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A Study on Role of AI in Customer Experience in Banking Sector

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Abstract

This study explores the transformative impact of Artificial Intelligence (AI) on enhancing customer experience in the banking sector. As banks increasingly adopt AI-powered tools, this research examines how these technologies influence customer interactions, satisfaction, and overall experience. The study focuses on various AI applications such as chatbots, virtual assistants, predictive analytics, and personalized financial services, and how they contribute to more efficient, responsive, and tailored customer experiences. By analyzing current AI implementations and customer feedback, the study identifies key factors that drive successful AI integration, including transparency, data privacy, and customer trust. Additionally, the research investigates the challenges and opportunities banks face in leveraging AI to meet evolving customer expectations. The findings underscore the necessity for banks to adopt a strategic approach in deploying AI technologies to enhance customer engagement, loyalty, and satisfaction, while also addressing ethical considerations and maintaining a human touch. This study provides practical insights for banking institutions seeking to optimize their customer experience strategies through AI adoption.

I. INTRODUCTION

As a technology that has the potential to completely transform a wide range of industries, artificial intelligence (AI) has grown in importance and popularity in recent years. Artificial intelligence has the potential to have a significant impact in the banking industry. From fraud detection to operations management, banks are already using AI to improve customer service, cut costs, and streamline operations for the benefit of all customers. However, this is only the start; There will be many more fascinating opportunities for AI in banking. Therefore, let's discuss the current position of AI in the banking industry, the advantages and disadvantages of using AI more frequently, and how AI will affect banking in the future.

The banking sector is not the only one that has looked into artificial intelligence (AI) technologies. In recent years, artificial intelligence (AI) has become increasingly prevalent in the banking sector. Improved customer service and more effective operations are just two of the many advantages AI offers banks. However, using AI in banking may carry some risks, such as the possibility of job losses and privacy concerns.

Artificial intelligence (AI) efficiently opens up a wide range of new opportunities for businesses to boost revenue and customer loyalty, optimize operational efficiency, sharpen decision-making skills, and offer more pertinent goods and services—all while helping to lower customer attrition rates. Research in this field is becoming more and more popular since AI has emerged as a major player in the revolution in customer service. However, a few studies do highlight the crucial components that have aided in the evolution of the idea of the customer experience. This study closes this vacuum in the academic literature by looking at the ways that seamless service capabilities, higher service quality, and tailored responses to customer expectations implemented by AI have enhanced the customer experience.

AI Applications in Banking Sector

Chatbots:

Because they offer an extremely high return on investment in terms of cost savings, chatbots are among the most popular AI applications beyond industries. The most frequently requested tasks, such cash transfers, micro statement access, balance enquiries, etc., may be efficiently completed by chatbots. This reduces the workload from other channels, such as online banking and phone centers.

Smart Wallets:

Artificial intelligence-enabled mobile wallets for paying for movies, events, bus tickets, taxis, and utility bills

Robo advice:

Automated guidance is one of the most contentious issues in the financial services industry. A robo advisor tries to figure out a customer's financial health by

looking at the information they provide and their previous financial activities. Based on this study and the client's objectives, the roboadvisor will be able to make appropriate investment recommendations for a particular product class, down to the particular stock or product.

Cyber security:

Artificial intelligence (AI) has the potential to significantly improve the effectiveness of cyber security systems in detecting and preventing attacks by analyzing data from previous threats and identifying trends and indicators that may appear unrelated. Not only can artificial intelligence (AI) be used to defend against threats from the outside, but it can also detect risks and security breaches inside a business and suggest corrective measures to prevent data theft or misuse.

Credit scoring:

In order to evaluate a client's creditworthiness, alternative lenders rely heavily on artificial intelligence, which analyses data from a variety of traditional and non-traditional data sources. Supported by a robust credit rating methodology, this enables lenders to create innovative lending systems, even for individuals or businesses with minimal credit history. Artificial intelligence's advantages for the banking sector

- Early identification and mitigation of fraud
- Effective Risk Reduction
- Enhanced contentment among clients
- Lower expenses
- Rise in Income

Problem Statement

Modern marketing requires both a detailed grasp of customer requirements and preferences and the capacity to react swiftly and effectively to those insights. Real-time, data-driven decision making is unattainable for the majority of businesses who do not use AI in their marketing. The customization process gathers massive volumes of data that firms may use to better understand consumer behavior and interests across many platforms and contact points. This aids companies in better matching consumer interest with relevant material and increasing sales, especially when consumers participate in all phases of the e-commerce process, from awareness, research, and evaluation to purchase, review, and consumption. This systems and the relevant AI technologies in the employed marketing platform have a far greater chance of running successful campaigns. This is a result of their awareness of AI's technical constraints. According to the research, marketers' assumptions might be more accurate than AI's. Furthermore, considering the growing need to understand both domains, the research looks at how marketing and

artificial intelligence interact in order to carry out successful marketing campaigns. implies that marketers that comprehend AI.

