

A STUDY OF IMPACT OF DIGITAL BANKING ON CUSTOMER SERVICE DELIVERY AND BUSINESS PERFORMANCE OF BANKS OF INDIA: A LITERATURE REVIEW

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ABSTRACT

Digital banking in India saw a major game-changing move when the Government in 2016 announced de-monetization. The other side of de-monetization is e-monetization and the spurt in the digital transactions post de-monetization clearly evidences the transition to e-monetization. Digital banking however has started a long back and its impact on customer service delivery and business performance of Banks has been a subject of curiosity for both academicians and professional bankers. Often means are confused with ends. It is not something surprising if digital banking is perused as an end in itself instead of being a means to improve customer service delivery and Business performance of Banks. This article carries a literature review on themes related to digital banking, its impact on customer service delivery, customer perception, customer satisfaction and business performance of banks.

Keywords: Business Performance, Customer Service Delivery, Digital Banking, Literature Review

Introduction

Come Eighth November, 2016 and India was infused with an unexpected amazing measure of demonetization. So much has been the fame of the idea that banks like Kotak Mahindra have turned out with an uncommon investment account for the sake of "811 account". Indeed, the date has prevalent quite recently like "9/11." While 9/11 was a fear based oppressor assault, 8/11 was an assault on corruption.

Literature on impact of digital banking on banks of India is widely available. Researchers have contemplated different computerized banking modes in different banks, broadly and globally. Some writing is increasingly theoretical while others are relevant. Essential ideas like what is computerized banking, what are different advanced drivers, what is the impact of computerized betting on client assistance conveyance and business execution of banks of India and so on have been managed thoroughly by scientists.

This study measures the effectiveness of the digital banking initiative in Indian banks. To what extent they have really been able to impact Customer service delivery and Business performance of Banks is investigated in this study. Before the full-fledged study was undertaken a review of existing literature was done and this article presents the same. The review article carries an introduction, the

objectives of the review, the review itself and ends with observations and research gap.

Objectives of Literature Review

The literature review was carried in line with the following objectives–

1. To review the recent developments in digital banking in India
2. To review literature pertaining to impact of digital banking on customer service delivery, customer perception, customer satisfaction etc.
3. To review literature pertaining to impact of digital banking on performance of banks in India.

In line with these 3 objectives the literature review has been divided into three parts.

Review of Literature

Recent developments in global and Indian digital banking

Deloitte (2019) in their research have stated that there's a new kind of promise in the banking industry and possibly no better time than now for transformation. Economic fundamentals are sturdy, the regulatory climate is favorable, and transformation technologies are more readily available, powerful, and economical than ever before.

Deloitte (2019) in their research paper have stated that leading up to 2020, radically transformed Bank models will emerge. A

glimpse ahead shows an importance on innovative technologies to vastly facilitate banking - inclusive banking through innovative types of Bank models, non-traditional alliances to make banking affordable, Fintech capabilities to make banking customer centric. Banking in the future will be exciting, collaborative and will raise the bar in setting new standards.

Sarkar et.al (2019) in their analysis identified that demonetization led to a sudden increase in the number of transactions of nearly all the digital modes under our consideration during its initial phase (the period when ATM withdrawals were restricted, ample new currency notes were unavailable). However, such momentum were not neutralized but went on for all the different digital modes, though the expansion was not similar in all cases. While M-wallet transactions increased the most followed by Mobile Banking and IMPS, other channels such as usage of cards at POS, NEFT and EFT and RTGS (Customer Transactions) did not lag far behind. Thus it is concluded that the recent demonetization drive in India has given the much needed thrust to the digital modes of transactions from where they received wide acceptance and increased customer participation.

