

## A Study On Impact Of Artificial Intelligence In Financial Services Of Private Banks In Bangalore

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### **Abstracts:**

*This paper focuses on the impact of artificial intelligence (AI) in the financial services of private banks in Bangalore and to oversee the application of artificial intelligence methodology in the banks as well as responses from the clients or consumers. This research is focused on the top 10 leading private banks in India. To identify the information used in the banking industry, the data is collected from secondary sources based on the literature review. A structured questionnaire is framed to collect the primary data of customers have toward AI application. Findings: the result of the study that the private banks are using various AI services for the customers benefit so that customers satisfied with their services in addition to that financial services as to improve services more effectivemanner because some of them are dissatisfied with the banking services. It also shows that people towards technology adoption give importance according to government initiative digital India. The result also suggested that the customers more commitment from representatives to the bank by giving development innovative preparing to improve the AI procedures in the workplace and Banks should ensure that every single client utilizing web-based financial offices ought to be seen with e-alert on every single exchange.*

### **Keywords:**

*Artificial Intelligence, Banking industry, Financial Services, Technology and Private Banks.*

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## **I. Introduction:**

Banks are the most significant money related establishments in the economy. They are the chief wellspring of credit for many families and some units of government. Banks assume a significant job in the financial improvement process. The nation's economy relies on the proficient working of the financial framework. The term AI was presented in the **year 1950s by John McCarthy**; he was the first to characterize AI as "Science and designing of making Intelligence machines". Because of the change in Technology, AI is presently getting its conspicuousness as there are quick advancement and huge enthusiasm among the Banking Sector to over the serious weight.

### **1.1 Applications in Banking:**

- **Analytics:** A zone of exceptional financial concentration throughout the previous quite a while, the investigation has profited by mechanical upgrades even without AI. Principal progress in preparing force and information control has given human examiners progressively integral assets.
- **Chatbots:** The most obvious occasion of AI today is the chatbot. A chatbot is an innovation administration fueled by calculations that collaborate with a client in a characteristic (human-like) way, either by voice or content. Some chat-bots are given personas as a virtual operator, which might be named and given a type of symbol and character.
- **Robotic Processes Automation (RPA):** RPA utilizes various procedures to copy routine human exercises consequently, more than once, quicker, and all the more precisely. In the most fundamental case, think about any arrangement of routine bank exercises performed by junior-level workers sitting in a 3D shape and fueled by AI is by the following stage in the development of making back workplaces increasingly productive.

**1.2 Areas impact AI in financial services:** Front office, Operational Office, and Back office.

**1.3 AI technology in top 10 leading private banks in India:**

- **HDFC BANK:**The use of Artificial Intelligence (AI) in the financial business is multi-practical. There are various use cases, exemplifying the arrangement of AI as an innovation.
- **ICICI BANK:**ICICI Bank turned into the first in quite a while, and among not many associations universally to convey programming applies autonomy at a huge scope to control its tasks with 200 programming mechanical technology performing 1 million exchanges day by day. Two years consequently, the private bank has scaled its RPA activity to over 750 programming's mechanical autonomy taking care of approx.
- **AXIS BANK:**Artificial intelligence methods utilized in the turn of events and execution of Axis Aha! included characteristic language handling (NLP)/normal language understanding (NLU) and common language age (NLG), just as neural systems to separate data from unstructured content to decide a client's aim, select a suitable activity, and react in a language the client gets it.
- **KOTAK MAHINDRA BANK:**Kotak Mahindra Bank as reported the dispatch of Keya, professed to be India's first AI-controlled bilingual voice-bot in the financial area.
- **YES BANK:**YES, ROBOT is your 24\*7 Personal Banking Chat Assistant. Simply open Facebook Messenger on your cell phone, scan for YES ROBOT, and begin talking about these kinds of technology we're using in YES bank.
- **FEDERAL BANK:**Virtual Agent is a computerized talk office that deals with Artificial Intelligence. The total of what endeavors have been taken to guarantee the exactness of reactions. In any case, the Information gave herewith will not be treated as any confirmation of its precision.
- **INDUSIND BANK:**IndusInd Bank has propelled Alexa Skill, 'IndusAssist', utilizing which ledger holders can direct money related and non-budgetary financial exchanges with Alexa, Amazon's menial helper.
- **RBL BANK:** RBL Bank expands partnership with AI-based credit underwriting platform CreditVidya. Will use huge information investigation and AI to improve client encounter and grow inclusion and Customized arrangements will be offered to more than 15 lakh clients.
- **KARUR VYSYA BANK:**KVB offers types of assistance, for example, individual, corporate, farming banking, and administrations to NRIs and MSME. Under close to home banking, the bank gives lodging credit, individual advance; protection; and fixed stores among others by AI in the banks.

