECS) in late	1990
3	Introduction of Electronic Fund transfer (EFT) in early	2000
4	Introduction of Real Time Gross Settlement (RTGS)	March 2004
5	Introduction of National Electronic Fund Transfer (NEFT) as a replacement to Electronic Fund Transfer	2005-2006
6	Cheque Truncation System (CTS)	2007
7	Mobile banking system	2008

Source: Various issues of RBI

3.0 THE ROLE OF FINANCE AND FINANCIAL INNOVATION IN BANKING SECTOR

The primary function of a financial system is to facilitate the allocation and deployment of economic resources, both spatially and across time, in an uncertain environment. This function encompasses a payments system with a medium of exchange; the transfer of resources from savers to borrowers; the gathering of savings for pure time transformation and the reduction of risk through insurance and diversification.

Hence, a Financial Innovation as something new that reduces costs reduces risks or provides an improved product/service/instrument that better satisfies financial system participants demands. Financial innovations can be grouped as new products (e.g., subprime mortgage) or services (e.g., Internet banking) or new organisational forms (e.g., Internet-only banks).

The Centrality of finance in an economy and its importance for economic growth naturally raises the importance of financial innovation – and its diffusion. Since finance is a facilitator of virtually all production activity and much consumption activity, improvements in the financial sector will have direct positive ramifications throughout an economy. Further, since better finance can encourage more saving and investment and can also encourage more productive investment decisions, these indirect positive effects from financial innovation and further to its value for an economy.

The general innovation literature in economics has sought to uncover the environmental conditions that affect the stream of innovations-focusing on hypotheses concerning roughly five structural conditions: **the market power of enterprises, the size of enterprises, technological opportunity, appropriability and product market demand conditions.**

Financial innovation is one of the commonly used banking terminologies. It has been used to describe any change in the scale, scope and delivery of financial services. Financial innovation is a key to survival of banks in contemporary banking environment. The importance of financial innovation is widely recognized. Many leading scholars, including Miller (1986) and Merton (1992), have highlighted the importance of products and services in the financial arena. According to John Finnerty, "Financial Innovation involves the design, the development, and the implementation of innovative financial instruments and processes, and the formulation of creative solutions to problems in finance". Innovative ideas are manifest in diverse industries and in different forms. For example, innovation in product development is one of the forms of innovation that has been used by banks. Right from the beginning stage of financial modernization innovations have been playing major roles in curtailing financial exclusions and improving the ways banking services are rendered to people. The deregulation of financial service industry and increased competition with in investment banking undoubtedly led to increased emphasis on the ability to design new products, develop better process, and implement more effective solution for increasingly complex financial problems. These financial innovations are a result of number of Government regulations, tax policies, globalization, liberalization, privatization, integration with the international financial market and increasing risk in the domestic financial market. Financial innovation is the process through which finance managers or intermediary institutions in financial markets add value to existing plain vanilla products that satisfy the user needs. The various innovations in banking and financial sector are ECS, RTGS, EFT, NEFT, ATM, POS, Retail Banking, Debit & Credit cards, free advisory services, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travel cheques and many more value added services.

The banks are looking for new ways not only to attract but also to retain the customers and gain competitive advantage over their competitors. The banks like other business organizations are deploying innovative sales techniques and advanced marketing tools to gain supremacy. The main driver of this change is changing customer needs and expectations. Customers in urban India no longer want to wait in long queues and spend hours in banking transactions. This change in customer attitude has gone hand in hand with the development of ATMs, Mobile phone and net banking along with availability of service right at the customer's doorstep. With the emergence of universal banking, banks aim to provide all banking product and service offering less than one roof and their endeavor is to be customer centric. While banks are striving to strengthen customer relationship and move towards 'relationship banking,' customers are increasingly moving away from the confines of traditional branch banking and seeking the convenience of remote electronic banking. Information technology and the communications networking systems have revolutionaries the working of banks and financial entities all over the world.

4.0 REVIEW OF LITERATURE

In order to be able to understand the research and establish its objectives, it is necessary to have good look at past and contemporary research on the topic. The following literatures are related to research topic.

