A Study on Using Artificial Intelligence in Private and Public Sector Banks to Enhance the Customer Services in India

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Abstract

The concept of artificial intelligence have been increased in all sector in India from last few years, the main reason to increase artificial intelligence could be because of demonetization, pandemic situation, increased awareness regarding online payments in private and public sector bank, easy payment option at figure tips, liberal government rules and regulation, digital India, unlimited phone calls and increase internet facilities with 5G speed smartphones etc… leads to increase in dependency on artificial intelligence in private and public sector banks in India. The major reasons behind adoption of artificial intelligence are because of fast growing technology and cope up with the developing economy. This gives the major reason to boom artificial intelligence in banking sector to introduce the drastic changes in banking system. Now a days artificial intelligence play a major role in financial Institutions. In this research paper the author is going to figure out the importance of artificial intelligence in private and public sector bank and its satisfaction level especially in enhancing customer services in India. Also this research paper extended light on drawbacks of introducing artificial intelligence in banking sector in India.

Keywords: public sector bank, Private sector bank, artificial intelligence…

1 Introduction

Banking sectors plays vary important role in financial Institution to maintained balanced economy. Banking industry has been the lifeblood of financing sector. It plays major role in development of the economy. Public sector banks and private sector banks are the major types of commercial banks whose more than 50% shareholding lies with the central, state

government, Private Corporation or individuals. The central and state government industrial activitiescontrol by the public sector banks where in private sector bank manage a portion of economic activities. Now at present 34 nationalised banksamong that 12 public sector banks and 22 private sector banks working in India. As India progresses in its economic conditions by USD 5 trillion economy by 2025. Artificial Intelligence one of the yard stick to reach the goal and meeting the requirement in Banking sectors.

Artificial Intelligence is act as a link between the banking sector and Individuals. It combines the computer science, machine learning and datasets to enable the problem solving in banking sectors. It simulates the intelligence process in machines computer. Banking sector majorly depends on computer system for all type of activities for fast functioning and to meet the customer requirements. Today all banking sectors providing services through computerised platform. In this process Artificial intelligence digitally connecting to the people more especially in developing country likes India. It helps to complete the project through intellectual process and save lots of time in human activities. It also provides flexibility over wider domains in complete the required tasks in

banking sectors. Artificial Intelligence is played very important role in enhancing customer services in public and private sector banking in India. Banking 4.0 provided more space for Artificial intelligence in promoting the banking activities and optimizing machine proficiency in banking sectors. Most of the banking sector 90% activities depend on Artificial Intelligence in India. Using big data analysis process in banking sector both internal and external sources of activities increases efficiency in competitive business environment. Implementation of Artificial Intelligence in Banking sector is the most difficult task because it difficult to convince customers for digital transformations.

The present study objective is to enlightening the benefits of implementation of Artificial Intelligence in Public and Private sector banking in enhancing customer services and also study the any drawbacks because of implementation of Artificial Intelligence in Indian Banking sector especially public and private sector banks in India.

2 Objectives of the Research:

The research objectives are:

❖ To enlightening the benefits of implementation of Artificial Intelligence in Public and Private

sector banking in enhancing customer services

❖ To know the objective and scope of Artificial Intelligence in banking sectors

❖ To understand the concept of Artificial Intelligence

❖ To study the drawbacks in implementation of Artificial Intelligence in Indian banking sectors.

3 Review of Literature:

Dr. G Nagarajan, Dr R Arunadevi (2023), they conducted research on "Artificial Intelligence in Banking Industry and Customers Perspective". In their research stated that AI gives realistic implications on banking sectors. They conducted research in five Asian international locations. Their research gave platform to conduct research still more in Asian and European nations for compare the perspective perception of customers towards the Artificial Intelligence. AI will allow the banking to control the customer behaviour and also research also focuses on the dangers virtual era affected on banking transactions.

