



INNOVATIVE PRACTICES UNDERTAKEN IN BANKING INDUSTRY FOR SUSTAINABLE BANKING: FROM INDIA'S PERSPECTIVE

Dr. Kamini Rai* Ms. Sweety Gupta**

**Associate Professor, Rukmini Devi Institute of Advanced Studies, 2A & 2B, Phase-1, MadhubanChowk, Outer Ring Road, Rohini, Delhi.*

***Assistant Professor, Rukmini Devi Institute of Advanced Studies, 2A & 2B, Phase-1, MadhubanChowk, Outer Ring Road, Rohini, Delhi.*

Abstract

Banking sector has become an emerging sector in India by providing number of facilities to the people. In This era of 21st century banking sector is facing great challenges like changing customer needs and perceptions, new regulations from time to time and technological changes. All these challenges demand innovative approach to be adopted by the banking industry to survive and sustain in the market. Innovation fosters an organization to grow, prosper & transform in synchronization with the changes in the environment, both internal & external. Banking is no exception to this. The paper is conceptual in nature and data has been collected through various secondary sources. The paper concluded that banks in India are moving towards sustainability through innovative service operations and offerings.

Keywords: Banking Sector, Innovative Banking, Technological Changes, Sustainable Banking, Service Innovative Models.

Introduction

Banks are main participant of financial system in India. A bank is a financial institution that provides banking and other financial services to their customers. They offer several facilities and opportunities to their customers. Indian banking sector is passing through a period of rapid change. Indian banks have begun to revise their growth approach and re-evaluate the prospects on the hand to keep the economy rolling. "Powerful forces are reshaping the banking industry. Customer expectations, technological capabilities, regulatory requirements, demographics and economics are together creating an imperative to change. Banks need to get ahead of these challenges and retool to win in the next era. Banks must not only execute on today's imperatives, but also radically innovate and transform themselves for the future. To succeed in this rapidly changing landscape, banks need to have a clear sense of the posture they wish to adopt – whether to shape the industry, rapidly follow the leaders, or manage defensively, putting off change. (PwC. 2014, report)^[1]. Innovation in financial services, as in other industries, is a source of economic growth and improved living standards over the long run. In the face of social and technological change, innovation allows the financial industry to consistently meet society's evolving needs. Inderjeet Singh and Minaxi Bansal^[2] in their paper explain that "organization related innovations are related to business process re-engineering, business re-structuring, enterprise resource planning and development etc. In case of banking, process innovation has come in the form of IT; product innovation has come in the form of financial innovation; and organizational innovation has come in the form of restructuring, re-engineering and right-sizing of work force." Banks today, including public sector banks are aggressively adopting the latest technology in order to improve product offering, customer service, operational efficiency and risk management system. This is not only source of competitive advantage but is increasingly become a necessity for the banks. Now banks are providing much facility on upliftment of lifestyle of not only urban side of country but also rural side. A decade ago, customers would have been happy to bank with those who provided just a fixed deposit, a recurring deposit, saving account and a credit card. Today, there is a need to spread the wealth around, diversify the savings into shares, fixed deposits, mutual funds, pension products and insurance. As the expectation of customers regarding services are increasing and the choice before them is far wider both in selection of banks as well as products, it has become essential for banks to be more innovative for survival, growth and maintain sustainability. In this paper an attempt has been made to review various innovative practices in terms of services adopted by major Indian banks to face the challenges and to achieve sustainability. This paper also highlights the challenges faced by Indian banks for sustainable banking. Two models of innovation Six Dimensional Service



Innovation Model by Pim den Hertog et al., (2010)^[3] and 4P's of Innovation model by Bessant and Tidd (2007)^[4] have used in the study. This is beyond the scope of this paper to identify where banks might be failing to achieve their sustainability objectives, the author is only intend to cover what banks are doing to face the sustainability issues.

Review of Literature

In recent years, the regulatory, structural and technological factors are significantly changing the banking environment in India. Today banks have adopted more dynamic and innovative approach for survival and growth. According to Cabral (2003)^[5], innovation is a new element introduced in the network, which changes, even if momentarily, the costs of transactions between at least two actors, elements or nodes in the network. Innovation means new ways of doing something. It may refer to incremental, radical, and revolutionary changes in thinking products, processes or organizations. Innovation carries the organization from efficiency to creative heights and growth. Technological developments and financial liberalization have led to intense competitive pressures, and banks are consequently directing their strategies towards increasing customer satisfaction and loyalty through improved service quality. Indian Banking Industry today is in the midst of an IT revolution. Nearly, all the nationalized banks in India have implemented information technology based solutions. The application of IT in Banks has reduced the scope of traditional or conventional banking with manual operations.

The study conducted by **Gotlieb, and Denny [1993]**^[6], is one of the studies that deals with the impact of IT on banking productivity per se. Computerization is one of the factors which improves the efficiency of the banking transactions. They concluded that higher performance levels have been achieved without corresponding increase in the number of employees. Also, it has been possible for Public Sector Banks and Old Private Banks to improve their productivity and efficiency by using IT.

Balasubramanya S.(2002)^[7] in his study analyzed that the automation in the banking sector has come a long way starting with the Rangarajan Committee report on the banking sector reforms during the eighties, followed by reports of the Narasimhan Committee in the nineties. With liberalization in the telecom industry and its improved reliability at a reduced cost, many banks and financial sectors at that time were going forward with large-scale networking of their branches and implementing the centralized core banking solutions. As a result, banks were able to provide their products and services to their customers anywhere, any time.

Arora (2003)^[8] 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.

The study conducted by **VijMadhu (2003)**^[9], presents the changing profile of Indianbanks with the help of a comparative study of three private sector banks in India namelyICICI bank, HDFC bank and IDBI bank. The author suggested developing and innovating new products so as to widen customer base and setting up of an effective software system to enhance banking efficiency.