Arora (2003) highlighted the significance of bank transformation. Technology has a definitive role in facilitating transactions in the banking sector and the impact of technology implementation has resulted in the introduction of new products and services by various banks in India.

Avasthi & Sharma (2000-01) have analyzed in their study that advances in technology are set to change the face of banking business. Technology has transformed the delivery channels by banks in retail banking. It has also impacted the markets of banks. The study also explored the challenges that banking industry and its regulator face.

B. Janki (2002) analyzed that how technology is affecting the employees' productivity. There is no doubt, in India particularly public sector banks will need to use technology to improve operating efficiency and customer services. The focus on technology will increase like never before to add value to customer services, develop new products, strengthen risk management etc. the study concludes that technology is the only tool to achieve their goals.

Hua G. (2009) investigates the online banking acceptance in China by conducting an experiment to investigate how users' perception about online banking is affected by the perceived ease of use of website and the privacy policy provided by the online banking website.

Jalan, B. (2003), IT revolution has brought about a fundamental transformation in banking industry. Perhaps no other sector has been affected by advances in technology as much as banking and finance. It has the most important factor for dealing with the intensifying competition and the rapid proliferation of financial innovations.

Merton and Bodie (2005), Financial innovation is helpful in ensuring smooth functioning and improves the overall efficiency of the system by minimizing cost and reducing risk. More generally, financial innovation has been a central force driving the financial system toward greater economic efficiency.

Mittal, R.K. and Dhingra, S. (2007) studied the role of technology in banking sector. They analyzed investment scenario in technology in Indian banks but this study was related to the time period before the Information Technology Act and at that time technology in Indian banks was very low. But both the researchers nicely presented their views.

Padhy, K.C. (2007) studied the impact of technology development in the banking system and he also highlights the future of banking sector. The core competencies will provide comparative advantages.

From the above reviews it is observed that the banking industries itself adopted various innovative schemes for furtherance of their business and to attract more and more customers. These has resulted their sustainability and keep their brand image even in the competitive environment. Further, technology is one of the important segments where maximum stresses are provided for dissemination of innovative ideas and it is observed that major innovation took place in this field in recent years.

5.0 OBJECTIVE OF THE STUDY

The major objective of the study is to analyses the various innovative instruments introduced by banks in recent times. The specific objectives of the study are:

- To analyses the ATM, Debit & Credit cards, NEFT, RTGS and Mobile banking progress in the banking sector
- To analyses the banking innovations after computerization of commercial banks of India.
- To study how innovations have contributed to the development of Indian banking.
- To study the challenges faced by Indian banks in the changing scenario.

6.0 RESEARCH METHODOLOGY

RESEARCH DESIGN: Exploratory and empirical research design based on secondary data

SOURCE OF DATA: The present study is based on the secondary data collected from different journals, magazines, sites and published data from various issues of RBI e.g. Annual reports of RBI, Reports on Trends and Progress of Banking in India.

TOOLS OF ANALYSIS: The Data collected for the study was analyzed logical and meaningfully to arrive at meaningful conclusion. The data is analyzed by calculating simple averages and percentages.

PERIOD OF STUDY: Data for a period of 2015-16

7.0 ANALYSIS AND FINDINGS

7.1 GROWTH OF ATM'S IN INDIA

An automated teller machine (ATM) is a computerized telecommunications device that provides banking services ANY TIME and ANYWHERE to the customer. The customer is saved the risk or bother of carrying hard cash or travelers' cheque while travelling. It has also given cost savings to banks. Entry of ATMs has changed the profile of front offices in bank branches. Customers no longer need to visit bank branches and other places for their day to day banking transactions like cash deposits, withdrawals, cheque collection, balance enquiry, train tickets reservations, products from shopping mall, donations and charities, adding prepaid or postpaid mobile phone transactions, purchasing online products, paying bills, fees and taxes, pos etc.