Suma S R and Anupama S (2021), their study conducted on the "Banking 4.0: Artificial Intelligence and its applications in Indian Commercial Banks". They studied in depth on client's information regarding artificial intelligence and they

found that 75 out of 100 banking clients are believe that AI is significant in advancement of activities in banking sectors. AI can acquire progressive modifications from financial organisations, Android and iOS application in banking sectors. AI has become a critical device to hold on awareness of the innovation activities in the banking sectors. He also found that AI is still in the infant stage still banking sectors need some time to move out traditional technology towards AI technology.

Sharan Kumar Shetty, CristiSpulbar (2022), Their study conducted on "Impact of Artificial Intelligence in Banking Sector with reference to Private Banking in India". They studied on implementation of AI in Banking sectors, difficulties to access AI by the customers as well as risk involved while implementing AI in banking sector. AI is not simply restricted to retail banking services. AI is the more expensive to implement and it reduces the work pressure in banking operations and it also helps to reduces the human errors. So according to their study implementation of AI in banking sector will be more usefull and profitable to the banking sector.

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Dr V Padmanabhan and V PrincyMetilda (2021), their study focuses on "An Impact of Artificial Intelligence in Indian Banking Industries". They studied on reason for implementation for Artificial Intelligence in banking sectors, positive and negative impact of Artificial Intelligence in banking sector. AI is majorly proliferating the banking activities to reforms the performance. At the time of covid-19 situation people gradually turns towards the digitalization which made more impact on implementation of AI in banking sectors to meet the competitive financial services. They also specified the difference between AI and manual workforce in their research study.

Dr M G R and A Geetha (2021), their research work on "A Study On Artifical Intelligence In Banking And Financial Services". In their study showed that AI has many advantages in providing financial services. AI will help all the financial institutions in satisfying their customers' needs and wants. At present customers have awareness about the AI application in banking services. AI makes the fulfilment of customers need faster and easier. It also helps in minimisation of fraud and increases the creditworthiness of the customers.

4 Research Methodology

This research paper is based on both primary as well as secondary data. The primary data has been obtained from structured Google Questionnaires form. The Secondary data has been obtained by published as well as unpublished data through magazines, newspaper, booklets, various websites and journals. To study in depth and controlling inner expression of respondent for this purpose survey is conducted through Google form questionnaires across the nation among that 100 sample respondents has been obtained. Samples are drawn through using various statistical tools like chi-square test, Likert-scale, T test has been used to frame frequency to measure the Artificial Intelligence will enhance the services of customers in public and private sector bank in India. The Random sampling technique was used to select the respondents for the study purpose. The

research studies are both descriptive and exploratory in nature. The main objectives of research are to study the AI will enhance the customer services are not. Data are represented in the form of graphical charts and chi-squares etc…

5 Empirical Results Analysis and Interpretation

Before getting into the analysis, the data collected from 100 respondents from various demographic profile in India. As a result, efforts have made to gather information through Google form on "A study on using artificial intelligence in private and public sector banks to enhance the customer services in India". The data was collected first and then it was used for analysis and interpretation.

6 Demographic Profile of the respondent

In order to analyse the demographic profile of the responses, especially responses I have taken from the entire nation. I have used chi-square test. The decision rule used to find out the significant factor is chi-square test P value > 0 and sigma< .05 accordingly. The Gender, age and monthly income information collected for the purpose of analysis. Some are rejected because their sigma value is less than 0.05 for that reason hear null hypothesis has been rejected alternative hypothesis has been accepted. Education and occupation of the respondent has been accepted because that sigma value is more than 0.05 here null hypothesis has been accepted and alternative hypothesis rejected.

