

THE ADOPTION AND IMPACT OF ARTIFICIAL INTELLIGENCE IN INDIAN BANKING SECTOR

Harshali B. Gomase, Pune University, Maharashtra, India (harshali.gomase@gmail.com)

ABSTRACT

Digital crack-up is reformulated big business and changing the way businesses operation. Every business is assessing options and adopting policies to create importance in the technology-bound world. The banking zone is witnessing ground-breaking development: foremost being the rise in customer-centricity. Customers, exposed to advanced technologies in their day-to-day lives, suppose banks to transform rational experiences. To meet this confidence, banks have spread their business landscape to retail, telecom to supply services like mobile banking, e-banking and real-time money transfers. While these advancements have empowered customers to account most of the banking services at their fingertips anytime, anywhere, it has also enter with a cost for the banking zone. Coming together of banking and sectors like, telecom and retail has increased the transfer of critical information over essential networks that are accessible to cyber-attacks and fraudulence. These facts not only influence the advantages of banks, but also bassinet banks' faith interrelation with customers.

Artificial Intelligence is spectacularly popular when judged by today's banking headlines, but those headlines have outplayed today's practical banking existence. Few banks have going production or even full-fanned research at this stage. For those who think they're lagging, the good news is that they're not — there's still some time. But make no omission: scarcity of progress today doesn't mean that banks can manage to avoid Artificial Intelligence; they must work out a strategy to contract with the opportunities that it commitments to them and to their challengers. Technology has flourished the businesses are done and over the last couple of years. Zone-wise, technology is riding the horse of fortune and guiding companies to abundant improvement, with ease. There is a boosting want to adopt Artificial Intelligence and the Indian banking zone is gradually shifting itself towards using adoption Artificial Intelligence. If one talks about the banking zone, the adoption has been evenly, when correlate to other bank zone. This can be by virtue of the matter that banking is specific a manpower-led sector, with operations that require human engagement. Yet the Indian Banking zone understands the wants to decrease cost and the expenditure on unnecessary project. The Indian banking zone is exploring the ways by which it can bondage the power of Artificial Intelligence to upgrade the operations and build up the Customer Service in everywhere. The paper follows to research the areas where the usage Artificial Intelligence is being need in the Banking Zone and its conclusion in the led banks in India.

The main objective of this research paper is to observe whether the selected Indian Banks are adopting Artificial Intelligence depends on technological application or not and if the banks are adopting Artificial Intelligence depend on applications, then what are particular purposes for which they adopting them. This was seeking by organizing framed interview of Bank branch heads of the selected 14 scheduled banks. The researcher with the use of a questionnaire interrogates from the branch heads of selected banks and correlated the acknowledgement with the desired state adopting GAP Analysis Worksheet. The study clearly suggests none of the banks selected by the researcher in his research except the new private sector banks adopt artificial intelligence depend on technological utilizations. The new private sector banks are also adopt artificial intelligence depends on technological utilizations for frivolous objectives.

Keywords: Artificial Intelligence, Customer Service, Operations.

INTRODUCTION

Banking has become progressively dependent on information structure and the help of most current technology has also developed to more and more significant. The banks demand to adopt Artificial Intelligence depend on technological utilization to provide customized benefits and products to its customers as well as in Transaction Observation. Artificial Intelligence depends on services and products in banking: The Artificial Intelligence depends on services include services like automatic cheque book re-order facility, etc, banks internally use them for employees' achievements evaluation, credit evaluation of customers etc and products like customized investment advice for customers after for their portfolio analysis and customized investment solutions after valuation the credit history as well as income pattern. Intelligence and Analytics in Business Auditing in Banking: The transaction history of a customer contains valuable information about their purchasing and investment preferences. Though this transaction-related data is available with banks at an individual customer

level, of appropriate business intelligence adequacy and data analytics capabilities has resulted in a less than optimal operation of this data in providing customized products, services and investment solutions to customers. There is an amplifying comprehension among the banks that they are sitting on a treasure build-up of report about their customers. By using this data, banks can not only meet their customers' financial requirements more productively, but can also evolve a major competitive advantage in a marketplace which is becoming progressively dynamic and globalized. This comprehension has resulted in a drive towards booming the performance of artificial intelligence depends on management intelligence and analytics in transaction observation.

Artificial Intelligence start-up endeavour objectives measure trying to reanalyse banking and more and more banks have bombarded Artificial Intelligence primarily depends on leaders, be it within the house of client benefits, fraud management, or credit grading, among others. These endeavour and leaders have bounce up as a result of Artificial Intelligence battery-powered banking is feasible currently and it's additionally seeing consent among finish shoppers. All this has confluence remedy to banking business and technology leaders agreeing that computer science is among the most prominent banking direction which will be reborn banking in present context. Artificial Intelligence is a district of technology that emphasizes the creation of intelligent machines that sense, comprehend, reason and act to emulate human behaviour. a number of the activities that computers with Artificial Intelligence objectives measure designed for grasp image and speech recognition, learning, coming up with and downside determination. Samples of applied technologies grasp: machine learning, deep learning, predictive prescriptive analytics, virtual agent and tongue understanding technologies. Actually, computer science is all of those things. Once a automatic information processing system, AIP system simulates a process, like thinking or sensing, that is one amongst the building blocks of human intelligence; it wants Artificial Intelligence to try and do thus.