TABLE 7.1: ATMs OF SCHEDULED COMMERCIAL BANKS

Sr. No.	Bank group	On site ATMs	Off site ATMs	Total number of ATMs	Off site ATMs as % of total ATMs
1	2	3	4	5	6
I	**Public sector banks**	**80399**	**62060**	**142459**	**43.56**
1.1	Nationalised banks	53629	30142	83771	35.98
1.2	SBI Group	26770	31918	58688	43.56
II	**Private sector banks**	**20724**	**33708**	**54432**	**61.93**
2.1	Old private sector banks	5251	4821	10072	47.87
2.2	New private sector banks	15473	28887	44360	65.12
III	**Foreign banks**	**261**	**799**	**1060**	**75.38**
IV	**All SCBs (I+II+III)**	**101384**	**96567**	**197951**	**48.28**

Source: Bank wise ATM/POS/CARD Statistics, March 2016, RBI

As same as the previous years, the penetration of ATMs across the country is again increasing in 2015-16. In 2015-16 the number of ATMs witnessed a growth of approximately 20 percent to the previous year. It is not an exaggeration to said that across the country, this growth will cross the level of 2,00,000 ATMs in next year. All Over the year, the relative growth in on-site ATMs has been much more than of off-site ATMs. Approximately 70% percent of the total ATMs belonged to the public sector banks as at end March 2016 as shown in Table 7.1.

7.2 DEBIT CARD AND CREDIT CARD

Plastic money is the alternative of cash or standard money. Its simple feature of convenient to carry helps the bank clients to access their account to withdraw cash or pay for goods and services anytime and anywhere. The various plastic money or cards include ATM cards e.g. Debit Card, ATM cum Debit Card, Credit Card. Plastic money was a delicious gift to Indian market. Now several new features added to plastic money to make it more attractive. In this next step credit card is given the various facilities to their users. Customers can borrow money for purchasing the products and services on credit.

TABLE 7.2: CREDIT AND DEBIT CARDS ISSUED BY SCHEDULED COMMERCIAL BANKS (in millions)

Sr. No.	Bank group	Outstanding Number of Credit Cards		Outstanding Number of Debit Cards	
		2015	**2016**	**2015**	**2016**
1	2	3	4	5	6
I	**Public sector banks**	**4308449**	**5048354**	**459626728**	**548501376**
1.1	Nationalised banks	1150417	1428312	253699883	306723370
1.2	SBI Group	3158032	3620042	205926845	241778006
II	**Private sector banks**	**12075440**	**14731014**	**90787177**	**102569319**
2.1	Old private sector banks	162003	209965	22526510	23908563
2.2	New private sector banks	11913437	14521049	68260667	78660756
III	**Foreign banks**	**4726764**	**4725851**	**3037648**	**3043526**
IV	**All SCBs (I+II+III)**	**21110653**	**24505219**	**553451553**	**654114221**

Source: Bank wise ATM/POS/CARD Statistics, March 2016, RBI

Note: Computed by author

There has been growth in issuance of debit and credit cards by public and private sector banks. However, a Debit card is much higher as compared to credit cards and they remain a preferred mode of transactions in India. While public sector banks have been frontrunners in issuing debit cards, new private sector banks continue to lead in the number of credit cards issued (Table7.2).

7.3 NEFT (NATIONAL ELECTRONIC FUNDS TRANSFER)

Gone are those days when depositing amount in a friend, relatives or others account would take a few business days. World is moving faster and now there are various methods for fund transfer to another account within nix time. According to Reserve Bank of India, NEFT is a nation-wide payment system to facilitate one-to-one funds transfer. Under NEFT, individuals, firms and corporate can electronically transfer their funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the scheme. The funds under NEFT can be transferred by individuals, firms or corporate maintaining accounts with a bank branch. Even individuals not having a bank account can deposit cash at the NEFT-enabled branches with instructions to transfer funds using NEFT. However, such cash remittances will be restricted to a maximum of Rs. 50,000/- per transaction. Such walk-in-customers have to furnish full details including complete address, telephone number etc. NEFT, thus, also help in transfer of funds even without having a bank account. This is a simple, secure, safe, fastest and cost effective way to transfer funds especially for Retail remittances.