Research Objectives

- To study the AI's potential to boost customer happiness and engage customers.
- To comprehend how AI technologies may be used to enhance consumer experiences and make wise decisions.
- To understand the elements that affect artificial intelligence's ability to boost a bank's client base and foster loyalty.

Scope of the Study

By utilizing AI-based systems that assist them in comprehending the kinds of things that customers anticipate from them, software companies can create and produce products that are tailored to meet the requirements and preferences of their customers.

Additionally, by using these systems, businesses may gain a deeper understanding of the typical consumer profile. This understanding aids in the development of strategies that allow businesses to provide each client with tailored or personalized goods or services.

All of these activities may eventually raise consumer satisfaction with the businesses, which may raise sales, market share, profitability, and industry or market lifespan for the businesses.

Limitation of the Study

i. This research paper's focus is on how artificial intelligence affects customers' perceptions in the banking industry.
ii. The purpose of this study is to ascertain the customer experience and is carried out within the context of services that offer cosmetics driven by AI.
iii. The effect of AI-powered services on customer experience may be more thoroughly investigated in a variety of consumer and lifestyle scenarios.
iv. We also think it will be crucial to thoroughly examine the various aspects influencing the AI-powered consumer experience.

Review of Literature

(Randhawa et al., 2016) Like the previous subject, the focus of this study is on the many forms of AI that are used and how they connect to the user experience. To find research gaps and eliminate redundant findings, quantitative systematic reviews use a thorough, rigorous, and quantitative methodology.

(Campiglio, 2016) Due to their global expansion, banks are now essential for maintaining the stability of a nation's economy in times of crisis. Reduced competition in the banking sector will result in high operating costs and subpar service delivery, which will lower the need for outside funding and slow down industrial expansion.

(Ivanov & Webster, 2017) The use of artificial intelligence (AI) in shaping the consumer experience is growing. AI quality may have a positive impact on the user experience, according to an examination of the relationship between the two. It has been observed that the broad application of AI to enhance business processes, particularly those related to customers, may also help to ensure a positive customer experience.

(Moliner et al., 2018), the quality of AI promotes flow and customer-brand identification, which in turn encourages consumer advocacy and boosts operational effectiveness and customer experience. By enhancing customer interactions and experience (i.e., flow), adoption of AI may lead to an organization's take on customer advocacy (i.e., brand identity). Utilizing information to facilitate service exchanges and leveraging that information to enhance application usability, artificial intelligence approaches contribute to the creation of value for services.

Research Methodology

The systematic and methodical search for pertinent information on a given subject is referred to as "research." A comprehensive analysis or investigation, especially the search for new data on any topic of study, is called research. Problem definition, formulation of theories or suggested solutions, evidence collection, organization, and evaluation, drawing inferences, and drawing inferences are all components of research. In the end, a lot of testing is done to see if the results back up the original hypothesis.

Hypothesis of Study

Ho: There is no significant relationship between Educational Qualifications and AI influencing personalized and Increase customer experience

H1: There is significant relationship between Educational Qualifications and AI influencing personalized and Increase customer experience.

Research Design

The framework or strategy for a study that directs data gathering and analysis is called research design. The blueprint is followed in order to finish a study.

Descriptive Research

This study's research design is primarily descriptive. The goal of descriptive research projects is to provide an accurate and concise description of a situation.

Sampling Size:

For this investigation, a sample size of 123 respondents was used.

Primary Data

The main source of data is gathered via a structured questionnaire. Since this was gathered in a field survey, it has an authentic quality.

Secondary data

Books and periodicals, as well as corporate websites, are used to gather secondary data.

Data Analysis and Inference

Table 1

Gender Wise Respondent

S.NO	GENDER	FREQUENCY	PERCENTAGE
1	Male	66	53.7
2	Female	57	46.3
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 53.7 % of them are male persons, and remaining 46.3% of them are female persons. Majority 53.7% of them are male about age of respondents.