Table 01: Demographic Profile

Sources: Google form

AI enhances customer services by public and private sector banking in India

Gender	Male	68	*Chi square = 3.21* *P=0.000* *(H0 Significant)*
	Female	32	
Age	21-30 years	42	*Chi square 4.5* *P=0.000* *(H0 Significant)*
	31-40 years	36	
	41-50 years	15	
	Above 50	7	
Education	SSLC	7	*Chi square 3.88* *P=0.088*
	PUC	20	

	Graduation	48	*(H0 Significant)*
	Post-Graduation	12	
	Other Qualification	13	
Monthly Income	Below 50000	12	*Chi square 5.08* *P=0.002* *(H0 Significant)*
	50000-100000	31	
	100000-200000	19	
	200000-300000	12	
	300000-400000	11	
	400000-500000	10	
	500000 above	5	
Occupation	Business	36	*Chi square 4.12* *P=0.077* *(H0 Significant)*
	Employed	49	
	Professionals	15	

In order to find out A study on using artificial intelligence in private and public sector banks to enhance the customer services in India05 attributes that can influence the respondent in order to Artificial intelligence enhance the customer services in India by public and private sector banks. The respondents were then requested to express their level of opinion on the influence of those factors on a 5 point Likert-scale. The majority of the respondent are belongs to male category, their age between 21-30, and income between 50000-100000 per month, most of the respondent are graduates and employed in reputed companies, industries etc…

Table 02: Correlation between Gender and AI will enhance the customer services or not in banking sectors

Descriptive statistics			
Particulars	**Mean**	**Std. Deviation**	**Numbers**
Gender	1.33	0.432	100
AI will enhance the customer services or not in banking sectors	3.49	1.462	100
Correlation			
Particulars		**Gender**	**AI will enhance the**

			customer services or not in banking sectors
Gender	Person Correlation	1	-0.12
	Sig.(2-tailed)		.942
	Numbers	100	100
AI will enhance the customer services or not in banking sectors	Person Correlation	-0.12	1
	Sig.(2-tailed)	0.942	
	Numbers	100	100

In the research we found that -0.12 correlation coefficient. Gender varies between =1, 0 means there is no linear correlation from the collected data. Genders included with two variables for the test i.e correlation. As a result, it shows there is a negative correlation everyone agreed that AI is enhancing customer needs and wants in banking sector and that is the reason new innovation are taking place in AI in banking sectors majorly.

Table 03: Age and AI will enhance the customer services or not in banking sectors

Age Validation						
	Particulars					
	Valid		Missing		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Positive opinion on implementation of AI in enhancing the customer services in banking sectors	100	100%	0	100%	100	100%

Likert- Scale analysis on AI will enhance the customer Services in Public and Private Sector Bank							
			Disagree	Neutral	Agree	Strongly Agree	Total
AGE	21-30 years	Count	2	5	14	21	42
		Expected Count	4.76	11.9	33.33	50	42.00
	31-40 years	Count	8	10	14	4	36

		Expected Count	22.22	27.77	38.88	11.11	36.00
	41-50 years	Count	4	1	2	8	15
		Expected Count	26.66	6.66	13.33	53.33	15.00
	Above 50	Count	6	1	0	0	7
		Expected Count	85.71	14.28	0	0	7.00
Total		Count	20	17	30	33	100
		Expected Count	20.00	17.00	30.00	33.00	100.00

Chi-Square Test			
	Value	df	Asymp.Sig (2-sided)
Customers Chi-square	4.526	6	.000
Likelihood Ratio	6.612	6	.000
Linear by Linear Association	1.720	1	.000
Number of Valid Cases	100		
Three cell have expected count less than 5 i.e 18.75%			

Sources: Data collected from primary data and computation of data completed with the help of SPSS

The test can only take into account evaluate non-missing data for age and Likert scale analysis to ensure AI enhance customer services in public and private sector bank in India. The individual chi-squares statistics is 8.926 in value it means the expectation that all cell counts will be greater than 5, which satisfied and the degree of freedom is 6. The corresponding p value for test statistics is p = 0.000 so p-value is less than significant level 0.05, we have to reject the null hypothesis. Wearrive the conclusion that there is a connection between AI in enhancing the customer services in public and private sector bank.