Ananthkrishnan G. (2005)^[10] described customer's services in the banks. The author identifies banks which take care to see the reality and react early will survive and prosper, while those who continue the traditional path will find their market share eaten away.

The study conducted by the authors **Jain Abhay and Hundal B. S.**^[11] presented the rapidchanges in the financial services environment—increased competition by new players,product innovations, globalization and technological advancement—have led to a marketsituation where battle for customers has become intense. In order to rise up to thechallenges, service providers are even more interested to enhance their understanding ofconsumer behavior patterns. This paper examines the forces that can act as barriers inmobile banking service adoption.



As per **Roberts and Raphael (2007)** ^[12] the vast majority of observed innovative activity is based on ideas sourced from outside the focal firm and innovation diffused very quickly across the competing banks. The study puts emphasis on relationship between innovation and competitive advantage. Besides Information Technology the other most important factor that is motivating the growth of the Indian banking institutions is the liberalization. The financial sector reforms in India were designed to infuse greater competitive vitality in the banking system. **Uppal R. K.** ^[13] in 2008 described that in the post-LPG (Liberalization, Privatization and Globalization) era and Information Technology (IT) era, transformation in Indian banks is taking place with different parameters and the curves of banking services are dynamically altering the face of banking, as banks are stepping towards e-banking from traditional banking. The paper empirically analyzes the quality of e-banking services in the changing environment.

Jha et al. (2008) ^[14] have analyzed the use and effectiveness of information technology in the Indian Banking sector. The study observes that the technology access, up-gradations and innovations in various functional areas of banking are of the highest level in India and banking being one of the fastest growing sectors of the Indian economy, where technology is customer-oriented service.

VM Kumbhar (2009) ^[15] "Alternative banking: A modern practice in India" the Indian banking sector has witnessed major transformation during the last 40 year. It has passed through various phases. In the process, it has embraced superior technology, new products and services that are customer centric.

V. Davda (2012) ^[16] has studied and examined the economic performance and sustainability of six major banks in the private banking sector. The study reveals that HDFC has performed better in terms of Earning per Share and Net Profit margin than the remaining banks and among all the six banks, ICICI has achieved the highest yield in terms of Return on Assets as compared to the remaining selected banks because these banks have adopted more innovative and IT enabled approach to increase productivity.

Sanjay Kanti Das (2013) ^[17] has observed that that banks in India are moving towards sustainability through social banking and innovative service operations and offerings.

Seema Malik (2014) ^[18] analyzed the effect of technology on transformation of banking in India and also studied the benefits and challenges of changing banking trends. Technology and financial innovations have led to tremendous improvement in banking services and operations over the past decade. Survival, growth and profitability of banks depend upon the organizational effectiveness and operational efficiency in today's competitive scenario where customers' needs are changing every day and technology is touching new highs.

Capgemini Financial Services Analysis, ^[19] observed in its report, Top 10 trends in banking in **2016**, that along with the regulatory push, the proliferation of smart phones, rising customer expectations and changing customer demographics are pushing the need to develop innovative products and services.

The above literature reviews show that Indian banks are adopting innovative approach and moving towards digital mode of transaction. It has been found that adopting innovative approach is necessary to maintain sustainability and brand image. With the increasing threat from new entrants and changing customer demographics and preferences banks are making investments to drive innovation. It has been observed that increasing competition from fintech firms (which are more nimble and faster to market) and technological developments requires a proactive approach from banks to develop innovative offering. Now banks are paying more attention on information technology based solutions.

Objective of the Study

The objective of study are-

1. To identify the various innovative practices adopted by some selected banks in India
2. To analyze how banking industry in India are facing challenge to achieve sustainability by practicing innovation.



3. To identify service innovative initiatives by banks in India.
4. To compare the innovative strategies of banks with innovative models.

Methodology

Service sector innovations are of three types: process innovation; product innovation and organization innovation. Process innovations are normally related to technology in general and ICT in particular. Product innovations are related to new concepts and new mix of services. Thirdly, organization related innovations are related to business process re-engineering, business re-structuring, enterprise resource planning and development etc. For this purpose the required secondary data has been obtained from financial statements of various banks, the reports of RBI, banking journals, Indian Bankers 'Association publications, Centre for Monitoring Indian Economy database and from the web portals of some selected banks like ICICI, PNB, SBI, BOB, Yes bank, DCB, BOI. For this study the innovative practices by banks have been analyzed on the basis of various construct given by service innovative models. The two models of innovation Six Dimensional Service Innovation Model by **Pim den Hertog et al., (2010)** and 4P's of Innovation model by **Bessant and Tidd (2007)** have been used in the study. The study is conceptual in nature and the data for the period of 1 financial year 2016-17 has been taken for analysis.

Challenges Facing By Indian Banking Sector For Achieving Sustainability

Indian banking sector is faced with multiple and concurrent challenges such as increased competition, rising customer expectations, employee retention, diminishing customer loyalty and many social and ethical issues. Since foreign banks are playing in Indian market, the number of services offered has increased, that have created competition among banks. With increasing competition among banks, customers are also becoming more discerning and demanding. To meet customer expectations banks will have to offer a board range of deposit, investment and credit products through diverse distribution channels including upgraded branches, ATMs, mobile banking and internet. The mantra to attract and retain customers lies in efficient customer service including customized and value added products to meet the need of diverse types of customers. The sustainability issues fall into three broad categories- economic (including customers), social and environmental and each has several sub-categories. Implementing policies to achieve, sustainability is not easy, maintaining right balance between all the aspects is difficult, and banks have to perform many innovative practices. In order to identify the impact of innovative practices on banking sustainability we need to know the number of challenges faced by Indian banking industry.