The Banking & Finance Journal (2019) in their research has stated that recently, application programming interfaces (APIs) were little new than simple lines of code facilitating communication between applications at enterprises, including banks. Today, they are vital to inventive revenue models and evolution of model digital outreach modes, and are in many cases, the key to ensure compliance with game-changing regulations. Developments such as proliferation of new digital channels and open banking will soon make banking invisible. What then are the future key technology trends that will impact and reshape banking over the next 12 months and beyond? Following are the 6 Technology Trends for Banking in 2019- Reference digital architecture evolves for greater business and customer context, Artificial Intelligence initiatives scale up, Commercial adoption of Block chain continues its rising trend, Banks adopt the public cloud for the benefits of agility and scalability, Internet of things accelerates

connected commerce, Mixed Reality becomes a reality in banking,

After around ten years after the global financial crisis of 2008, the banking industry seems to have regained the lost ground. The sector is looking healthy and the environment is filled with optimism, positivity and buoyancy. They need to enjoy the upward turn to the fullest extent possible because the 2008 downfall was quite a severe one. "With 85% of banks citing implementation of a digital transformation program as a business priority for 2018, investment in technology to drive efficiency, manage evolving risks and benefit from growth opportunities will be critical for sustainable success. Our Global banking outlook survey of 221 financial institutions across 29 markets reveals that bankers are positive about their ability to improve their financial performance in 2018 and beyond" reports Ernst and Young (2018, page 2). Some of the key performance and other highlights showing the improved health of the banks are given below –

- The tier-I capital of the banks (EY analysis of 200 global banks) has trebled in 2017 from what it was 2007. This indicates stronger capital adequacy.
- A sizable majority of banks expect profitability and revenues to improve over the next one to three years, in spite of rising costs.
- The banking industry is heading for a period of double-digit Return on Equity (ROE) and further is likely to sustain it in the near future.
- From an all-time annual high of litigation costs of USD Billion 137 in 2014 the same has dropped to USD billion 82 in 2015 and further to USD billion 49 in 2016. This indicates that things have got settled well. The agency however has thrown some cautionary signals as well. It has warned that the recent constructive conditions may not be permanent. An apprehension has been expressed in terms of lack of clarity as to whether banking returns on equity would be able to withstand the pressure of an unexpected cyclical downturn, apart from the potential effects of the well-telegraphed unwinding of quantitative easing.

Thus, the environment is one of confidence and optimism. It has been a long and challenging journey from 2007 to 2017 for the global banks. Through measures like increasing equity, strategic negotiations, repositioning etc. banks have been able to bounce back to their days of hay. They have shown some kind of resilience in fighting the adversities imposed by the 2008 global meltdown resulting from the US banking collapses (Sub-prime crisis). The growth and the good times however are tagged with issues like prospects of cyclical downswing, possibilities of quantitative easing etc.

Mukherjee (2018), writing for the Inc42 has reported that as a result of the government's unleashing 'Digital India' push, digital transactions in the country reached a record breaking high of 1.11 Bln in January 2018, up by 4.73% from the 1.06 Bln mark touched in the month of December last year. (This includes all the digital transactions including those over and above executed by NEFT, RTGS, Mobile Banking etc.)

According to data released by the Reserve Bank of India (RBI), the total transaction value shot-up to \$2 Tln (INR 131.95 Tln) in January 2018, making it the second highest reported in a single month over the last one year. Compared to that, December 2017 clocked transactions worth around \$1.9 Tln (INR 125.51 Tln). These figures include payments made by debit and credit cards, UPI, Internet banking, prepaid payment instruments (PPIs), and unstructured supplementary service data (USSD). As per Reserve Bank of India data, UPI-enabled transactions crossed the 151.7 Mln mark last month, recording a 4% increase from the 145.5 Mln transactions clocked in the month of December 2017. Similarly, the value of transactions also shot up by 18% from \$2 Bln (INR 131.4 Bln) in the last month of 2017 to \$2.4 Bln (INR 155.4 Bln) in January. Of this, the government's Bharat Interface for Money (BHIM) app accounted for over 9.57 Mln transactions worth upwards of \$57 Mln (INR 3.65 Bln). In fact, over the last 12 months or so, UPI-based transactions have seen a massive 7000% increase, as stated by the RBI. For instance, UPI recorded only around 2 Mln

transactions in December 2016, a month after demonetization was instituted.

