



## **ADOPTION OF ARTIFICIAL INTELLIGENCE IN BANKS IN RAJASTHAN**

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### **ABSTRACT**

The main objective of this paper is to observe whether the selected Banks in Rajasthan in are using Artificial Intelligence based technological application or not and if the banks are using AI based applications, then what are different the purposes for which they using them.

The data was collected by structured questionnaire of selected scheduled banks of Rajasthan. The researcher with the help of IBM SPSS analysed the collected data by applying chi-square test. the data presented in this study provides insight into the customer satisfaction by using AI applications in banks in Rajasthan. While majority of customer have a neutral to strongly agree to understanding and use of the AI application in banks, there is still a need for more awareness and educational qualification to understand the AI application and use in all types of banking.

### **INTRODUCTION**

The transformation in the development of IT have deep changes in Social Communication, AI and Big Data Analysis. To understand the fluctuating banking in this scenario is very challenging. Banks today can't afford to be complacent. The competitive advantage in the present changed as to be re-evaluated in the light of IT drive and Competitive Pressure in Technology. There is a need and necessary to understand the AI to shift from the traditional system which is consuming the time and not providing the customer satisfaction in the banking services. Hence in the growing AI world the need of adoption of AI is the only way to retain clients, improve the process and fulfil the demand of Customer. It can be said that AI could be a Key for transforming the problems of customer and retain the competitive edge.

The term AI was introduced in the year 1950's by John McCarthy, he was the first to define AI as "Science and engineering of making Intelligence machines". Due to the transformation in the Technology, AI is now getting its prominence as there is rapid evolution and significant interest among the Banking Sector to over the competitive pressure. AI is the technology based which results in the performing of various tasks through human Intelligence such as Speech recognition, visual recognition, and translation between languages and so on. The competitive Pressure made the Indian Banking to adopt the AI to overcome the problem throughout the Banking Activities.

The main aim of this study is to investigate how AI is being implemented in different industries, particularly in the field of Banking. This research will discuss the following research questions? What are the uses of AI in the banking sector? How is AI adopted globally and in India? What impact will AI have on the jobs and functions of banking organizations? What does the future of AI look like? What steps should organizations take to succeed in the competitive era of technology? Document analysis of the qualitative research method will be used as an approach to solving these questions.

## REVIEW OF LITERATURE

**(Rawani & Gupta, 2002)** aimed to empirically explore the difference in the role of IS in the banking industry, i.e. Between private sector, public sector, foreign sector banks operating of India. Results indicate the only private and foreign banks have obtained strategic advantages using IT, public sector banks, although late, have also realized the importance of IT. The study indicate that IS play a supportive role in public sector banks and strategic role on private sector banks. It has been empirically proved that the future impact of IS does not vary significantly with the banking groups. This suggests that IS efforts put in by the public sector banks are in the right direction and can be expected to give them a strategic advantage in future.

**(S. Kumar & Gulati, 2008)** purposed of this paper is to evaluate the extent of technical efficiency in 27 public sector banks operating in India and to provide strict ranking to these banks. Under this research using two population data envelopment analysis (DEA) models, namely, CCR model and Andersen and Petersen's super-efficiency model, were utilized. The cross-section data for the financial year 2004/2005 were used for obtaining technical efficiency scores. Result all 27 banks founded data efficiency defined the efficient frontier; and technical efficiency scores range from 0.632 to 1, with an average of 0.885. Thus, Indian public sector banks, on an average, waste the inputs to the tune of 11.5 percent. Andhra Bank has been observed to be the most efficient bank followed closely by Corporation Bank. The banks affiliated with SBI group turned out to be more efficient than the nationalized banks. The regression results incisively indicate that the exposure to off-balance sheet activities, staff productivity, market share and size are the major determinants of the technical efficiency.

**(Alt & Puschmann, 2012)** investigated paper for argues that the financial crises, the changing behavior of customers, upcoming innovations based on information technology (IT) and financial services offered by non-banks are strong drivers towards more customer- orientation in the financial industry. A large variety of banking IT innovations has emerged and illustrates that traditional banks are expected to have less power to impede competition at the customer interface and in consequence need to re-position themselves. Building on these developments on the one hand and existing electronic market infrastructures in the banking industry on the other, the concept of a customer- oriented financial market infrastructure is proposed as a possible future solution. The impact is illustrated using a competitive analysis of the banking industry and analogies to the media industry where new entrants from the computing industry have caused disruptive changes. Besides describing the threat to existing banks, the position paper also discusses the perspectives for banks.