1. Customer retention

The biggest challenge for Indian banking system is the customer retention. India still has large number of people who do not have access to banking services due to scattered and fragmented locations and those people who are availing banking services are increasing. Today consumers seek a market for wide range of products and services- they want optimal combination of equity and debt to finance consumption and asset creation, they need loan to finance car and house, they want investment plan for higher education of child and their marriage, they want pension plan to secure their life after retirement and they need life insurance to secure their family after death. In fact they want all the above services under one roof like a financial super market.

2. Technological challenges

We cannot ignore the technological challenges for every sector and banking sector are also facing the great challenges. Banks, usually take help of various Information Technology based channels to provide their banking and other services. Use of technology to be increased sustainability in banks to cope with rising volumes and reduce transaction costs and processing time. Early adopters of technology acquire significant competitive advantage. Managing technology, developing or acquiring right technology and use it properly is the key challenge for the Indian banking sector. Lack of high computer literacy and the existing mind set of some senior bankers are road blocks in the IT Implementation in banks to 100% level. The inculcation of the proper attitude towards technology adaptation and proper security system is an urgent need of the hour.



3. Financial inclusion and Rural

micro finance- In the quest for new markets and customer segments, as well as with the RBI directives in this area, banks are looking at the rural and unbanked segments in a new light as a huge business opportunity. Financial inclusion in banking sector has become necessary to bridge the gap between rich and poor and for the upliftment of life style and economic condition of poor people. It is observed that role of self- help group movement and microfinance institutions are important to improve financial inclusion.

4. Rural Banking

Since 70% of population of our country is living in rural area; the banking system is expected to re-orient its approach to rural lending. Although banking in India is performing well in terms of supply, product range and reach in rural India, still there is an urgent need for rural financial system to enlarge their role, functions and range of services offered for all type of credit requirements of people in rural/ semi-urban areas. As we know that small scale and cottage industries are playing an important role in the development of Indian economy, meeting all financial needs of this sector is also the biggest challenge for Indian commercial banks.

5. Global Banking

With the theme of globalization in new economic policy 1991, government has given greater freedom to the foreign banks in India. It has spurred the entry of several foreign banks, along with acting as signal to the domestic player to pull up their socks to face the new competitors. Like other industries now banking has become more global. These foreign banks are large in size and they are technically advanced, which gives more and better option to Indian traders. Thus beating competition with foreign players has become major challenge for Indian banks.

6. Social and Ethical Banking

Social, ethical, sustainable development and solidarity banking and finance are denominations that are currently used to express particular ways of working with money, based on non-financial deliberations. This is a challenge for commercial banks to consider these aspects in their working. There are many banks in India practicing social and ethical banking that raises the consciousness and responsibility towards society in their missions and ambitions. Along with objective of profit making, they make choice to finance those projects and organizations that contribute to more sustainable society and environment.

7. Derivatives and other risk management products

Today companies and investors have become more risk seeker. The risk taking nature of public has increased the demand for derivatives and other hedging financial products. The complex and peculiar nature of risk faced by the companies are passed onto the banks. Innovative financial tools and advance risk management methods are required by banks to capitalize on this business opportunity.

8. Non-performing Assets

NPAs are bad loan that are difficult to recover by bank. NPAs in the books of banks carry high transaction cost. Increasing NPA create strain in the operational efficiency of banks. Although many steps have been taken but reducing non-performing assets is still has a challenge for Indian commercial banks.

9. Human Resource Management

Many Indian banks perform good human resource practices. Good HR practices give positive and satisfactory working environment to staff that increases employee retention, employee morale and productivity. Since customers are closely related with staff, losing key employees means losing valuable customers. The diminishing employee morale results in decrease revenue and in this era of competition retaining key employees are challenging task for banks. Top-level executives and HR departments spend large amounts of time, effort and money, trying to figure out how to keep their people from leaving.



10. Rapid industrial growth

As government is promoting industrialization for economic growth, the Indian companies are looking to buildup capacity to meet future demand. Companies seek to offer better customer service and shareholders return and government seek to improve quality of public services .Along with more operating capital to manage working capital needs, new and cheaper source of funding and variety of other financial products are required by companies. Banks role are important in financing this industrial growth.

The regulating authorities and commercial banks are planning strategies and adopting many innovative practices to face the above challenges.

Innovative Banking: In Terms of Services

Innovation is the application of better solutions that meet new requirements, unarticulated needs, or existing market needs. This is accomplished through more effective products, processes, services, technologies, or ideas that are readily available to markets, governments and society. Innovation usually include continuous improvement activities to expand current business through existing customers, through commercial model improvements, portfolio optimization, efficiency agendas focused on short term and long term gains etc. (Andrew 1986)^[20] described innovation as a new idea, which may be recombination of old ideas, a scheme that challenges the present order, a formula or a unique approach, which is perceived as new by the individuals involved. Innovation means something new. Wamae, 2010^[21] explained Innovation involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated a Service innovation is a new or significantly improved service concept that is taken into practice. It has been described as for example new customer interactions channel, a distribution system or a technological concept or a combination of them. A service innovation always includes replicable elements that can be identified and systematically reproduced in other cases or environments. The replicable element can be the service outcome or the service process as such or a part of them (Toivonen et al., 2009)^[22] and converted into useful products. Innovation may be technological innovation or non-technological innovation. Different types of innovations in the services sector may be are: opening of new markets, new ways of managing finance, new ways of organizing administration ,new sources of raw material, new methods of production, creation of new services and new processes (National Knowledge Commission, 2009)^[23]. According to Metcalfe (2006)^[24], Service Innovation can be defined as a new or considerably changed service concept, client interaction channel, service delivery system or technological concept that individually, but most likely in combination, leads to one or more renewed service functions that are new to the firm and do change the service/good offered on the market and do require structurally new technological, human or organizational capabilities of the service organization. Hall et al., (2006)^[25] described service innovation practices under three outlooks including innovation in services as new or improved service products, innovation in service processes as new or improved ways in designing and producing services which may include innovation in service delivery systems and finally innovation in service firms organization and industries. Innovation derives the industry to grow, prosper and transform in sync with the changes in the environment, both internal and external. Banking is no exception to this, in fact, this sector has witnessed radical transformation of late, based on many innovations in products, processes, services, systems, business models, technology governance and regulation. A liberalized and globalized financial infrastructure had provided an additional impetus to this gigantic effort. The pervasive influence of information technology has revolutionaries banking. Tassej, 2007 observed^[26] that by the regulatory changes and financial innovation, large banks have now become complex organizations engaged in wide range of activities. Banking is now a one-stop provider with a high degree of competition and competence. Banking has become a part of financial services. Risk Management is no longer a mere regulatory issue). Basel-2 has accorded a primacy of place to this fascinating exercise by repositioning it as the core banking. We now see the evolution of many novel deferral products like credit risk management tool that enhances liquidity and market efficiency. One area of innovation that is of significant importance is the growth in the financial technology and operations market. Technology continues to play an increasingly important role in financial services in India. Research and development into technology is going to be essential. As a result, some banks across the world are carrying out rationalizations into operations hubs; often technology and operations are co-located, which could create excellent