## **II. On Overview of Litration:**

**Top 10 private banks in India 2019 According to RBI:** the general population considers private with regards to brilliant financial administrations and appropriate client collaboration and management. The blog gives a little presentation about the top 10 banks that are HDFC, ICICI, AXIS, KOTAK MAHINDRA, YES BANK, FEDERAL BANK, INDUSIND BANK, RBL BANK, KARUR VYSYA BANK, AND BANDHAN BANK. It investigates the data like when were bank built up, central command, and year of set up, its capacities, and tasks.

**Puneet Chhahira (2018)** Studied the applicability of AI and budgetary segment and what are the advantage that AI offers to fintech and various manners by which it can improve a money related organization. The key utilization of AI in FinTech will be increased dynamically. It will permit examiners to settle on complex choices with the assistance of machines which offer both pre and post dynamic help, created by breaking down verifiable information and developing patterns and investigates the mentality that client has towards AI in client administrations, as a substitute to neighborhood physical workplaces inside the Swedish bank industry, just as reveal any huge elements that could impact these perspectives. It centers around the Arguments in AI and to put these commitments with regards to the verifiable establishments of argumentation in AI and in this way, to examine various topics that have developed as of late bringing about a critical widening of the territories in which argumentation-based techniques are utilized.

**Prof. Lakshminarayana. N and Ms. Deepthi B. R. (2019)** examined the districts where the AI is being used in the Banking Sector, what's more, its recommendation in the top banks in India. There is a creating need to use Artificial Intelligence (AI) and the Indian financial Sector is consistently moving towards using AI. In case one conversation about the financial fragment, the gathering has been constant, when diverged from various zones.

**Bonnie G. Buchanan, Ph.D. FRSA (2019)** studied the related innovations that incorporate AI (ML) and profound learning (DL), AI can upset and refine the current money related administrations industry. ML strategies are about calculations, instead of asymptotic factual procedures. In this exploration paper, the creator

investigates profound data about AI. Finally, the creator inferred that his headings future research on increasingly about man-made consciousness in budgetary administrations.

**Saman Goudarzi, Elonnai Hickok, and Amber Sinha (2018)** assessed the features the man-made reasoning in fund and banks. How man-made brainpower sway on monetary administrations and gives data about an official rundown of the computerized reasoning into account it supportive for the current overview too.

**OBJECTIVE OF THE STUDY:**

- To study the impact of artificial intelligence on financial services.
- To study the methodology of artificial intelligence in private banks and to understand how artificial intelligence helped betterment of customer service in private banks.
- To know the concept of artificial intelligence and its role in financial factors.

**SCOPE OF THE STUDY:**

- ❖ The study is confined to HDFC, ICICI, AXIS, KOTAK MAHINDRA, YES BANK, FEDERAL BANK, INDUSIND BANK, RBL BANK, KARUR VYSYA BANK, AND BANDHAN BANK just in Bangalore
- ❖ Study of AI in banking is constrained to client benefits as it were.

**NEED TO STUDY THE TOPIC:**

Artificial intelligence consciousness isn't new to India. Research establishments and colleges have been working with different AI advances for quite a long time, and particularly in the financial division. With empowering innovations turning into much progressively available and reasonable, AI is currently turning out to be standard, with enormous ventures and new companies taking a gander at various chances. Our exploration study is about an effect on the monetary administrations in the private banks in Bangalore. Artificial intelligence reception is still in its beginning stages, and much more should be done to understand its maximum capacity.