**(Sabharwal, 2014)** analysis under in this research papers to observe the selected Indian banking using artificial intelligence based technology application and what are different the purpose for which they using them. This study using 16 schedule banks of Meerut (U.P.). The research prepare the questionnaire inquired from the branch head of selected banks and compared the respond with desired using GAP Analysis Sheet. this research suggest clear banks analysis based on selected private banks use artificial intelligence based technological applications. The new private bank also using artificial intelligence based technological applications.

**(A. Sharma & Piplani, 2017)** examined the recent digital banking trends in India along with identifying the challenges faced by banks in incorporating these digital banking trends. This research is analytical and based on secondary data. The conceptual of digital banking is involving in the Indian banking sector and likely to bring numerous opportunities as well as risk to the fundamental nature of banking in India. Thus, this research aim to present the challenges and opportunities of going digital in Indian banking sector and some recommendation to control these challenges. That research concludes the future, digital banking will be more demanded mode of conducting transaction.

**(Agarwal, 2017)** investigated under paper the role of robotic arms such as the one used by ICICI smart vault in India. The study aim to clarify some of the aspects related to the usage of robotics arm technology as deployed by ICICI bank in their smart vault services recently. This paper also help to understand the

scope of role and services provided by robots in the future of banking. This research also highlighting the use of robotics in day to day life how we remove the human intervention. A combination of a large scale data repositories and cognitive computing, Robot can be used to give the financial advice, prevent fraud by irregular financial transaction. Robotics is the future of science.

(Kurode, 2018) discussed how artificial intelligence can be applicable in various financial services like banking, insurance, credit rating etc. Researcher has elaborated on his observations regarding which areas and functions can make the use of artificial intelligence and while doing so what challenges will be faced by banking and financial services industry. Lastly this paper also enlists the advantages and disadvantages of AI implementation.

(P.S.Charan Kumar, 2019) studies about the Artificial Intelligence is not new this concept is from many years but the new improvement in AI Adaptation as increasing in technology. The technology itself is getting better day by day with various applications. As everyone thinks about CHAT-BOTS only as AI service but many other adaptations are there as it related to services to customer. SBI has a major role in adaptation of artificial intelligence as it is the largest bank in India (As per the Accenture Banking Technology vision 2018 Report). From decades research institutions and universities have been working with various AI technologies especially in the field of Social Transformation. In Banking Sector the AI reduces the cost for customer interaction and increases there efficiency.

(Kumar, Aishwaryalakshmi, &.Akalya, 2020) aimed of the study is to examine the benefits of Artificial Intelligence in banking sector in India. AI's impact was far- reaching and every customer of bank is getting benefitted with the adoption of AI. This paper is about studying the impact of Artificial Intelligence (AI) in banking sector in India and the challenges faced by the banking sector in implementing Artificial Intelligence. AI is necessary for banking sector due to the government's efforts in financial inclusion and to push India into a digital economy. It happened only with widespread use of AI by the banking sector in India. It is the AI which is going to be the major game changer in the banking sector. Artificial Intelligence is gaining popularity day by day and banks are exploring and implementing this technology in transforming the way customers are assisted. It makes it even easier for a customer to do transactions from any place and at any time without waiting in long queues at the bank. Hence, the aim of Artificial Intelligence is to provide personalized and high quality customer satisfaction along with efficient and time saving services.

(Smith & Nobanee, 2020) examine the implementation of artificial intelligence that has been taking place within the banking industry. There have been many opinions about artificial intelligence (AI) and its ability to make things more efficient across multiple industries. The banking industry is no different. There has also been speculation that artificial intelligence may have a negative effect on the banking industry as well.

## OBJECTIVES

- To examine the customer satisfaction by using AI services in the banks of Rajasthan, in regarding to their understanding of basis AI applications in banking.
- To understand the factors that affecting the customers satisfaction by using AI in banking.