opportunities for India to benefit from this and offer a base for newly rationalized operations. As per Roberts and Raphael (2007)^[27] Innovation count data has been used to generate a setoff variables that: (a) reflect banks innovative intensity; (b) innovative intensity of competing Banks; (c) bank's propensity to move first into new initiatives; (d) the degree of focus of its innovative activity (e); the composition of innovative activity over time and (f) the extent to which its composition diverges from industry firm. The study shows that firm's performance relates more to its history of innovative activity than to its current adoptions of new products and processes and the firms current competitive position is a function of all previous changes made to its system of attributes, means the total history of all innovative activity. The study advocates that there is a strong association between innovation and profitability. Some of the innovations in banking sector are: introduction of ATMs, credit card, debit card, smart card; increased categories of loans, demat account, young stars account, senior citizens account, money transfers, core banking, various kinds of insurance products, mobile banking, internet banking, mutual funds, filing IT returns and online taxation, updating current market trends, investing in diversified portfolio, employees retaining schemes so on and so forth. The attempt towards innovation has been more so in India due to the country's emergence and growth, more or less, in all the sectors. The banking industry has been on an unprecedented growth trend during the past decade in the country (RBI, Annual Report, 2010). The sector today is fast paced and is constantly in the throes of change, with new regulations, new processes and new policies in place. Banking innovation means thinking customers and technology first then business. In a broader sense it involve, Product and service innovation like introduction of pension plans, sukanyasamriddhi scheme, pradhanmantrijan- dhan scheme, medical insurance schemes and investment in mutual funds.

1. Channel Innovation like mobile digital branch to operate paper less transaction, ATMs and internet banking facility
2. Innovation in internal process improvement like customer relationship management (CRM) strategies, predictive analytics and data mining analytics with a user friendly, intelligent interface
3. Innovation in societal and community impact like providing credit cards to small business man, opening more branches in rural area, financial literacy programs and empowering women by providing less interest loans.

Models of Service Innovation

The technological concept of innovation (Evangelista, R., & Sirilli, G. 1995)^[28] links product and process innovations to research and technology transfer. According to adopted classification principle, different types of innovation exists,

1. Product or technical innovation, i.e. new product or new applications
2. Technological innovation, i.e. a new method of production, supply and scale
3. Organizational innovation, i.e. new method of management
4. Social innovation, i.e. creation of new values

However Bloach C. in (2007)²⁹ identifies that service innovation includes product innovation means the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics; process innovation means the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software, an organizational innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations and marketing innovation means the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Several innovation models have been proposed by various authors under various titles. For the purpose of this study, two models of innovation are considered. The first one is Pim den Hertog's Six-Dimensional Service Innovation Model (2010) and Besant and Tidd's model of 4P's of Innovation.



Six-Dimensional Service Innovation Model

A service innovation is a new service experience or service solution that consists of one or several of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system (den Hertog, van der Aa& de Jong, 2010). According to Pin den Hertog, the six dimensions of innovation make the business more productive.

Bessant and Tidd, 4Ps Model of Innovation

The '4Ps' model developed by John Bessant and Joe Tidd provide a powerful tool for organization to analyze the efficiency. It builds on the hypothesis that successful innovation is essentially about positive change, and puts forward four broad categories where such change can take place:

1. 'Product innovation' – changes in the things (products/services) which an organization offers.
2. 'Process innovation' – changes in the ways in which products and services are created or delivered.
3. 'Position innovation' – changes in the context in which the products/services are framed and communicated.
4. 'Paradigm innovation' – changes in the underlying mental models which shape what the organization does.

An organization cannot maintain stability in long run unless its customers are satisfied. Banks should also provide reliable services in order to achieve high levels of customer satisfaction, an antecedent of sustainable competitive advantage. Bank customers can be satisfied only by cost effective and timely services. There are many forms of banking innovations in the banking sector to satisfy customers include relationship banking, automated teller machines, telephone banking, internet banking, branch networking, electronic funds transfer, real time gross settlement system.

