

A STUDY ON CUSTOMER PERCEPTION ON ARTIFICIAL INTELLIGENCE (AI) IN BANKING SECTOR OF MUMBAI

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Abstract:

This study will focus on AI in banking sector of Mumbai region, while focusing on how AI can be very helpful in several sector including financial sectors too. This will focus on customer satisfactions and their trust on recent technology. As financial institutions increasingly adopting AI technology. These services are very convenient towards their customers by providing 24/7 availability with banking services. the customer perception regarding AI remains mixed by different age group which affects the level of trust on AI and recent technologies. Government should take initiative to create awareness regarding Ai in banking sectors. There are many positive and negative aspects of AI includes 24/7 availability, any time fund transfers and ease of use for balance inquiry. It is time friendly which makes human more tech savvy. Ai also gives financial advice based on their financial behavior. However, there are certain negative points many customers still afraid regarding their privacy regarding their financial data fearing misused and breaches. Recent upgrade in technology also replaces human interaction with the help of chatbot and virtual assistance. It also assumes that AI will replace human needs in jobs. The study conducts primary data on the basis of questionnaire with banking customers of different age groups and their perspective towards AI and their trust on recent technology and security towards there banking experience in recent era.

Keywords: AI in banking, customer perception, awareness, personalization, trust, scam, security, virtual assistance.

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Introduction: According to Merriam-Webster, the definition of Artificial Intelligence (AI) is:

"The capability of a machine to imitate intelligent human behavior."

This definition highlights the idea that AI refers to machines or systems designed to perform tasks that typically require human intelligence, such as understanding language, recognizing patterns, solving problems, and making decisions. Customer perception on AI in banking sector shows the consumer attitude and concern towards banking. AI technologies increasing in banking sector for operating and interacting with customers. AI in banking basically used for customer's basic services to improve operational efficiency to ensure better risk management. Technologies such as chatbot, virtual assistance, AI driven loan approval, AI based fraud detection system and personalized based recommendation for financial services. This innovation offers significant benefit to customers.

In India where technology is growing rapidly consumer perception on AI in banking is a roller coaster ride on the basis of trust AI brings mercy and difficulty at the same time. when it comes to convenience, automation and personalized AI brings mercy to customers on the other hand customer concern about their data privacy, security risk and loss of human interaction.

Review of Literature:

1. Saloni Tripathi,(2022) Points out the dynamics of AI platforms in the banking industry and how they are becoming a significant disruptor. Banks are facing challenges from current technology that uses intelligent algorithms to replace human labour. Companies must integrate AI into their business strategies and practises to stay competitive.
2. Chandrima Bhattacharya, (2022) in this paper literature evaluation and theoretical studies is completed for diverse worldwide and Indian banks with admire to the combination of AI to enhance client interactions and inner banking processes. Chatbot use instances on banking systems are ranked primarily based totally on client experience. Practical/Theoretical implications: Based at the entire image of AI integration with banking operations, evolving Indian banks should recognition at the maximum famous use-instances to draw customers. The correlation among Chatbot use-instances can also additionally gain the installed Indian banks to similarly amplify business.

Objectives:

1. To study about the customer perception of AI in banking sector.
2. To know about the future aspects of AI in banking service.

Study on AI Banking: AI is increasingly growing is banking sector. Tis can transform financial sector with recent technology.

AI Provide Customer Service And Personalization:

- AI tools like chatbos and virtual assistance for handling customer queries by providing accounting details . AI also reduce operational cost , AI can analyze customer data and offer them financial services by making best future plan.

Fraud Detection and Risk Management

- AI can learn algorithm used to detect unusual transaction patterns and prevent fraudulent activity. it also evaluate credit score of individual and business by analyzing a variety of data leading to more accuracy in risk management.

Automation And Operational Efficiency

- Automation has revolutionized various industries, enhancing operational efficiency, reducing human effort, and optimizing energy usage. In the context of appliances, automation integrates advanced technologies such as sensors, IoT (Internet of Things), and AI to make devices smarter, more efficient, and environmentally friendly. These advancements contribute significantly to productivity, energy savings, and sustainability.