Vij (2018) has conducted a descriptive study on effects of demonetization on Indian economy based on authentic secondary data. She opined that demonetization proved to be an advantage to digital transactions and e-wallets and the government must continue to provide appropriate infrastructure and cyber security to support this flow of digital transactions in the economy to ensure India's shift towards a digital economy.

Financial Brand (2018) in their research have stated that the global banking sector is emerging as a more strategically focused and technologically advanced domain to respond to consumer expectations while trying to protect market share against an increasing array of competitors. A great deal of emphasis is being placed on reassessing organizational structures and digitizing core business processes and internal talent to be better prepared for the future of banking. This transformation illustrates the rising desire to become a 'digital bank'. Following are the five Innovation Trends that Will Define Banking in 2019- Serving a Segment of One, Expansion of Open Banking, Commitment to Physical Delivery, Artificial Intelligence (AI)-Driven Predictive Banking, Payments Everywhere.

Malagi et.al (2017) discussed that technology has taken over the world. The world without technology is the world without life. Technology plays a significant role in turning the society a better place therefore; we cannot imagine ourselves living without it. It has become a part of our life and it is one of the main ingredients to survive in a fast phase environment. The expansion of new technology helps people make work easier & turns the world a better place to live in. Use of plastic money is an area that technology has been of vast use in shopping industry. Customers can save their time by using plastic money. This is the reason, why the shopping industry has to focus on plastic money transactions than cash transactions. In the study, attitudes and perceptions were sought and were extracted using a questionnaire as research instrument. It was found that individual factors such as age, gender and marital status had a bearing on the use of

plastic money. The research concluded that plastic money is more convenient for carrying and for payment. It has various advantages which motivates the people especially the young generation to focus more on plastic money. It will save the cost of printing and reduce the deforestation which would help the environment and the nation.

Review of literature pertaining to impact of digital banking on customer service delivery, customer perception, customer satisfaction etc.

IIMB Management Review (2018) examined the perceptions of Internet banking (IB) users in Kerala using the technology acceptance model (TAM) by incorporating service quality as exterior variable. The study found that both the TAM variables – perceived usefulness (PU) and perceived ease of use (PEOU) have a direct effect on Internet Banking use, and PEOU also has an indirect effect via PU. Service quality dimensions such as efficiency, reliability, fulfillment, website attributes, responsiveness, and privacy also have indirect impact through TAM variables on Internet Banking use.

Verma (2018) in her research paper focused on net banking services provided by HDFC Bank and examine the perception of people towards the e-banking services comparing to traditional banking methods. This paper is useful in understanding customer's attitude towards such modern services provided by banks. The e-Banking is an application that was developed for a well-established regional bank operating primarily in south India. In the world of this technological development and competitive environment, the bank has been totally computerized in the last 4 years, and to increase its client base has started planning, for a concept called as e-banking. With this concept, the bank wants to move very nearer to the customers and amplify its basic operational strategies. Through E-Banking the bank wants to unleash the core concept of IT based Enabled Services (ITES). The E-Banking services are executed only for the customer, and these e-banking services will fully integrate with the core banking solution that is already in practice. The major idea is to provide a host of services to the customer

through the internet, and make the client feel elastic in calling out simple tasks faster instead of making visit to the bank every time. The e-banking facility is open only to savings bank account holders and not for current account holders. The customer is benefitted to use most of the system only as a viewing phase, the only online transactions the customer can do are fund transfer and cheque book requisition amongst his personal accounts.

Reddy et.al (2017) conducted an observation study of people on the transformation of India into a digital economy post demonetization applying other statistical tools and factor analysis on the responses collected. They found 'time saving' and 'ease of use' to be the most important factor for quick adoption of digital payments while 'security issues' as the main obstacle.

Manivannan (2017) in his research discussed that digital banking which was considered to be a luxury has become necessary. The modern technological advancements were considered to be used by high income group. Among the various financial services rendered by commercial banks and other financial institutions extending their facility to customers through digital banking i.e., mobile banking, net banking plastic money, etc. are important modern day function. These facilities are extensive not only to customers in urban areas or cities, but also to customers residing in rural area. But today, with the growth of banking and trading activity, the fixed income group or salaried classes have started using these facilities. But still there may be the criticism that, it induces more purchases or make the people for saving economy. This may be so in the primary stage, but once a customer gets used to avail these modern banking facilities they will know how to use the same in a optional manner. On the whole, the paper concluded that, based on the areas of usage, the satisfaction level of the respondents are good even however they are partaking glitches with respect to digital banking i.e. functioning of ATM, acceptability of new age payment systems, distribution of network, safety of online transactions etc.