REVIEW OF LITERATURE

Shorouq Fathi Eletter, Saad Ghaleb Yaseen and Ghaleb Awad Elrefae [2010] in spite of the credit decision approval in the banks has been subjective and it is up to the loan officer in most cases, banks can implements their credit analysis methods through adopting artificial intelligence technologies such as neural networks..

G. Koteswara Rao & Roshan Kumar [2011] Banks can adopt technology to implements their performance and they can get the sustainable competitive benefits. Banks will be able to manage explicit information and there by transform the information to knowledge which in turn can help bank in making better decisions and lead them to be in a better position in contemporary business competitive environment.

Matthew Sainsbury, FST Media [2012] Artificial Intelligence has been identified as the next technological frontier for banks as they look to leverage their investment in mobile to drive greater customer engagement. Banks including Standard Chartered and Citi are developing artificial intelligence solutions to assist with staff attrition and training, and reduce human error at all points in the engagement and transaction process.

Hamid Eslami Nosratabadi, Ahmad Nadali, and Sanaz Pourdarab [2012] in their research paper for evaluating the credit degree of Bank's customers, have adopting of the combination of extracted laws of association laws by Data Mining Process and the knowledge of experts. They have classified the customers by the Association Rules after preparing and formatting the information. The obtained laws by the Bank's experts have been selected according to the importance.

Rajanish Dass (IIM,Ahmedabad) [2012] Data mining can contribute to solving business problems in banking and finance by finding patterns, causalities, and correlations in business information and market prices that are not immediately apparent to managers because the volume data is too large or is generated too quickly to screen by experts.

HYPOTHESIS

The research work was planned to analyse the hypothesis that the Indian Banks do not adopt Artificial Intelligence depend on technological applications.

OBJECTIVES OF THE STUDY

The research work was planned with the objective to find out whether the selected Indian Banks are adopting Artificial Intelligence depend on technological utilizations or not and also to discover that if the banks are using Artificial intelligence form on utilizations, then what are diverse the purposes for which they adopting them.

1. The study has been planned to discuss the various information for adopting in banking zone at the same time to compare the Artificial intelligence adoption in various management. In addition Artificial intelligence to this, the study focused on key areas of Artificial intelligence adoption in the banking zones. The study covered various key boundary as
2. To study the areas where the artificial intelligence is being adopted by the banks.
3. To study about the operation of Artificial intelligence in banking zones.
4. To study about the operations of Artificial intelligence in adopt in the main commercial banks in India

RESEARCH METHODOLOGY

Scope of Research: Since all banks follow the norms of the RBI and the computerization by banks is done as per the recommendations of committees formed by the Central Bank from time to time, therefore their policy for utilization of the computerization in branches of a particular bank. Therefore, the area of research chosen by the researcher is Nagpur city, as it is a developing city having branches of most of the banks.

Sample Design: The population area is very huge it was not feasible to study the integrated population, so the researcher determined to go for investigate and analysis. In order to get a holistic representation, the researcher has recycled stratified sampling and banks classified by RBI have been split into classes assigned to as strata on the basis of the Total Turnover of the banks. **Sample Size:** The total number of banks preferred by the researcher is 14 Sample sizes- 14). The list of preferred banks is as given below:

List of Banks Preferred as Test			
Sr.No.	BANK	Sr.No.	BANK
1	SBI- State Bank of India	9	South Indian Bank
2	Punjab National Bank	10	Nainital Bank
3	CBI-Central Bank of India	11	ICICI Bank
4	Syndicate Bank	12	HDFC Bank
5	Punjab & Sind Bank	13	Axis Bank
6	Andhra Bank	14	Yes Bank

RESEARCH DESIGN

Data Collection: The Data is collected from primary sources only. Since all the information could not be obtained from secondary sources therefore for the collection of first-hand information for primary data, the researcher made a questionnaire containing various questions regarding the computerization in banking. The branch for a bank is preferred by the researcher catching into consideration the size and business of the branch, which ensures that the branch will be fully computer equipped as per bank norms. The list of selected branches in Nagpur of selected 14 scheduled banks.

Then the researcher conducted well scheduled interviews and the respondents are asked to complete the questionnaire by verbally responding to questions in the presence of the researcher, through a face-to face structured interview. The Researcher also noted on-the-spot observations by visiting the Nagpur branches of the banks and using their various products. **Analytical Tool:** The mainly quantitative information produced by this questionnaire was analysed through Disparity analysis Disparity analysis is a tool that helps organizations compares actual state with potential state. Disparity analysis compares the Current State of banks (as per the collected data) with the Desired State of the banks (considering the various Guidelines, Rules and Regulations of RBI, the international Guidelines as well as Data from international organizations like World Bank etc.) and it is presented with the help of Disparity Analysis Worksheets etc.