## RESEARCH METHODOLOGY

The Study is descriptive and analytical in nature in the as the data is collected from both primary and secondary sources, which includes various research journals, websites, newspaper, articles and reports published by various organizations. To perform the study, a survey questionnaire has been used as research instrument that helped in understanding the customer's satisfaction level of customers by using AI services in banking in Rajasthan.

## STATEMENT OF PROBLEM

The artificial intelligence application and banking sector are seriously hampered by their lack of knowledge about AI. Few studies are reported related to artificial intelligence regarding banking sector in India. But no one has been clearly explaining this term. So, it is required to explain what does the artificial intelligence, we have only seen the beginning of the potential offered by use of artificial intelligence in banking sector, not only in improving how existing financial institutions operate the new innovative AI techniques, but also in introducing new perspective of structuring financial relationships with AI applications. which is causing growing concern that many banking customers lack of the knowledge of technology and ability to manage understand the AI tools in banks. In this study, researcher will report on employability in numerically. And check the potentially of artificial intelligence techniques in Banking to identify the customer satisfactions.

## SCOPE OF THE STUDY

The Indian banking sector is exploring the ways by which it can harness the power of AI to improve the processes and enhance the Customer Satisfaction in the long run. The paper seeks to explore the areas where the AI application is being used in the Banking Sector and its implication in the leading banks in Rajasthan and also to understand the need to cut down cost and the expenditure on redundant tasks for given better outcome to banking customers.

## NEED FOR THE STUDY

AI is not new to India. Research institutions and universities have been working with various AI technologies for decades, and especially in the banking sector. With enabling technologies becoming a lot more accessible and inexpensive, AI is now becoming mainstream, with large enterprises and start-ups looking at different opportunities. Our research study shows that the customer perception after adoption of AI in banking has the potential to add nearly \$1 trillion to the Indian economy in 2035. AI adoption is still in its nascent stages, and a lot more needs to be done to realise its full potential.

## ANALYSIS AND INTERPRETATION

Table 1 Demographic Profile

Basic Details		Frequency	Percentage
Age Group	18 – 30 year	95	87.4%
	30 – 45 year	8	7.2%
	45 – 60 year	5	4.5%
	60 above	1	0.9%
Total		109	100%
Gender	Male	57	52.29%
	Female	52	47.70%
Total		109	100%
Educational Qualification	Diploma	1	0.9%
	Under Graduate	19	17.43%
	Post Graduate	57	53.21%
	Doctorate	30	27.52%
	Other	2	1.83%
Total		109	100%
Which bank you use ?	Public	45	41.28 %
	Private	15	13.76%

	Both	49	44.95%
Total		109	100%

The data presented in table 1 is about the basic detail of a sample of 109 individual. The sample consists of people in the age group of 18 to 60 years, with the majority of individuals falling in the age group of 18 -30 years (87.4%). In terms of gender, there were more males (52.29%) then females (47.70%). The majority of the sample had an educational qualification of Diploma (0.9%), while 17.43% had a under graduate, 53.21% had post Graduate, 27.52% had Doctorate and other had only 1.83%.

In term of preference of uses of bank are, the sample was predominantly made up public bank (41.28%) and remaining individual, 13.76% were Private banks user and remaining 44.95% were using both banks Private as well as public.

Table 2

Question to understand the knowledge of basis Artificial intelligence awareness and AI application for banking customers		Frequency	Percentage
Are you aware of the use of AI applications in the banking sector?	Yes	90	82.56%
	No	9	8.25%
	Can't Say	10	9.19%
Total		109	100%
2. Have you adopted AI technology?	Yes	96	88.07%
	No	8	7.33%
	Can't Say	5	4.58%
Total		109	100%
4. How often do you use AI Applications?	Rarely	4	3.66%
	Sometime	9	8.25%
	Often	16	14.67%
	Frequently	34	31.19%
	Very Frequently	46	42.20%
Total		109	100%
3. What AI applications do customer prefer in banking services?	Robo advice	3	2.75%
	Digital locker	5	4.58%
	Credit score	8	7.33%
	Chatbot	20	18.34%
	CDM (Cash Deposit Machine)	38	34.86%
	Swayam (Passbook Printing Kiosk)	16	14.67%
	Have not use these AI applications	19	17.43%
Total		109	100%

The data presented in Table 2 is related to the basis Artificial intelligence awareness and AI application for banking customers to check the Customer satisfaction level. From the data on the understanding aware of the use of AI applications in the banking sector, it can be seen that the majority of the sample (82.56%) reported have a positive response they have well aware about the use AI application in over banks, additionally a significant proportion of the sample ( 8.25%) reported having a no response the mean these

customers are not aware about the AI application, and with some few customer have not idea that they using or not AI applications in over current using banking series.