Vasan (2017) in his research observed and

analyzed the reasons for chosen internet banking, reasons of using internet banking, satisfaction of customers for internet banking and to recognize the problems encountered by the customers. The primary data for the research was collected throughout a well-structured questionnaire filled in a one-to-one basis by around 120 customers of ICICI Bank. The research results clearly evaluated that the majority of the users of internet banking were deriving high level of satisfaction.

Rajput (2015) examined that the customers' choice of banks was affected by the quality of e-banking services provided by the bank. Stratified sampling was used and the survey instrument was a well-developed Questionnaire comprising open ended and Likert type of questions. The study revealed that gender, education, and income play an important role in usage of online banking. The research corroborate the conceptual framework indicating that if skills can be upgraded there will be a greater spirit to use online banking by consumers.

Hakkeem et al. (2015) in their research observed that particular age group have used these services, the satisfaction of the customer majorly influenced the awareness, convenience, and responsiveness. In the present technology society, most of the banking customer desire and switch to e-banking facilities. So the banker may improve their services, loyalty to customers and their retention by growing awareness of other age groups and concentrating on the factors contributing the customer satisfaction.

Khanna et al. (2015) in their research evaluated that the factors such as Technology acceptability, safety, user friendliness, availability, and accessibility greatly depends on the demographic profile of the population size. Most of marketing decision in terms of enhancing the efficiency of delivery channels can be taken by considering these factors.

Samsunisa (2015) in their research stated that different age group of customers have different perception toward the e-banking services and the usage level of these banks customer is different, so bank should focus on all the age group of customers for betterment of e-banking banks. It was also seen that different occupation group of customers have

different perception towards the e-banking services. There are superior number of customer in every group like service class, student, business class and professionals; it shows that they all are intensely interested in using the e-banking services.

Vinayagamorthy et al. (2015) in their research examined the perception of rural consumers towards internet banking services. It was noticed that most of the banks trying to reduce the operational costs with the help of various innovative distribution networks and value added services. If we see the rural population distribution, it is very much scattered. As a result of this, providing services to this group of customers increasingly become hard. There is a trade off exists which describes the nature of the problem. On the one hand it becomes difficult due to infrastructural problems, while on the other hand due to lack of banking facilities, they become more reliant on local moneylenders. The higher cost of operations may be reduced with the help of ample development of technology lead banking services, viz. internet banking services, mobile banking services, etc. The modern banking approach also depends heavily on the technology aspect. But the problem lies somewhere else. Even if the banks are able to develop modern facility, it may not be useful for the rural consumers unless and until the consumers are well aware of the usage and facility of the same over the time period. This gap should be removed by providing enough training to new customers. Otherwise technology may become burden for them.

Review of literature pertaining to impact of digital banking on performance of banks in India

Enterprise Edges (2019) have stated that banks in India as a whole are very reluctant to adopt the changes brought about by technological advancement. A number of factors brought about the digitization and mechanization in banking industry in India. Setting up the standard cheque encoders was the initial step forward in digital transformation in banking. Magnetic Ink Character Recognition (MICR) helps in the processing and sorting of cheques with each bank branch having an MICR code.

The next step was further a necessity than an innovation. Banking is a cyclic job, and therefore a labor intensive one, where the worker is prone to making mistakes. In order to speed up the process and minimize errors, banks began using computer technology with separate personal computers and then set up their own local area networks. As the networks grew and banks began to connect together, Core Banking came into being. Centralized Online Real-time Exchange banking thus allowed customers to execute financial transactions and access their account from any of the participating bank's branches. These services made it easy for customers to operate their accounts and slowly led to the coining of the phrase: 'Anywhere, Anytime Banking.' Then Automated Teller Machines arrived on the scene, and electronic fund transfers were made possible. Tele banking and online banking made their appearance in the 2000's and different modes of online fund transfers were instituted such as Immediate Payment System (IMPS), Real Time Gross Settlement (RTGS), National Electronic Clearing Service (NECS), and National Electronic Fund Transfer (NEFT). Recent years have seen the growth in mobile banking services and further innovative services online.