ANALYSIS & FINDINGS

Q. The researcher asked the banks if they are adopting Artificial Intelligence depended on technological operation and if yes, then for what reasons they are planned and compared the feedbacks with the desired state:

Disparity OBSERVATION SHEET					
Current State				Desired State	Disparity
Sr.No.	List of Bank	Response	Purpose		
1	SBI- State Bank of india	NA	-		Banks should start Adopting Artificial Intelligence Depends on technological utilizations for more composite directions.
2	Punjab National Bank	NA	-		
3	CBI-Central Bank of indian	NA	-		
4	Syndicate Bank	NA	-		
5	Punjab & Sind Bank	NA	-		
6	Andhra Bank	NA	-		
7	IDBI Bank	NA	-		
8	Federal Bank	NA	-		
9	South Indian Bank	NA	-		
10	Nainital Bank	NA	-		
11	ICICI Bank	yes	Electronic Cheque book Re-order facility		Banks should start Adopting Artificial Intelligence Depends on technological utilizations for more composite directions
12	HDFC Bank	yes	Electronic Cheque book Re-order facility		
13	Axis Bank	yes	Electronic Cheque book Re-order facility		
14	Yes Bank	yes	Electronic Cheque book Re-order facility		

The information of Disparity analysis worksheet clearly suggests that none of the banks selected by the researcher in his research except the new private zone banks procedure artificial intelligence form on technological operation. The new private sector banks also planned artificial intelligence mainly for base aspiration like automatic cheque book re-order facility. Yes Bank also plans artificial intelligence for Employees performance assessment, Credit valuation and portfolio analysis.

HYPOTHESIS TESTING

The analysis interpreted Disparity Analysis Worksheet shows that the Public sector, Old Private Sector, Regional Rural & Cooperative Banks in India are not are planning any Artificial Intelligence deepened technological operations, Therefore it shows that the Hypothesis assumed by the researcher, is TRUE for Public sector, Old Private Sector, Regional Rural & Cooperative Banks in India. The analysis as interpreted disparity Analysis Worksheet also shows that the only the new private sector Indian Banks are adopting any Artificial Intelligence depended technological applications, Therefore it shows that the Hypothesis assumed by the researcher, is FALSE, though partially for new private sector Indian Banks.

CONCLUSIONS

The research clearly suggests that none of the banks preferred by the researcher in his research except the new private sector banks adopt artificial intelligence depended technological applications. The new private zone banks also adopt artificial intelligence mainly for petty purposes like automatic cheque book re-order facility.

1. While the conclusion of artificial intelligence has been everywhere for many years, it's recently that the artificial intelligence delusion has begun to advance into existence. What's left to try to be embroidering along this component to re-think banking developments and action?
2. While the technologies expand is each fast and spectacular, banks, and indeed, all organizations, ought to ground their using ways and expectations in point of fact.
3. Fast movers have another benefits therein their artificial intelligence operation can begin learning prior others, and can so expand immediate similarly.
4. With artificial intelligence, the business can undergo an extended voyage of brainstorming banking, connecting many years, several milestones and a minimum of many objections.
5. A digital boom is surely taking place across all sections of organization especially banking after demonetization.

SUGGESTIONS

All the Indian Scheduled Banks should initiate the process of the adoption of most modern expertise such as Artificial Intelligence depend on technological applications to provide customized operations and products to its customers as well as in Business Auditing.

REFERENCES

- M. Bhuvana, P. G. Thirumagal and S .Vasanth, Big Data Analytics - A Leveraging Technology for Indian Commercial Banks, Indian Journal of Science and Technology, Vol 9 (32), August 2016
- "Banking in the age of disruption," EY, February 2017
- <https://www.businesstoday.in/magazine/special/hdfc-bank-digital-transformationbest-indian-large-bank-2014/story/213957.html>
- <https://www.goodworklabs.com/artificial-intelligence-in-banking-industry/>
- <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/financial-services/infs-deloitte-banking-colloquium-thoughtpaper-cii.pdf>
- [http://www.ey.com/Publication/vwLUAssets/ey-banking-of-the-future-embracing-technologies/\\$FILE/ey-banking-of-the-future-embracing-technologies.pdf](http://www.ey.com/Publication/vwLUAssets/ey-banking-of-the-future-embracing-technologies/$FILE/ey-banking-of-the-future-embracing-technologies.pdf)

- Kaplan, S., & Sawhney, M. (2000). E-hubs: the new B2B (business-to-business) marketplaces. *Harvard Business Review*, 78(3), 97–103, 214.
- King, N. (1994). The qualitative research interview. *Qualitative Methods in Organizational Research: A Practical Guide*, (September 2015), 14–36. <https://doi.org/10.1108/11766091111162070>
- Batt, R. (1999). Work organization, technology, and performance in customer service and sales. *Industrial and Labor Relations Review*, 52(4), 539–564. <https://doi.org/10.2307/2525063>