Table 2

Age Wise Respondent

S.NO	AGE	FREQUENCY	PERCENTAGE
1	Below 30 years	27	22
2	31 – 35 years	41	33.3
3	35- 40 years	33	26.8
4	41 – 45 years	14	11.4
5	Above 45 years	8	6.5
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 22.0% of the respondent are belongs to Below 30 years, 33.3% of the respondent are belongs to 31-35 years, 26.8% of the respondent are belongs to 35-40 years, 11.4% of the respondent are belongs to 41 – 45 years and remaining 6.5% of the respondent are belongs to Above 45 years. Mostly 33.3% of the respondent are belongs to 20-30 years.

Table - 3

Marital Status Wise Respondent

S.NO	MARITAL STATUS	FREQUENCY	PERCENTAGE
1	Married	82	66.7
2	Unmarried	41	33.3
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that marital status of them, 66.7% of them are married and remaining 33.3% of them are their unmarried. Majority 66.7% of them are their unmarried.

Table - 4

Educational Qualification

S.NO	EDUCATIONAL	FREQUENCY	PERCENTAGE
1	SSLC/HSC	17	13.8
2	Diploma	26	21.1
3	Graduation	35	28.5
4	Post-Graduation	29	23.6
5	Others	16	13
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 13.8% of them are qualified upto SSLC/HSC, 21.1% of them are qualified upto Diploma, 28.5% of them are qualified upto Graduation, 23.6% of them are qualified upto Post Graduation and remaining 13.0% of them are qualified upto Others. Mostly 28.5% of them are Graduate qualification.

Table – 5

Income Per Month Wise Respondent

S.NO	INCOME PER MONTH	FREQUENCY	PERCENTAGE
1	Below 25,000	34	27.6
2	Rs.25,000 to 35,000	31	25.2
3	Rs.35,000 to 40,000	26	21.1
4	Rs.40,000- Rs.50,000	19	15.4
5	Above Rs.50,000	13	10.6
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that monthly income of them, 27.6% of them are earned to Below 25,000,

25.2% of them are earned to Rs.25,000 to 35,000, 21.1% of them are earned to Rs.35,000 to 40,000, 15.4% of them are earned to Rs.40,000- Rs.50,000 and remaining 10.6% of them are earned to Above Rs 50,000. Mostly 27.6% of them are earned to Below 25,000.

Table - 6

No Of Years' Experience

S.NO	EXPERIENCE	FREQUENCY	PERCENTAGE
1	Below 2 years	39	31.7
2	2-3 years	32	26
3	3-5 years	25	20.3
4	5-10 years	17	13.8
5	Above 10 years	10	8.1
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 31.7% of them are have Below 2 years of experience, 26.0% of them are have 2-3 years of experience, 20.3% of them are have 3-5 years of experience, 13.8% of them are have 5-10 years of experience and remaining 8.1% of them are have Above 10 years of experience. Mostly 31.7% of them are having Below 2 years of experience.

Table – 7

Ai Increase Real-Time Approval Accuracy

S.NO	AI INCREASE REAL-TIME APPROVAL ACCURACY	FREQUENCY	PERCENTAGE
1	Strongly agree	45	36.6
2	Agree	33	26.8
3	Neutral	22	17.9
4	Disagree	16	13
5	Strongly disagree	7	5.7
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 36.6% of them are belong to Strongly agree, 26.8% of them are belong to agree, 17.9% of them are belong to neutral, 13.0% of them are belong to disagree, and remaining 5.7% of them are belong to Strongly disagree. Mostly 36.6% of them are belong to strongly agree for AI increase real-time approval accuracy.

Table - 8

Role of AI in Enhancing Customer Experience

S.NO	ROLE OF AI IN ENHANCING CUSTOMER EXPERIENCE	FREQUENCY	PERCENTAGE
1	Drive efficiency	35	28.5
2	Improve user experience	26	21.1
3	Increase customer satisfaction	24	19.5
4	Improved operational efficiency	22	17.9
5	Reduced labour costs	16	13
	TOTAL	**150**	**100**

Source: Primary Data

Inference

The table inferred that, 28.5% of them are prefer Drive efficiency, 21.1% of them are prefer Improve user experience, 19.5% of them are prefer Increase customer satisfaction, 17.9% of them are prefer Improved operational efficiency and remaining 13.0% of them are prefer Reduced labour costs. Mostly 28.5% of them prefer Drive efficiency for role of AI in enhancing customer experience.