Forbes India (2017) in their research have discussed that banks in India have witnessed a radical change from 'conventional banking to convenience banking'. Today, they are on the edge for 'digital banking' at a rapid pace. Banks began using Information Technology initially with the introduction of separate PCs and migrated to Local Area Network connectivity. With further progress, banks adopted the Core Banking platform. Thus branch banking altered to bank banking. Core Banking Solution (CBS) enabled banks to raise the comfort feature to the customers as a promising step towards enhancing customer convenience through Anytime and Anywhere Banking. Different Core banking platforms such as Finacle designed by Infosys, FLEXCUBE by i-flex, BaNCS by TCS, gained popularity. Banks have benefitted in several ways by adopting newer technologies. E-banking has resulted in dropping costs drastically and has helped generate revenue through various channels. Digitization has decreased the human error.

RBI has been a guiding force for the banks in forming regulations and giving recommendations to attain various objectives. Commercial Banks in India have moved towards technology by way of Automation and bank Mechanization with the introduction to MICR based cheque processing, Electronic Funds transfer, Inter-connectivity among bank Branches and implementation of ATM Channel have resulted in the convenience of anytime banking. Strong initiatives have been taken by the Reserve Bank of India in strengthening the Settlement and Payment systems in banks.

Midha (2016) in his research discussed the issue of digitalization process and effectiveness of digital India campaign. The programme is an excellent initiative but it has certain barriers which need to be overcome. Digital India campaign aims to make a cashless society which has its own advantages. Implementation phase is certainly problematic as the concept is new but over the time period this has to be seen from the viewpoint of customers. It is peak time to discuss the relevant issues with the customers so that the existing barriers may be removed.

Aghdam et al. (2015) in their research stated that the development of electronic banking in banking operations can be divided into 4 periods and in every period, the banking system has made it possible for managers to reduce the time wasted in a competitive environment and to provide services in a broader series and speed up the variety and quality of services to increase their accuracy. According to these authors, the earliest period was for back counter operations were using a central computer, paper and data documents produced in the branches were packed and sent to the center (headquarter) to be processed at night and this period is mainly restricted to registering the documents and converting paper files to computer files. As a result of the earliest period, the second period consisted of front counter automation where bank employees pursue the bank operations electronically in the presence of the customer with the use of computers or terminals. While the third period was based on connecting customer to accounts which started in the mid-1980s when bank customers could have access to their accounts either by ATM, phone, smart

cards and personal computers via a network. Consequently, the fourth period was based on integrating systems and linking customers to all banking operations and this last period starts when all the outcome of the previous periods are fully transferred to the electronic devices so that the bank and the customers will be able to achieve accurate and regular information they need.

Limboire(2014) discussed that finance and banking is the life blood of commerce, trade and industry. Now-days, banking sector acts as the backbone of modern business. Expansion of any country mainly depends upon the banking system. A bank is a financial institution which deals with advances and deposits and other related services. It receives money from those who want to keep in the form of deposits and it lends money to those who need it. The banking is one of the most essential and important parts of the human life. In current rapid lifestyle, peoples may not do proper transitions without developing the proper bank network. The banking System in India is dominated by nationalized banks. The presentation of the banking sector is more closely linked to the economy than perhaps that of any other sector. The development of the Indian economy is estimated to have slowed down significantly. The economic slowdown and global development have affected the banking sectors performance in India in FY12 resulting in modest business growth. It has forced banks to re-adjust their focus, consolidate their operations and strive to strengthen their balance sheets.