Application of Innovative Models

The recent and innovative practices of some selected banks in India are found by keeping in view the two model of innovation. The new innovative ideas of these banks in terms of services are mentioned below:

8.1 Punjab National Bank (PNB): PNB is one of the big Public sector banks in India. PNB offers the following innovative services-

1. **UPI and BHIM:** A mobile based banking application, called UPI (Unified Payment Interface) was launched wherein the customers were able to access their Bank accounts opened with different Banks in a single App.
2. **Self Service Kiosk:** The Bank installed 2561 Cash deposit /Multifunction Kiosk (including PNB Cash Acceptor cum ATM), and 3378 Pass Book updating Machines across the country.
3. **PNB Pride:** The Bank launched a new scheme for financing Housing Loan and Car Loan to Government employees at concessional rate of interest.
4. **PNB Gram Uday Scheme:** Under the scheme, loan up to `1 lakh is being provided for soil exclamation/soil conservation to farmers holding soil health card.
5. **Biometric Attendance System:** In order to leverage the technology, Biometric Attendance System was introduced in the Bank. Currently it is operational in Head Office, Zonal Offices and Circle Offices.
6. **HRMS Mobile App-PNB PARIVAR:** Keeping the pace with PM's "Digital India" initiative, a mobile App (PNB PARIVAR) was launched for employees to facilitate frequently used features viz. Leave Register, IT Register, Salary Slip, Locate an Employee etc.
7. **PNB Yuva** is another interactive user interface to engage young customers in the age group of 14-25 years.
8. **PNB Tab Banking:** Saving Bank Account opening through Tablet PC Based Solution was launched to provide quality services to HNIs and NRIs at their door step.
9. **PNB AshaKiran:** Scheme has been launched to accelerate the pace of women empowerment in rural areas wherein 1000 rural women are identified & nurtured till their economic empowerment.



- 10. PNB launches contactless credit card PNB Wave N Pay** Punjab National Bank has launched a contactless credit card named PNB Wave N Pay. Customers can make the transactions by waving the card across the terminal without entering their PIN number. The card has been launched at Visa Platinum Platform and will permit the transactions up to Rs. 2,000.
- 11. Brand Positioning:** Mr. Virat Kohli, a young and energetic Indian cricketer has been chosen as brand ambassador of the Bank because of his mass appeal to the youth of the country. Sector 10, Dwarka Metro Station in New Delhi was branded as PNB Dwarka Metro Station.
- 12. Demonetization exercise:** At the time of demonetization, the Bank issued regular guidelines, installed suitable checks in Core Banking System and scrutinized irregularities. Steps were taken to ensure proper implementation of guidelines/ directives received from RBI/MOF. The field functionaries were sensitized on handling of Specified Bank Notes and introduction of new series of currency notes and mobile ATMs were placed in Hospitals, Railway Stations, Joggers' parks, Markets, Business establishments and Offices, etc. Bank could mobilize huge amount of CASA due to the goodwill created during the period.
- 13. Cash Recovery Initiatives:** Pan India Recovery Drive, Mega Rin Mukti Shivirs and One Time Settlement (OTS).

8.2 State Bank of India: State bank of India, the largest public sector bank in India. During the year 2016-17, several new and innovative initiatives have been taken by SBI to give additional thrust to each and every business segment like home loans, auto loans, SME, rural business etc. Some of the important initiatives in this regard are as under:

1. In order to move towards less cash economy, bank has launched merchant payment acceptance solutions like Bharat QR and Aadhaar Based Payments viz. BHIM-Aadhaar- SBI. In addition to basic acquiring services, the Bank is also providing Value Added Services like Cash@PoS for cash dispensation to debit card holders, DCC – (Dynamic Currency Conversion) and EMI on PoS terminals.
2. The Bank also launched 'SBI Mingle' – the social media banking platform for Facebook and Twitter users.
3. In a joint endeavor aimed at being the largest collaboration in the housing space to address housing needs of the Indian population, SBI & Tata Housing have entered into a partnership that offers a unique platform that would enable easier financing and purchase of homes.
4. With a view to adopt and follow uniform standards of credit dispensation, ensure quality, and preserve Corporate memory, Loan Origination Software (LOS) and Loan Life Cycle Management System (LLMS) have been introduced for small value and high value loans, respectively.
5. Bank has introduced one more progressive measure, "Work from Home Policy" to enable the employees who are not able to attend office, to work from home using technology.
6. SBI started SBI NO QUEUE App. This App helps HNI customers to get a priority token, reducing their waiting time vis-a-vis other customers.
7. SBI revamped its Mobile Banking App and launched the State Bank Anywhere – Personal in January 2017. This App is an extension of Bank's Internet Banking Services, with the additional option of registering through a debit card.
8. SBI Pay (UPI) launched in November 2016, SBI Pay is an inter-operable mobile-based payment solution, which rides on Unified Payment Interface (UPI) system of NPCI.
9. One step in the direction of digital marketing was setting up the high-tech, one of its kind, banking outlets - sbiINTOUCH.
10. During FY2017, the bank introduced various technology based solutions and products to make farmers' lives easier, while improving the operational efficiency for managing agriculture loans. Some key initiatives in this area include: KCC-ATM-RuPay Cards and new products for financing PolyHouse/Net House/ Green House cultivation, financing farmers' receivables and financing for Solar Photovoltaic Water Pumping systems, among others.



8.3 ICICI Bank

ICICI bank has been continuously innovating to serve the needs of customers and stakeholders - for today and for tomorrow. Some innovative practices of bank are, launched 'iMobileSmartKeys', Unified Payments Interface (UPI) based payments, the 'Eazypay' mobile application for merchants to collect payments and 'MeraiMobile' mobile application for rural customers. Bank also launched new service called 'Positive Pay' on iMobile application to safeguard cheques issued by customers and Bharat QRcode which is a common QR code standard supporting Visa, MasterCard and Rupay cards. Bharat QR enables merchants and customers to accept and make electronic payments using just a smart phone. ICICI has digitized the KCC (Kisan Credit Card) process end-to-end using an Application Processing System (APS) and launched a simple yet powerful product called I-Flexi OD, targeted at providing first generation entrepreneurs with working capital, to enable them to grow their businesses. The bank has reinforced the organization culture with the acronym DYNAMIC (Digital, Young, Nurturing, Agile, Mindful, Inclusive and Connected) - an organization which harbours a greater readiness to experiment and which embraces new ideas..