The data on the how often use of AI application in daily life the majority of the sample (42.20%) felt very frequently, however a significant proportion (31.19%) Frequently and (3.66%) are reported rarely using these AI Applications.

Finally in term of AI Applications customers preferred applications, a large proportion of the sample (34.86%) Cash Deposit Machine. Among these those have who have used AI Application, Robo Advice (2.75%) not much customers aware about this, Digital Locker (4.58%) , other are Credit score (7.33%) and Chatbot (18.34%) Or few customer are not using these AI application (43%). Much useful in every bank there are kiosk machine (passbook printing machine) (only (14.67%) using new advance kiosk.

From the data, we can infer that while significant proportion of individual have to moderate to very good understanding of the customer satisfaction by using of AI application in over banking. There is still a significant number who are not too much sure about the use AI application and use in over banking experience. However, the majority of respondent have knowledge about the AI applications in over banks. These AI tools help to banking customer for reducing fraud and financial loss and increase trust etc.

### Hypothesis No 1

**H0: there is no association between educational Qualification and customer Satisfaction of banking customers by using AI techniques.**

Observed						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Diploma	1	0	0	0	0	1
Under Graduate	1	4	4	9	1	19
Post Graduate	3	2	11	33	8	57
Doctorate	0	1	6	19	4	30
Other	0	0	0	1	1	2
Total	5	7	21	62	14	109

Expected						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Diploma	0.0	0.1	0.2	0.6	0.1	1.00
Under Graduate	0.9	1.2 <sup>2</sup>	3.7	10.8	2.4	19
Post Graduate	2.6	3.7	11.00	32.44	7.33	57.00
Doctorate	1.4	1.9	5.8	17.11	3.9	30
Other	0.1	0.1	0.4	1.1	0.3	2
Total	5	7	21	62	14	109

**Calculated Value:  $\sum(O-E)^2/E = 34.046$**

**Degree of Freedom: 4**

**p-value: 0.005**

Inference:

The calculated value of the chi- square statistic (34.046) is associated with the degree of freedom (4), which gives a p value of 0.005

The p value (0.005) is less than the alpha value (0.05). Thus, we can reject the null hypothesis that there is no association between educational Qualification and customer Satisfaction of banking customers by using AI technique.

Therefore, we can infer there is a statically significant association between educational Qualification and customer Satisfaction of banking customers by using AI technique. Further analysis would be required to determine the direction of the association, but this result suggest that a person's qualification is likely to influence their customer satisfaction by using AI applications.

### Hypothesis No 2

**H0: There is no association Between Age and Customer Satisfaction of customer by using AI in banking.**

Observed						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
18-30 years	3	8	20	47	17	95
30-45year	1	0	2	1	4	8
45-60year	0	0	3	1	1	5
Above 60 year	0	0	1	0	0	1
Total	4	8	25	49	22	109

Expected						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
18-30 years	3.5	7.0	22.7	42.7	19.2	95
30-45year	0.3	0.6	1.9	3.6	1.6	8
45-60year	0.2	0.4	1.2	2.2	1.0	5
Above 60 year	0.0	0.1	0.2	0.4	0.2	1
Total	4	8	26	49	22	109

**Calculated Value:  $\sum(O-E)^2/E = 11.074$**

**Degree of Freedom: 4**

**p-value: 0.0188**

Inference:

The calculated value of the chi- square statistic (11.074) is associated with degree of freedom (4), which gives a p-value of 0.0188.

The p-value (0.0188) is less than alpha value (0.05). thus, we can reject the null hypothesis that there is no association Between Age and Customer Satisfaction of customer by using AI in banking.