Daneshvar et al. (2012) conducted a study on panel data of 2 public banks for the period 1998-2009 to examine the impact of IT investments on productivity and profitability of Indian public sector banks. The study used two statistical tools in terms of regression and correlation analysis. The results indicated that investments on IT contributed to increased amount of deposits and return on assets as profitability, profit per employees as productivity indicator and decrease the staff cost and net non performing assets ratio. The study also showed that public banks tried to adopt assets quality and cost reduction strategies to compete in the Indian bank market.

There was decrease of cost through substantial improvement in efficiency by business organizations. This resulted in banks diverting their focal point towards extensive computerization and electronic operations (Masocha2011). The electronic delivery of banking service has become model for banks in meeting customer's expectations and building close customer relationship.(Williamson2006). Haider et al. (2011) stated that the main motive for the banks to switch towards electronic means is to raise their clientage, to facilitate them and to boost customer's loyalty, to serve the customers with best of the services. Also, the business expansion was another motive for which electronic is the medium for provision of services. Increment in the clientage, loyalty, clients' satisfaction and business expansion results in increased profits for the banks and managers have shown affirmative attitude towards e-banking. The research concluded that e-banking is enhancing profitability and financial positions of banks and banks are striving tough to provide more and more services to their customers and to move ahead and modern e-banking services are also developing the infrastructure.

Malhotra et al. (2009) in their research on the impact of internet banking on bank performance and risk found out that on average, internet banks are more profitable, larger, and are more operationally efficient. They also found that internet banks have higher asset quality and are better managed to lesser the expenses for building and equipment and that internet banks in India rely considerably on deposits. They further found out that smaller banks that adopt internet banking have been negatively affected on profitability.

Malhotra et al. (2009) in their research paper described the current state of Internet banking in India and discusses its implications for the Indian banking industry. Particularly, it seeks to study the impact of Internet banking on banks' performance and risk. Using information drawn from the survey of eighty five scheduled commercial bank's websites, during the period of June 2007, the results show that nearly fifty seven percent of the Indian commercial banks are providing transactional Internet banking services. The univariate analysis indicated that Internet banks

are larger banks and have superior operating efficiency ratios and profitability as compared to non-Internet banks. Internet banks rely more deeply on core deposits for funding than non-Internet banks do. However, the multiple regression results expose that the offering and profitability of Internet banking does not have any significant association, on the other hand, Internet banking has an important and negative association with risk profile of the banks.

Conclusion

Based on a collective consideration of the literature reviewed, the following could be observed:

- a) Researchers have overwhelmingly advocated various digital modes involved in digital banking and also various strategies and applications in digital banking in India.
- b) Substantial research is observed on digital banking and its impact across the countries.
- c) The Banking sector has been projected for a bright prospect for the banking industries thanks to number of factors like the regulatory climate is favorable, economic fundamentals are sturdy, and transformation technologies are more readily available, powerful, and economical than ever before.
- d) Some researchers have identified demonetization as a boon for digital banking in India.
- e) Technology has a perfect role in facilitating transactions in the banking sectors and the effect of technology implementation has resulted in the introduction of new service and products by various financial institutions in India.
- f) Researchers have highlighted the growing trend of internet usage in rural, urban, semi urban areas. It is clear that the Indian population is moving fast towards adoption of internet linked services. Access of mobile phone has improved significantly but internet usage is not that much inspiring due to non-familiarity with the facilities.
- g) In terms of impact of internet banking on bank performance and risk authors have found out that on average, internet banks are more profitable, larger, and are more operationally efficient. They also found that internet banks have higher asset quality and are better managed to lesser the expenses for building and equipment and that internet banks in India rely considerably on deposits.

The research gap is pretty evident in terms of the opportunity available for banks to digitalize their operations particularly in the semi-urban and rural areas in the light of 2016 demonetization. Considering the big opportunity in the form of digital banking, more research is definitely warranted in the domain of Banking in India. Further it has been observed that most of the studies are concerned with impact of digital banking on customer satisfaction or impact of digital banking on a bank's performance. A study combining both these aspects, that is, customer satisfaction and banks performance has not been conducted so far. Hence a research exploring the intricate relationship between digitalization in banking and impact on customer satisfaction with its eventual impact on the banks performance has a good potential.

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