TABLE 7.3.1: NEFT BY SCHEDULED COMMERCIAL BANKS (Amount in Rs. millions)

Sr. No.	Bank group	TOTAL OUTWARDS DEBITS			
		2015		**2016**	
		No. of Transactions	**Amount**	**No. of Transactions**	**Amount**
1	2	3	4	5	6
I	**Public sector banks**	**57362752**	**2969292.87**	**59866187**	**4105223.86**
1.1	Nationalised banks	23397072	1294425.01	26348622	1986997.76
1.2	SBI Group	33965680	1674867.86	33517565	2118226.10
II	**Private sector banks**	**36141523**	**2437423.71**	**50192033**	**3594872.95**
2.1	Old private sector banks	4078584	256787.45	4784442	317989.40
2.2	New private sector banks	32062939	2180636.26	45407591	3276883.55
III	**Foreign banks**	**11605703**	**1404018.01**	**14357901**	**1833517.34**
IV	**All SCBs (I+II+III)**	**105109978**	**6810734.59**	**124416121**	**9533614.15**

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

TABLE 7.3.2: NEFT BY SCHEDULED COMMERCIAL BANKS (Amount in Rs. millions)

Sr. No.	Bank group	RECEIVED INWARD CREDITS			
		2015		2016	
		No. of Transactions	Amount	No. of Transactions	Amount
1	2	3	4	5	6
I	**Public sector banks**	**74835617**	**3538131.40**	**89990261**	**5155302.74**
1.1	Nationalised banks	52773048	2448059.68	60777124	3416013.87
1.2	SBI Group	22062569	1090071.72	29213137	1739288.87
II	**Private sector banks**	**25179809**	**2497392.84**	**31668368**	**3554414.44**
2.1	Old private sector banks	4100478	272866.85	4961859	403782.23
2.2	New private sector banks	21079331	2224525.99	26706509	3150632.21
III	**Foreign banks**	**3316065**	**974100.34**	**4127832**	**1278438.34**
IV	**All SCBs (I+II+III)**	**103331491**	**7009624.58**	**125786461**	**9988155.52**

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

Note: Computed by author

On the basis of table 7.3.1 and 7.3.2, it can be see that the penetration of NEFT is increasing day by day across the country. The customers of bank are enjoying this simple, secure, safe, fastest and cost effective fund transfers. As compare to year 2015, number of inward and outward transactions has increased in 2016. As the same comparison from 2015, the number of transactions of outward and inward witnessed a growth of 18 and 21 percent approximately. In all SCBs, the percentage of public sector banks is performing much better than to other banks. With the oldest and wide networking of public sector banks, customers are showing more trust on it and take interest for using their fund transfer system as compare to private sector banks and foreign banks.

7.4 RTGS (REAL TIME GROSS SETTLEMENT SYSTEM)

RTGS, introduced in India since March 2004, is a system through which electronics instructions can be given by banks to transfer funds from their account to the account of another bank. The RTGS system is maintained and operated by the RBI and provides a means of efficient and faster funds transfer among banks facilitating their financial operations. As the name suggests, funds transfer between banks takes place on a 'Real Time' basis. Therefore, money can reach the beneficiary instantly and the beneficiary's bank has the responsibility to credit the beneficiary's account within two hours.

There has been a sustained growth of RTGS in 2016. In terms of both volume and value of all types of electronic transactions of scheduled commercial banks has increasing gradually. The transactions which are more than 2,00,000 lakhs rupees' people are using this safe, secure and fastest system. On the basis of table 7.4.1 and 7.4.2, it can be see that the volume of private sector banks and foreign banks is less than public sector banks but their value is more than public sector banks. It means the transactions which are above two lakh bank customers are showing more trust on these two sectors bank.