8.4 Bank of Baroda (BOB)

In view of emerging challenges before BOB, the bank is working towards execution of several strategic initiatives that are expected to give competitive advantage. Some key initiatives are, Debit Card EMI for Debit Card Holders, Digitalized account opening by instant opening of accounts enabled by Aadhar seeding, Mobile Banking application M-connect Plus and special incentive scheme Sankalp. Bank is also working with technology innovations such as Robotics Process Automation, Block Chain Technology and Artificial Intelligence to bring more efficiency and transparency in the business process. In addition to the above, Bank implemented Unified Payments Interface (UPI) which offers architecture and a set of standard Application Programming Interface (API) specifications to facilitate online payments. Bank has entered into strategic partnership with key agri players for building the rural ecosystem include RML AGTECH, a technology company for providing technical knowledge to the farmers right from crop selection to marketing, so as to improve the productivity and profitability of the farmers.

8.5 YES Bank

Since inception in 2004, YES BANK has fructified into a 'Full Service Commercial Bank' that has steadily built Corporate Banking, Financial Markets, Investment Banking, Corporate Finance, Branch Banking, Business and Transaction Banking, Digital Banking and Wealth Management business lines across the country, and is well equipped to offer a range of comprehensive products and services to Corporate and Retail customers. Yes bank has taken following initiatives during FY 2017:

1. YES BANK launched a Fintech focused Business Accelerator program - YES FINTECH which received over 750 applications from 18 countries including 50 international companies.
2. The Bank launched ON-THE-GO, a new mobile banking solution for corporate to approve and YES SIMsePAY a mobile payment services without requiring internet or Smartphone.
3. The Bank's flagship group lending program in rural and semi-urban India is YES LEAP.
4. Taking forward the Government of India's bold and revolutionary step of Demonetization in November 2016, YES BANK brand took another leap – INDIA bole YES! to a LESS-CASH Economy.
5. The YES Joint Liability Group (JLG) is an initiative take by bank to provide banking services to the BOP in rural, semi-urban and urban India, based on the Joint Liability Group methodology wherein, term loans are provided to individual members of a JLG focusing on income generation.
6. YES BANK has introduced the Invoice Xpress digital solution for corporate clients to automate order placement, invoice presentment, collections and reconciliation.
- 7.

8.6 Bank of India(BOI):

The Bank undertakes Internal Capital Adequacy Assessment Process (ICAAP) on a yearly basis for assessment/measurement of various risks, the limits of its risk-bearing capacity and appropriate level of internal capital in relation to the risks and the Risk Appetite. BOI launched smartphone based application 'Chillr' for facility of funds transfer and Mobile Wallet App – BOI Pay in FY-17. Bank also established FLCC/FLCs as per



Reserve Bank of India guidelines at Rural and Urban Centers at district locations where Bank is having Lead Bank responsibility. During the year 115 new branches were added to the domestic branch network and **Operational Customer Relationship Management (OCRM)** is introduced to lodge Web/ Mail based Customer suggestions and issues.

8.7 DCB Bank

The Bank's vision is to be the most innovative and responsive neighborhood bank in India serving entrepreneurs, individuals and businesses. During FY-17 bank launched DCB Suraksha Deposit – a unique product where customers get insurance cover at zero cost if they opt for longer tenor term deposit (subject to conditions). In FY 2017, as part of process improvement initiatives the Bank further expanded “One hour loan approval / disbursal process” in many more branches. The Bank also launched its own wallet during the year named as “Cippy”. The Bank has been making good progress towards digitization. The demonetization initiative has been a major impetus in moving India rapidly towards a “less cash” economy. In FY 2017, the Bank implemented many new applications/upgrades for example - a) Aadhaar IRIS based tab banking solution for instant verification of KYC, b) DCB Delight (Instakit) instant account opening for Savings Account customers, c) Online Foreign Exchange platform for retail customers, d) Loans on the Go mobility application for providing information on loans e) Automated trade finance inward remittances process through seamless integration of SWIFT and NEFT f) Successful migration to and certification of Information Security Management based on ISO 27001:2013 standard, g) Online Mutual Funds module for ease of buying and redeeming mutual funds. The Bank also participated in a two day event “DigiDhanMela” organized by Ministry of Electronics and Information Technology.

1. Analysis Of Service Innovation In Banks

The innovative practices by the above 7 banks have been analyzed on the basis of various construct given by service innovative models. The two models of innovation Six Dimensional Service Innovation Model by Pim den Hertog et al., (2010) and 4P's of Innovation model by Bessant and Tidd (2007) have been used in the study. The analysis has been shown on table 1 and table 2 below:

Table 1: Six Dimensional Service Innovation Model

	Service Concept or offering	New customer interaction	New value system	New revenue Model	New Delivery System	New Technology
PNB	UPI and PNB Kitty	PNB-Yuva and financial literacy counseling centers	PNB Ujalaand PNB-AshaKiran	Agreement with management consultancy firm	PNB Tab Banking and Self-Service Kiosk	PNB-Parivar Mobile App and PNB Genie App for digital banking
SBI	SBI Pay (UPI), BHIM-Aadhaar-SBI and SBI NO QUEUE App	Financial inclusion through PMJDY, PMSBY and financial counseling centers	SBI Mingle, Cash@PoS and Work from Home Policy	Partnership with SBI & Tata Housing	State Bank Anywhere App and Mobile banking valets	banking outlets – sbi INTOUCH
ICICI	Unified Payments Interface (UPI) based payments	MeraiMobile, Facilitate Financial Inclusion & Establish	A DYNAMIC ICICI and #be-fit Wellness Program	Partnership with Truecaller and Samsung like	'Eazypay' mobile application and 'Positive	'iMobile SmartKeys' and digitised KCC (Kisan Credit Card)