Therefore, we can infer that age has an impact on the customer Satisfaction of banking customers by using AI technique. Further analysis would be required to determine the direction of the association, but this result suggest that a person's is likely to influence their customer satisfaction by using AI applications.

**Hypothesis No 3**

**There is no association between Gender and customer satisfaction of the customer by using AI in banking.**

Observed						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Female	2	1	9	28	11	51
Male	4	4	5	27	18	58
Total	6	5	14	55	29	109

Expected						
Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Female	2.8	2.3	6.6	25.7	13.6	51
Male	3.2	2.7	7.4	29.3	15.4	58
Total	6	5	14	55	29	109

**Calculated Value:**  $\sum(O-E)^2/E = 9.8818977$

**Degree of Freedom: 4**

**p-value: 0.0494**

Inference:

The calculated value of the chi-square statistic (9.8818977) is associated with the degree of freedom (4), which gives a p-value of 0.0494.

The p-value of 0.0494 is less than the chosen alpha value of 0.05, which indicates that there is a statistically significant relationship between gender and the extent to which individuals believe that Basic AI tools knowledge play an important role in achieving higher customer satisfaction in over banking services. Therefore, we can infer that there is a relationship between gender and customer satisfaction by using of AI applications in banking. However, it is important to note that the strength of the association is not very strong, as the chi-square value is relatively low. Further research may be required to investigate this relationship more deeply.

**FINDINGS**

The research paper examined the customer satisfaction among the banking customer by using AI application in banking sector in Rajasthan, India, by analysis the data collected through a survey. The study provides insights into the demographics of the sample and the customer satisfaction of using of AI application in banking.

The result indicates that the sample is relatively young customers, with a significant proportion of individuals in the age group of 18- 30 year. The gender distribution is almost equal, with a slightly higher proportion of Males. The majority of individuals have a post-graduation qualification, and the sample is largely compared to Doctorate, followed by under graduation and other.

While a significant proportion of young customers have a neutral to strongly agree understanding of the basic AI application, there is still a significant number who are not too sure and not sure at all about their customer satisfactions after using AI applications in banking. However, the majority of respondents had banking customer and they regularly base using Internet banking and other banking services in over daily lifestyle. e- Banking and AI mobile application for payment etc. are helpful for banks and customers for reducing fraud cases and improve customer and employee relations and AI help to customer to familiar with the internet upgraded future robotic techniques. The data on checking Customer satisfaction suggests



that while a majority of respondents had using the AI application directly or indirectly somehow in over routine banking life. So had shown that over studies going in positive direction and give fruitful results for future.

### LIMITATIONS

The study has a few limitation that must considered when interpreting its findings. Firstly, the sample size is relatively small, and the results may not accurately the entire banking customer population in Rajasthan. Secondly, the study relies on self-reported data, which can be influenced by biases and inaccuracies. Finally, the research is restricted to the Rajasthan, and the findings may not be generalizable to other regions in India. These limitations suggest that caution must be exercised when applying the result of this study to other populations or contexts.

### CONCLUSION

In conclusion, the data presented in this study *provides* insight into the customer satisfaction by using AI applications in banks in Rajasthan. While majority of customer have a neutral to strongly agree to understanding and use of the AI application in banks, there is still a need for more awareness and educational qualification to understand the AI application and use in all types of banking. It's helpful to increase the customer interest in modern technology and easy the life of customer reduce work load and cost. Effort should be made to promote AI technique in every sector.