**III. Data and Methodologies:**

This study has the qualitative method and it is descriptive, for the first objective to study the existing AI facilitated services available in the banking sector secondary data was collected by literature review and for the second objective, to study the current services in the selected banks in which AI has been executed data together from Literature Review, Books, Journals, Websites. For the third objective, to compare and studies the AI is used by the top ten banks in India and across the world for this Primary data using questionnaire Statistical tools: Correlation, reliability test, hypothesis, chi-square test software, and Excel.

**IV. Empirical Results:**

The customers are satisfied with banking services which determine future decisions by analyzing the correlation and chi-square test.

**TABLE-1.1**

The table showing the bank account holders and quality of services related:

Particulars	@5Doyouhavebankaccount	@6IfItheninwhichbankyouhaveaccount	@7If2banktheinwhichbankdoyouhaveaccount	@8Whatdoyoufeelabouttheoverall1in2bank	@9Whichattributeofthebankdoyouvaluemost	@10Doyou2theemployeesprovidingbankingservicesstocustomer
Correlation coefficient	-.060	-.035	.062	-.026	-.154	-.208
Sig. level	.517	.704	.502	.778	.091	.023
N	121	121	121	121	121	120
	1	-.141	-.140	-.106	.173	.017
		.123	.126	.245	.057	.856
	121	121	121	121	121	120
	-.141	1	-.136	-.209	-.012	-.016
	.123		.137	.021	.899	.863
	121	121	121	121	121	120
	-.140	-.136	1	.179	.118	.056
	.126	.137		.050	.197	.542
	121	121	121	121	121	120
	-.106	-.209	.179	1	.395	.198
	.245	.021	.050		.000	.030
	121	121	121	121	121	120
	.173	-.012	.118	.395	1	.153
	.057	.899	.197	.000		.096
	121	121	121	121	121	120

	.017	-.016	.056	.198	.153	1
	.856	.863	.542	.030	.096	
	120	120	120	120	120	120

**Interpretation:**

The above the table we can see the bank account holders in each the correlation of coefficient we found a negative correlation as the values move in the reverse directions. Here, there is no relationship between the two are more variable. The level of each customer’s perception of the banks is decreasing.

**Crosstab**

Gender\*which attribute of the bank do you value more

		@9Whichattributeofthebankdoyouvaluethemost					Total
		quality of service	technology used	Trust	type of the bank	6.0	
@2Gender	Male	27	15	17	5	3	67
	female	10	25	14	2	3	54
Total		37	40	31	7	6	121

**Hypothesis**

Ho= There is no relation between the attributes of the bank and gender

H1= There is a relation between the attributes of the bank and gender

**Chi-Square Tests**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.613 <sup>a</sup>	4	.031
Likelihood Ratio	10.858	4	.028
Linear-by-Linear Association	.395	1	.530
N of Valid Cases	121		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.68.

**Interpretation:**

As per the above table, the chi-square value is 10.613 and the P-Value for 0.031 which is less than the critical value 0.05, so we reject the null hypothesis and accept the alternative hypothesis that there is a relation between the attributes of the bank and gender

**V. Conclusion**

Artificial intelligence has numerous advantages to offer for the financial segment. Artificial intelligence is changing business procedures and client confronting administrations in the financial division in India. It is additionally being utilized to meet administrative consistence, recognize extortion, and survey singular financial soundness. The utilization of AI can make progressively productive business forms, offer customized administrations, and aid bigger objectives, for example, money related consideration. There is no uncertainty that the ongoing push towards digitalization is quickly impacting the conventional financial models. Be that as it may, it has likewise presented the establishments to expanding digital security dangers and vulnerabilities. The banks are progressively taking a gander at developing innovations, for example, square chain and investigation in making a functioning safeguard system against cybercrimes.