		Credit Linkages		Truecaller Pay and Samsung Pay App	Pay' application	process
BOB	Internet Payment Gateway (IPG) and Implemented Unified Payments Interface (UPI)	Digitized account opening, Mobile banking solution and account Opening Kiosk	RML AGTECH and Digital Portable Branch	Branch Expansion, Two new tie up with health insurance and general insurance companies	Baroda Non-Stop Lobby, M-connect Plus and Baroda M-CLIP	Robotics Process Automation and Block Chain Technology
YES Bank	InvoiceXpress digital solution and Implemented Unified Payments Interface (UPI)	Inclusive and Social Banking (ISB)	YES LEAP, RESPONSIBLE BANKING and INDIA bole YES! to a LESS-CASH Economy	YES Joint Liability Group	SIMsePAY and ON-THE-GO	Business Accelerator program - YES FINTECH
DCB	DCB Payless Cards and Unified Payment Interface (UPI)	“No frills account” and DCB Delight	innovative and responsive neighbourhood bank vision	Merchant Banking/ Investment Banking	Business Internet Banking (BIB)	Aadhaar IRIS based tab banking solution and Cheque Truncation System process
BOI	Star Token NG, Implementation of UPI/BHIM, BHARAT QR and AADHAAR PAY application	Financial inclusion through PMJDY and FLCC/FLCs	Stress Management Cell and credit counseling services	Increased branch network	Bharat Bill Payment System APP and Mobile Wallet App – BOI Pay	application ‘Chillr’,

Table 2:4P's of Innovation Model

	Product Innovation	Process Innovation	Position Innovation	Paradigm Innovation
PNB	PNB Pride and Automated toll electronic collection	HRMS Mobile App- PNB PARIVAR, Pan India Recovery Drive and One Time Settlement (OTS)	PNB Dwarka Metro Station, GrahakSammelan programme and Virat Kohli: PNB brand ambassador	PNB Tab Banking, Self-Service Kiosk and customer education through financial literacy centres
SBI	KCC-ATM-RuPay Cards	banking outlets – nbiINTOUCH, LOS and LLMS software	‘SBI Mingle’	‘My WILL Services Online’- Hindi Version, State Bank Anywhere App, SBI NO QUEUE App
ICICI	10 minutes loan I-Flexi OD	A DYNAMIC ICICI	Brand Positioning through advertisement	MeraiMobile' mobile application and



				'Eazypay' mobile application
BOB	Debit Card EMI for Debit Card Holders	Business transformation journey: Project Navoday, Incentive scheme Sankalp for loan recovery, Robotics Process Automation and Block Chain Technology	Brand endorsements by Ms. P V Sindhu and Mr. K Srikanth, National Supporter of FIFA U-17	RML AGTECH, Digital Portable Branch and customer friendly
YES Bank	YES Joint Liability Group and YES Kisan Dairy Plus	RESPONSIBLE BANKING	INDIAbole YES brand campaign	InvoiceXpress digital solution and Business Accelerator program - YES FINTECH
DCB	DCB Suraksha Deposit, DCB Payless Cards and Kisan Mitra	One hour loan approval / disbursal process	customer event "EkMulaquatKuchBaatein", sponcership to "Jubilee Games"	"Cippy" Wallet and DCB Delight
BOI	International debit card and Online share trading	ICAAP and Dual Biometric authentication	"Relationships beyond banking" advertisement	Application 'Chillr' and Mobile Wallet App – BOI Pay

Conclusion and Recommendations

In this era of 21st century banking operations are moving towards buyer's market from seller's market and even more importantly from local area to global operations. Banks with a vision and insight are trying to woo the consumer's market through a series of innovative addition to their products, marketing, services and technology methods. They are also trying to make more investment on human resource management, enterprise risk management, research and development and process re-engineering etc. to improve on their performance and productivity. Now banks are focusing on more on IT based operations which provides them benefits such as cost reduction, improved operational efficiency, decision support in the area of planning and business strategies, and enhance the brand image, product quality and customer loyalty.

The Indian Economy witnessed many dramatic happenings during the course of the Year. From the landmark Demonetization announcement to the eventful GST Bill passage, 2016, to name a few. Post demonetization era needs moving towards less cash society and thus, the emphasis is on digitalization. Many banks in India are committed to give a stellar performance not only in distribution of various digital products viz. Debit cards, Credit cards, POS in all varieties of Swipe & Pay, Click & Pay, Touch & Pay, Internet Banking/ Mobile Banking, Mobile Wallet App but also in ensuring that these products are activated and used. Banks have successfully implemented Government of India launched UPI/BHIM, BHARAT QR and AADHAAR PAY.

As per the above discussion, it is observed that banks in India are adopting innovative practices for facing the challenges and are moving towards sustainability. The above analysis has proved that both the public and private sector banks are becoming more customer-centric and service-centric banks. They are becoming more innovative not only in field of product and process but also in the area of operations, market and paradigm shift. Several initiatives have undertaken by banks in India for the benefit of the society with the commitment to serve the



people of India like- participating in clean India movement, focusing on financial inclusion through PMJDY and credit counseling centers, financing for empowering women, expansion of ATM networks, service through mobile and internet banking, Aadhaar Enabled Payment System (AEPS), Green PIN, Digital challan, Facilities through apps and many more. By doing literature reviews the researcher found that the banks need to focus more on following practices for taking competitive advantages and maintain sustainability:

1. Cashless based delivery system
2. The differentiation and cost leadership strategies
3. Developing a customer-centric business model
4. Simplifying the business and operating model
5. Self-regulatory organization to monitor the activities of banking
6. Proactively managing risk, regulations and capital
7. Banking licenses, technology and advertising budgets
8. New market entrants, third-party partnerships and intermediaries

Limitations of the Study

One of the limitations of the present study is that it is based on secondary data and survey of literature only. Literature reviews have been done up to year 2015. Only some selected banks (both public and private sector) of India have been taken for the study. There is lot of scope for further research in this area of service operations in banks. The models discussed in this article can further be applied by conducting an empirical survey to analyze the perception of customers on these banks. This is beyond the scope of this paper to identify where banks might be failing to achieve their sustainability objectives, the author is only intend to cover what banks are doing to face the sustainability issues.