TABLE 7.4.1: RTGS (BANK WISE RTGS INWARD) BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	Bank wise RTGS inward							
		2015				2016			
		Volume	%	Value	%	Volume	%	Value	%
1	2	3	4	5	6	7	8	9	10
I	**Public sector banks**	**4910474**	**50.77**	**29325.01**	**50.77**	**4933263**	**50.01**	**31982.07**	**31.97**
1.1	Nationalised banks	3163296	32.70	19443.64	32.70	3184469	32.28	20715.52	20.71
1.2	SBI Group	1747178	18.06	9881.37	18.06	1748794	17.73	11266.55	11.26
II	**Private sector banks**	**3694316**	**38.19**	**32453.50**	**38.19**	**3855320**	**39.08**	**38610.49**	**38.59**
2.1	Old private sector banks	593888	6.14	2096.99	6.14	603933	6.12	2310.48	2.31
2.2	New private sector banks	3100428	32.05	30356.50	32.05	3251387	32.96	36300.01	36.28
III	**Foreign banks**	**860708**	**8.90**	**18232.66**	**8.90**	**830143**	**8.42**	**19109.88**	**19.10**
IV	**All SCBs (I+II+III)**	**9465498**	**97.86**	**80011.16**	**97.86**	**9618726**	**97.51**	**89702.45**	**89.66**

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

TABLE 7.4.2: RTGS (BANK WISE RTGS OUTWARD) BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	Bank wise RTGS outward							
		2015				2016			
		Volume	%	Value	%	Volume	%	Value	%
1	2	3	4	5	6	7	8	9	10
I	**Public sector banks**	**5294842**	**54.74**	**29652.66**	**54.74**	**5265806**	**53.38**	**33010.63**	**33.00**
1.1	Nationalised banks	3722778	38.49	20149.52	38.49	3717852	37.69	21055.60	21.05
1.2	SBI Group	1572064	16.25	9503.14	16.25	1547954	15.69	11955.03	11.95
II	**Private sector banks**	**3660583**	**37.84**	**33292.35**	**37.84**	**3841837**	**38.95**	**39827.16**	**39.81**
2.1	Old private sector banks	729738	7.54	2172.31	7.54	744080	7.54	2442.04	2.44
2.2	New private sector banks	2930845	30.30	31120.04	30.30	3097757	31.40	37385.11	37.37
III	**Foreign banks**	**444862**	**4.60**	**18545.84**	**4.60**	**434754**	**4.41**	**19249.88**	**19.24**
IV	**All SCBs (I+II+III)**	**9400287**	**97.18**	**81490.85**	**97.18**	**9542397**	**96.74**	**92087.67**	**92.05**

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

Note: Computed by author

7.5 MOBILE BANKING

Mobile phones as a medium for providing banking services have been attaining increased importance. Reserve Bank brought out a set of operating guideline on mobile banking for banks in October 2008, according to which only banks which are licensed and supervised in India and have a physical presence in India are permitted to offer mobile banking after obtaining necessary permission from Reserve Bank. The guidelines focus on systems for security and inter-bank transfer arrangements through Reserve Bank's authorized systems. On the technology front the objective is to enable the development of inter-operable standards so as to facilitate funds transfer from one account to any other account in the same or any other bank on a real time basis irrespective of the mobile network, a customer has subscribed to.

TABLE 7.5.1: BANK-WISE MOBILE BANKING TRANSACTIONS BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	2015		2016	
		Volume	Value	Volume	Value
1	2	3	4	5	6
I	**Public sector banks**	**9504405**	**44379077**	**19058807**	**164056436**
1.1	Nationalised banks	1058355	27568486	3591157	19580385
1.2	SBI Group	8446050	16810591	15467650	144476051
II	**Private sector banks**	**9747894**	**119912000**	**23025128**	**292431868**
2.1	Old private sector banks	376385	1429016	776344	3840962
2.2	New private sector banks	9371509	118482985	22248784	288590906
III	**Foreign banks**	**446612**	**4610495**	**611129**	**7913341**
IV	**All SCBs (I+II+III)**	**19698911**	**168901572**	**42695064**	**464401645**

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Jan 2016, RBI

Note: Computed by author

Mobile users have found convenience in the use of mobile phone to transfer money. There is a remarkable increasing trend in this electronic payment. The value of mobile transactions jumped more than two times in just one year and the total value of money transferred through mobile phones surged to Rs 46,44,01,645 crores in 2015-16 from Rs 16,89,01,572 crores in 2014-15. In all scheduled commercial banks the percentage of private sector banks are performing much better than to other banks. They are transferring more money through mobile phones than ever before.