Testing of Hypothesis

Table - 4.25 Testing of Hypothesis

(Ho): There is no significant relationship between Educational Qualifications and AI influencing personalized and Increase customer experience

(H1): There is significant relationship between Educational Qualifications and AI influencing personalized and Increase customer experience

Table – 9

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Educational Qualifications * AI influencing personalized and Increase customer experience	123	100.0%	0	.0%	123	100.0%

Educational Qualifications * AI influencing personalized and Increase customer

Table – 10

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.373E2[a]	12	.000
Likelihood Ratio	295.701	12	.000
Linear-by-Linear Association	112.032	1	.000
N of Valid Cases	123		

a. 9 cells (45.0%) have expected count less than 5. The minimum expected count is 1.95

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	1.000	.000	52.160	.000
Measure of Agreement	Kappa	.c			
N of Valid Cases		123			

Findings, Suggestions and Conclusion

Findings

Demographic Insights:

- The study revealed that 53.7% of respondents were male, indicating a slightly higher male participation in the survey. This could reflect the gender

distribution in the banking sector or among customers who interact with AI-driven banking services.

- The majority of respondents (33.3%) were between the ages of 31-35 years, followed by 26.8% in the 35-40 years range. This suggests that middle-aged individuals are more engaged with AI technology in banking, possibly due to their familiarity and comfort with digital services.
- A significant 66.7% of respondents were married, suggesting that married individuals might have more frequent interactions with banking services, possibly due to joint financial responsibilities.

Educational Qualification:

- The majority of respondents (28.5%) were graduates, followed by 23.6% with postgraduate degrees. This indicates that the respondents were generally well-educated, which might influence their understanding and interaction with AI technologies in banking.

Income and Experience:

- The largest group of respondents (27.6%) earned below ₹25,000 per month. This demographic may have different expectations and experiences with AI in banking compared to higher income groups.
- Most respondents (31.7%) had less than 2 years of experience, indicating a younger or less experienced demographic, which could influence their perceptions of AI technology.

Perception of AI in Banking:

- A significant portion of respondents (36.6%) strongly agreed that AI increases real-time approval accuracy in banking. This suggests that AI's efficiency in processing applications and transactions is highly valued by customers.
- The most common response (28.5%) indicated that AI's primary role is driving efficiency, followed by improving user experience (21.1%). This highlights that customers appreciate the operational improvements AI brings to banking services.

AI's Influence on Personalization and Customer Engagement:

- A large number of respondents (34.1%) believed that AI's ability to analyze customer data is crucial for personalized banking experiences. This reflects the importance of AI-driven insights in meeting individual customer needs.
- 46.3% of respondents agreed that AI increases customer engagement, indicating that AI tools like chatbots and personalized services are effective in maintaining customer interaction.

Suggestions

- AI's power will increase and each customer's banking experience will become safer as AI technology advances. Artificial intelligence will lay the groundwork for increased output and the creation of new employment opportunities. In the banking industry, AI has the potential to create a novel business model and alter the customer experience. Humans and technology must work together to achieve the best results, which necessitates education and a re-evaluation of banking job opportunities. In addition, mass cu
- Atomization, which can only be accomplished through the utilization of block chain and artificial intelligence technologies, is required for the achievement of significant future potential. By adopting technological rigor, banks use AI's potential to create innovative client experiences through a variety of solutions and to set new standards for the Indian financial sector.
- As a result, they can choose a different path. AI technology is used to transform data into a digital format. Another benefit is enhanced customer service. Customers and banks alike benefit from time savings. It helps cut down on human error.

II. CONCLUSION

The financial industry has numerous potential applications for artificial intelligence. The findings show that banks and financial services are using artificial intelligence to help them meet customer expectations. The applications of artificial intelligence in banking and financial services are well-known to the general public. The most widely adopted AI applications in banking and financial services were those that made it easier and faster to meet customer needs and maintain security compliance. Customers have demonstrated a greater level of devotion to banking and financial services to representatives by providing innovative preparation for the advancement of AI practices in the workplace. Additionally, it is utilized for ensuring regulatory compliance, detecting fraud, and determining a person's creditworthiness.

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