Table 04: Customers opinion on AI will enhance the services in Public and Private sector Banking

Results of Paired Sample T-Test

Particulars	Mean	Paired Sample T-test	P-value	Hypotheses
Positive impact on implementation of AI in public and private sector banking	3.21	2.63	0.001	*Significant*
AI will be transparent in providing customer services in public and private sector banking	4.44	2.67	0.089	*Not-Significant*
AI will increase the efficiency while providing services in banking activities	4.01	3.63	0.073	*Not-Significant*
Chabot is sufficient to solve the problems of public and private sector banks	3.01	3.467	0.000	*Significant*
AI providing beyond the expectation of customer in private and public sector banks	3.72	2.98	0.000	*Significant*

Source: Google form Questioner

In order to find out A study on using artificial intelligence in private and public sector banks to enhance the customer services in India05 attributes that can influence the respondent in order to know the customer perception. The respondents were then requested to express their level of opinion on the influence of those factors on a 5 point Likert-scale. The output of t-test performed to identify the significant enhance the customer services by using Artificial Intelligence in public and private sector bank is shown in Table 04.

Table 05: Awareness of AI by customer in Banking activities
Results of Paired Sample T-Test

Particulars	Mean	Paired Sample T-test	P-value	Hypotheses
AI helps to provide suggestions regarding their loan, insurance and other investment information	3.58	1.448	0.000	*Significant*
Required updates can be obtained by the banking customer using AI	3.41	1.263	0.001	*Significant*
AI ensures mobile banking application more quicker and safer	4.56	0.61	0.66	*Not-Significant*
AI will save customer time	3.41	1.876	0.004	*Significant*
AI help to motivate the customers in digital transaction	2.56	1.62	0.000	*Significant*
AI helps to reduces manual work	4.4	1.210	0.002	*Significant*

Source: Google Form Questioner

7 Findings

❖ The majority respondents were male only it means 68 per cent were only 32 per cent are women its clear show compare female, male agreeing AI will enhance customer services in public and private sector banking

❖ The majority of the respondents will come in age group 21-30 years and 31-50 years after so onand its clearly shows young customers are more agree with that AI will enhance customer services in public and private sector bank.

❖ The occupation of the respondents in that employees are agree with that AI are more safety and time safe technology in banking activities .

❖ Still few customers are feeling difficulty in secured in usage/identification of bank with the help of AI technology.

❖ The majority of the customers are expecting still more innovation and research activities needed in banking sector to enhance customer services.

Suggestions of the Study The bank has to attract the 21-30 years age group people those age group people are still expecting more on AI facilities in enhancing customer services in banking sectors

❖ Customers feels difficult in switching manual to digital form of banking activities needs some awareness programmes.

❖ AI should protect the customers against fraud here private sector act more protective than compare to public sector bank.

❖ Implementation of AI in banking sector is more expensive compare to public sector bank private sector bank face difficulties in implementations.

❖ Government should give more importance to E departments to enhance AI technology.

❖ Implementation of AI is more expensive and Government funding agency should provide fund to implement AI in banking sectors

8 Conclusion of the Study

Today's fast growing economy needs to implementation of fast banking technology. The manual banking is does not matching with the fast growing technology. This leads to implementation of Artificial Intelligence in public and private sector bank to increase the performance, to enhance customer needs and to better customer satisfaction etc… The implementation of new AI technology in banking services is helping them to grow and expand the financial services. It also helps effective utilization of resources, minimization of cost etc… Effective use of AI will enhance the customer services in better way. AI will empower the services, client satisfaction by providing restricted retail banking services. Banking 4.0 also more focuses on up gradation of banking technology through AI. Out of 100 respondent majority of the customer are aware of implementation of banking technology. Most of the young customers are satisfied of implementation of AI in enhancing customer services. AI reduces work pressures and unwanted errors and fraud. The banking sectors are more benefited from AI in a various way. AI can acquire progressive modification from financial institution, irrespective of its application. Through various apps public and private sector banks converting traditional banking services into modern AI technology. AI now a days becoming critical technology and must needed technology in public and private sector in India.

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