References

1. PwC. 2014. Retail Banking 2020: Evolution or Revolution? Available: <http://www.pwc.com/gx/en/banking-capital-markets/banking-2020/assets/pwc-retail-banking-2020-evolution-or-revolution.pdf> .
2. Singh, I., Bansal, M., & Chhabra, B. Innovation Inputs and Performance in Indian Banking, Panjab University Journal of Commerce. pp 1-3
3. Bessant, J., Tidd, J., (2007). Innovation and Entrepreneurship. Canada: John Wiley & Sons.
4. Pim den Hertog, Wietze van der Aa, and Mark W. de Jong, (2010). "Capabilities for managing service innovation: towards a conceptual framework", Journal of Service Management, vol. 21, no.4, pp. 490-514.
5. Cabral, Regis (2003), "Development, Science and Innovations", in Heilbron, J. (ed.), Innovations in Service Sector, Oxford University Press, New York, pp. 205-207.
6. Parsons, D., Gotlieb, C. C., & Denny, M. (1993). Productivity and computers in Canadian banking. Journal of Productivity Analysis, 4(1), 95-113.
7. Balasubramanya, S. (2002). IT wave breaks over banking. THE CITY, Aug-Sept.
8. Arora, K. (2003). Indian Banking: Managing Transformation through IT. IBA bulletin, 25(3), 134-138.
9. Vij, M. (2003). The new world of banking: a paradigm shift. Journal of Management Research, 3(3), 139.
10. G Ananthakrishnan, "Customer Service in Banks", Vinimaya, Vol. XXV, No.3, (2004-05)
11. Jain Abhay and Hundal B S, "BARRIERS IN MOBILE BANKING ADOPTION IN INDIA", ICAI University Journal of Bank Management, Vol. V, issue 3 (Aug.2006), pages 64-73.
12. Roberts, Peter W. and Raphael, Amit, (2007). "Retail Banking on Innovation: the dynamics of Innovative Activity and Competitive Advantage, the case of Australian Retail Banking 1981 to 1995". Journal of Organization Science, vol.14, pp.107-122.
13. Uppal R. K., "Customer Perception of E-Banking Services of Indian Banks: Some Survey Evidence", The ICAI University Journal of Bank Management, Volume-VII Issue-1 (Feb. 2008) Pages 63-78.
14. Jha, B. K., Gupta, S. L. and Yadav Puneet, (2008). "Use and Effectiveness of New Technologies in Indian Banking". The Icfai Journal of Services Marketing, vol. VI, no. 1, pp. 23-32.



15. Kumbhar, V. M. (2009). Alternative banking an modern practice in India. *Professional Banker*, 9(9), 54-58.
16. Davda, Nishit V (2012). A Comparative Study of Selected Private Sector Banks in India. *International Journal of Research in Commerce and Management*, Vol. 3(7), 161-165.
17. Das, S. K. (2013). Social and innovative banking strategies for sustainable banking in India. *International Journal of Economics, Finance and Management*, 2(2), 209-223.
18. Malik, S. (2014). Technological Innovations in Indian Banking Sector: Changed face of Banking. *International Journal of Advance Research in Computer Science and Management Studies*, 2(6)
19. Capgemini Financial Services Analysis, Report on top 10 trends in banking in 2016, 06-07.
20. Andrew H. Van de Ven (1986), "Central Problems in the Management of Innovation", *Journal of Management Science*, vol. 32, no. 5, pp. 590-607.
21. Kraemer-Mbula, E & Wamae, W. (2010). *Innovation and the Development Agenda*. OECD Publishing, Paris.
22. Toivonen, M., & Tuominen, T. (2009). Emergence of innovations in services. *The Service Industries Journal*, 29(7), 887-902.
23. National Knowledge Commission (2009), Report to the Nation 2006-2009, Website: www.knowledgecommission.gov.in.
24. Metcalfe, J.S. (2006). Innovations, competition, and enterprise: foundations for Economic Evolution in Learning Economics, in Hage, J. and M. Meeus, (eds.), *Innovation, Science and Institutional change a research hand book*, New York: Oxford University Press. Pp. 105-120.
25. Hall, A., Janssen, W., Pehu, E., & Rajalahti, R. (2006). *Enhancing agricultural innovation: how to go beyond strengthening of agricultural research*. Washington, DC: World Bank.
26. Tasse, G. (2007), *The Economics of R&D Policy*, Praeger Publishers, Greenwood Publishing Group, United Kingdom.
27. Roberts, Peter W. and Raphael, Amit (2007), "Retail Banking on Innovation: the Dynamics of Innovative Activity and Competitive Advantage, the case of Australian Retail Banking 1981 to 1995", *Journal of Organization Science*, vol. 14, pp107-12
28. Evangelista, R., & Sirilli, G. (1995). Measuring innovation in services. *Research evaluation*, 5(3), 207-215.
29. Bloch, C. (2007). Assessing recent developments in innovation measurement: the third edition of the Oslo Manual. *Science and Public Policy*, 34(1), 23-34.

Annual Reports Links

1. Annual Reports - Punjab National Bank <https://www.pnbindia.in/annual-reports.html>.
2. Annual Report [2016-17] - SBI Corporate Website - State Bank of India <https://www.sbi.co.in/portal/web/corporate-governance/annual-report-2017>.
3. Annual Reports - ICICI Bank <https://www.icicibank.com/aboutus/annual.page>.
4. Annual Report 2016-17 - Yes Bank <https://www.yesbank.in/annual-reports/fy-2016-17/annual-report-2016-17>.
5. Annual Report - Bank of Baroda www.bankofbaroda.co.in/fin/AnnualReport.asp.
6. Annual Report - Bank Of India www.bankofindia.co.in/english/annual_report.aspx.
7. Key Financials - DCB Bank We value you www.dcbbank.com/cms/showpage/page/about-us-key-financials.