### REFERENCES:

- Aghion, P., Jones, B. F., & Jones, C. I. (1994). Artificial Intelligence and Economic Analysis. In *Southern Economic Journal* (Vol. 60, Issue 4). <https://doi.org/10.2307/1060449>
- Alt, R., Beck, R., & Smits, M. (2018). FinTech and the transformation of the financial industry. *Electronic Markets*, 28(3), 235–243. <https://doi.org/10.1007/s12525-018-0310-9>
- Alt, R., & Puschmann, T. (2012). The rise of customer-oriented banking - Electronic markets are paving the way for change in the financial industry. *Electronic Markets*, 22(4), 203–215. <https://doi.org/10.1007/s12525-012-0106-2>
- Alzaidi, A. A. (2018). Impact of Artificial Intelligence on Performance of Banking Industry in Middle East. *International Journal of Computer Science and Network Security*, 18(10), 140–148.
- Anbalagan, D. G. (2017). New Technological Changes In Indian Banking Sector. *International Journal of Scientific Research and Management*, 05(09), 7015–7021. <https://doi.org/10.18535/ijssrm/v5i9.11>
- B Nimbhorkar, N. (2018). Transforming Banking Sector through Artificial Intelligence. *International Journal of Arts, Science and Humanities Transforming*, 6(1), 215–218.
- Bahrammirzaee, A. (2010). A comparative survey of artificial intelligence applications in finance: Artificial neural networks, expert system and hybrid intelligent systems. *Neural Computing and Applications*, 19(8), 1165–1195. <https://doi.org/10.1007/s00521-010-0362-z>
- Crosman, P. (2018). How artificial intelligence is reshaping jobs in banking: EBSCOhost. *American Banker*. <https://web.a.ebscohost.com/ehost/detail/detail?vid=0&sid=3ad3135e-dba4-4ff5-abf0-8d7849afb0d3%40sdc-v-sessmgr06&bdata=JnNpdGU9ZWWhvc3QtbGl2ZQ%3D%3D#db=bth&AN=129468404>
- Dashrathrao, D. M. S. (2018). Trends and Challenges of ICT in Indian Banking Sector.
- Fathima, S. (2019). Artificial Intelligence in Banking Sector – A Study. *The Management Accountant Journal*, 54(3), 58. <https://doi.org/10.33516/maj.v54i3.58-61p>
- Fethi, M. D., & Pasiouras, F. (2011). Assessing Bank Performance with Operational Research and Artificial Intelligence Techniques: A Survey. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1350544>

- Kumar, M., Charles, V., & Mishra, C. S. (2016). Evaluating the performance of indian banking sector using DEA during post-reform and global financial crisis. *Journal of Business Economics and Management*, 17(1), 156–172. <https://doi.org/10.3846/16111699.2013.809785>
- Kumar, S., & Gulati, R. (2008). Evaluation of technical efficiency and ranking of public sector banks in India: An analysis from cross-sectional perspective. *International Journal of Productivity and Performance Management*, 57(7), 540–568.
- Miyan, M. (2017). Applications of Data Mining in Banking Sector. *International Journal of Advanced Research in Computer Science*, 8(1), 108–114.
- Nainani, D., & Patel, A. (2016). Challenges and Issues of RTE Act-2009. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, 4(11), 807–813.
- Nazari, M., & Alidadi, M. (2013). Measuring Credit Risk of Bank Customers Using Artificial Neural Network. *Journal of Management Research*, 5(2), 17. <https://doi.org/10.5296/jmr.v5i2.2899>
- P.S.Charan Kumar. (2019). Artificial Intelligence in Indian Banking Sector: Challenges and Opportunities. *International Journal of Advanced Research*, 7(4), 1581–1587. <https://doi.org/10.21474/ijar01/8987>
- Pannu, A. (2015). Artificial Intelligence and its Application in Different Areas. *Certified International Journal of Engineering and Innovative Technology*, 4(10), 2277–3754.
- Rawani, A. M., & Gupta, M. P. (2002). Role of information systems in banks: An empirical study in the Indian context. *Vikalpa*, 27(4), 69–74. <https://doi.org/10.1177/0256090920020406>
- Reddy, N. A., & Divekar, B. R. (2014). A Study of Challenges Faced By E-commerce Companies in India and Methods Employed to Overcome Them. *Procedia Economics and Finance*, 11(14), 553–560. [https://doi.org/10.1016/s2212-5671\(14\)00220-2](https://doi.org/10.1016/s2212-5671(14)00220-2)
- S.Shukitha. (2018). An Overview on Use of Artificial Intelligence. *Shanlax International Journal of Arts, Science and Humanities*, 6(1), 84–87.
- Sabharwal, M. (2014). The use of Artificial Intelligence ( AI ) based technological applications by Indian Banks. *International Journal of Artificial Intelligence and Agent Technolog*, 2(1), 1–5.
- Vijai, C. (2019). Artificial Intelligence in Indian Banking Sector: Challenges and Opportunities. *International Journal of Advanced Research*, 7(4), 1581–1587. <https://doi.org/10.21474/ijar01/8987>