**References:**

- [1]. Ateş, M. (2017, AUGUST). Artificial intelligence in banking . Retrieved 6 1, 2020, from JÖNKÖPING: <http://ju.se>
- [2]. Bonnie G. Buchanan, P. F. (2019, April). Artificial intelligence in finance. Retrieved 5 22, 2020, from The Alan Turing Institute : <http://doi.org>
- [3]. Chhahira, P. (2018, March). ARTIFICIAL INTELLIGENCE POWERED BANKING. Retrieved 5 20, 2020, from Connecting the banking world: <http://www.semanticscholar.org>
- [4]. Latimore, D. (2018). ARTIFICIAL INTELLIGENCE IN BANKING . Retrieved 5 20, 2020, from celent: <http://dlatimore@celent.com>
- [5]. MARSH. (2019). Atifcial intelligence in financial services . Retrieved 5 11, 2020, from OLIVER WYMAN : <http://www.oliverwyman.com>
- [6]. Matteo Stefanel - Managing Partner & Co-Founder, A. P.-M.-F. (n.d.). Artificial Intelligence & Financial Services . Retrieved 2020, from apis partner.
- [7]. Matteo Stefanel - Managing Partner & Co-Founder, A. P.-M.-F. (n.d.). Artificial Intelligence & Financial Services . Retrieved 04 27, 2020, from apispartner : <http://apis.pe>

- [8]. Roy Juraj, T. G. (n.d.). About Acenture'sresearch . Retrieved 5 12, 2020, from Acenture'sredifinebankig with artificial intelligence : <https://www.accenture.com>
- [9]. SamanGoudarzi, E. H. (2017). AI in Banking and Finance. Retrieved 5 13, 2020, from The Center for Internet & society: <http://cis-india.org>

#### **Journals articles**

- [10]. Jewandah, D. S. (2018). How Artificial Intelligence Is Changing The Banking Sector –A Case Study of top four Commercial Indian Banks . International Journal of Management, Technology And Engineering, 6.
- [11]. Prof. Lakshminarayana. N1, M. D. (2019). Advent of Artificial Intelligence and its Impact on Top Leading Commercial Banks in India – Case Study . International Journal of Trend in Scientific Research and Development (IJTSRD) , 3.
- [12]. Sindhu, R. N. (2019). Impact of Artificial Intelligence in chosen Indian Commercial Bank –A Cost Benefit Analysis. Asian journal of Management , 1.
- [13]. Salunkhe, R. T. (2019). Role of Artificial Intelligence in Providing Customer Services with Special Reference to SBI and HDFC Bank . International Journal of Recent Technology and Engineering (IJRTE) , 10.

#### **Websites:**

- [14]. Top 10 Private Banks in India 2019 According to RBI. (2019, jan 10). Retrieved 04 27, 2020, from Oliveboard : <http://www.oliveboard.in>
- [15]. HDFC BANK. (n.d.). Retrieved 04 24, 2020, from Forms center personal: <http://www.hdfcbank.com>
- [16]. about axis bank-wikipedia. (n.d.). Retrieved 05 10, 2020, from Axis bank : <en.wikipedia.org>
- [17]. Bandhan Bank-wikipedia. (n.d.). Retrieved 06 04, 2020, from Bandhan Bank: <en.wikipedia.org>
- [18]. Federal Bank-wikipedia. (n.d.). Retrieved 05 12, 2020, from Federal Bank: <en.wikipedia.org>
- [19]. HDFC Ltd. (n.d.). Retrieved 05 14, 2020, from About Us - HDFC Ltd: <http://hdfc.com>
- [20]. hdfc-banks-artificial-intelligence-powered-chatbot-eva-to-be-availableJ. (n.d.). Retrieved 22 04, 2020, from hdfc bank: <https://www.firstpost.com>
- [21]. ICICI Bank wikipedia. (n.d.). Retrieved 05 05, 2020, from About ICICI bank: <en.wikipedia.org>
- [22]. IndusInd Bank-wikipedia. (n.d.). Retrieved 05 13, 2020, from IndusInd Bank: <en.wikipedia.org>
- [23]. Karur Vysya Bank-wikipedia. (n.d.). Retrieved 05 15, 2020, from Karur Vysya Bank: <en.wikipedia.org>
- [24]. Kotak Mahindra Bank-wikipedia. (n.d.). Retrieved 05 11, 2020, from Kotak Mahindra Bank: <en.wikipedia.org>
- [25]. RBL Bank-wikipedia. (n.d.). Retrieved 05 14, 2020, from RBL Bank: <en.wikipedia.org>
- [26]. Yes Bank-wikipedia. (n.d.). Retrieved 05 12, 2020, from Yes Bank: <en.wikipedia.org>