8.0 CHALLENGES AHEAD FOR BANKING SECTOR

Banking industry in India has also achieved a new height with the changing times. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labor intensive methods with automated processes thus leading to higher productivity and profitability. Financial innovation associated with technological change totally changed the banking philosophy and that is further tuned by the competition in the banking industry. Challenging business environment within the banking system create more innovation in the fields of product, process and market.

India is a country with huge population and the demographic growth of India is such that it is going to become the most populated country very soon. Technological advancements can bring about close integration between the urban and rural population. The primary challenge is to give consistent service to customers irrespective of the kind of customer whether rural or urban. Retention of customers is going to be a major challenge. Banks need to emphasis on retaining customers and increasing market share. Even with ATM machines and Internet Banking, many consumers still prefer the personal touch of their neighborhood branch bank. Technology has made it possible to deliver services throughout the branch bank network, providing instant updates to checking accounts and rapid movement of money for stock transfers. However, this dependency on the network has brought IT department's additional responsibilities and challenges in managing, maintaining and optimizing the performance of retail banking networks. Illustratively, ensuring that all bank products and services are available, at all times, and across the entire organization is essential for today's retails banks to generate revenues and remain competitive. Besides, there are network management challenges, whereby keeping these complex, distributed networks and applications operating properly in support of business objectives becomes essential. Specific challenges include ensuring that account transaction applications run efficiently between the branch offices and data centers. Banks in India will now have to work towards a vision to have an enhanced retail delivery system. Such a system would include transformed branches, enhanced telephone services, and leading-edge internet banking functions that provide a consistently positive multi-channel experience for the customer. Some of the challenges that the banks are facing today are:

- Competition from Multi-National Companies
- Coping with regulatory reforms
- Diminishing customer loyalty
- Intense competition between banks
- Keeping pace with technology up-gradations
- Maintaining high quality assets
- Managing diversified needs of customers
- Problem of Non-Performing Assets (NPA) and interest rate environment

The banking industry is changing at a phenomenal speed. While at the one end, we have millions of savers and investors who still do not use a bank, another segment continues to bank with a physical branch and at the other end of the spectrum, the customers are becoming familiar with ATMs, e-banking, and cashless economy. This shows the immense potential for market. Banks are setting up alternative delivery channels to contain operating costs like off-site ATMs, internet banking, telebanking, outsourcing, centralized transaction processing, etc.

No doubt, the benefits of technology have brought a sea-change in the outlook of modern banking. Now the goal of banking is not just to satisfy but to engage with customers and enrich their experience and for the successful achievement of this goal, the only sustainable competitive advantage is to give the customer an optimum blend of technology and traditional service. With technology occupying a pivotal role in delivery of banking services, the expectations of the consumer have also been growing. Broadly, these expectations are swift service with minimal response time, efficient service delivery, tailor-made and value-added products to suit specific needs, hassle-free procedures and minimum transaction costs, and pleasant and personalized service.

9.0 CONCLUSION

India is one of the top ten economies in the world, where the banking sector has tremendous potential to grow. The number of ATMs has doubled over the past few years, with approximately 2,00,000 in the country at present. Also, the scope for mobile and internet banking is big. At the start of 2013, only 2 percent of banking payments went through the electronic system in the country. Today, mobility and customer convenience are viewed as the primary factors of growth and banks are continuously exploring new technology, with terms such as mobile solutions and cloud computing being used with greater regularity. 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. 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. Due care will have to be made while embracing technology and transforming traditional touch points to electronic ones, so that human touch with customers is also not lost. In the end, it can be rightly said that productivity and efficiency will be the watch words in the banking industry in the years ahead. Strategizing organizational effectiveness and operational efficiency will govern the survival and growth of profits; besides bringing changes in the mindset of the employees, which is imperative with the changing times.

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