Regulatory Compliance

- Artificial Intelligence (AI) has significantly transformed the banking sector by enhancing efficiency, personalization, and decision-making. However, the adoption of AI raises critical regulatory compliance challenges. Ensuring AI aligns with legal, ethical, and operational standards is vital for maintaining customer trust, protecting data privacy, and avoiding financial and reputational risks.

SWOT ANALYSIS:

Strength	Weakness	Opportunities	Threads
<ul style="list-style-type: none"> •Increased efficiency •Enhanced customer experience •Better fraud detection •Improved decision making 	<ul style="list-style-type: none"> •High initial investment •complexity of implementation •Lack of human touch •Data dependency 	<ul style="list-style-type: none"> •expansion of AI products •cross sector application •Regulatory compliance automation. •Market and customer insight. 	<ul style="list-style-type: none"> •Security risk and cyber thread. •Regulatory and ethical concern. •Job displacemnet •Bias and fairness

AI in banking presents transformative opportunities, from enhancing operational efficiency to providing personalized services. However, banks must address challenges such as trust, regulatory compliance, and ethical concerns to fully realize the potential of AI. By leveraging strengths and opportunities while mitigating weaknesses and threats, banks can build a robust and sustainable AI-driven ecosystem.

Data Collection and Methodology:

The data collected by primary sources. A questionnaire was drafted for the survey and random sampling was done.

1. Gender:

Gender	Response
Male	17
Female	28
Total	45

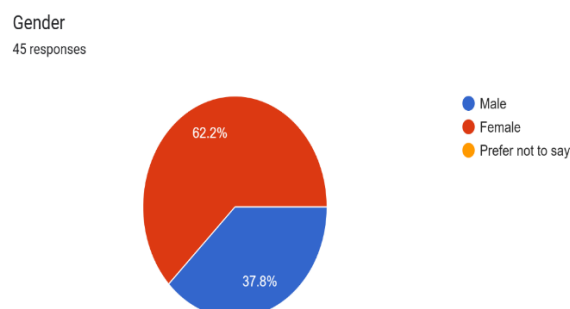


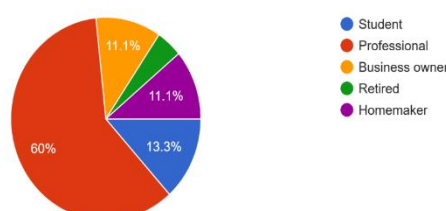
Chart 1. Gender:

Chart 1 shows 37.8% i.e.17 male and62.2% i.e. 28 female total 45 respondent were there.

2. Occupation:

Occupation	Response
Student	06
Professional	27
Business owner	05
Retired	02
Homemaker	05
Total	45

Occupation:
45 responses



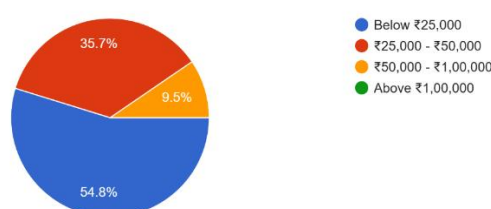
2. Occupation:

Chart 2. shows that the 6 respondents i.e. 13.3% were students, 27 professionals i.e. 60%, 5 business owner i.e. 11%, 2 retired 6.4% and 11% i.e. 5 homemakers respondents.

3. Income:

Particulars	Response
Below ₹25,000	23
₹25,000 - ₹50,000	15
₹50,000 - ₹1,00,000	04
Above ₹1,00,000	00
Total	42

Monthly income
42 responses



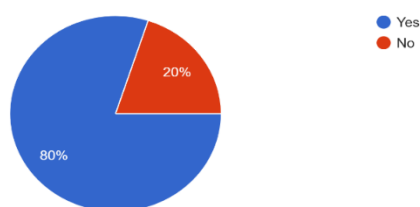
3. Income:

The study shows that the 23 respondents earn below 25000, 15 respondents earn 25000 to 50000, 04 respondents earn 50000 to 100000 monthly.

4. Awareness regarding AI technology:

Particulars	Response
Yes	36
No	09
Total	45

Are you aware that banks in Mumbai are increasingly using AI technologies?
45 responses

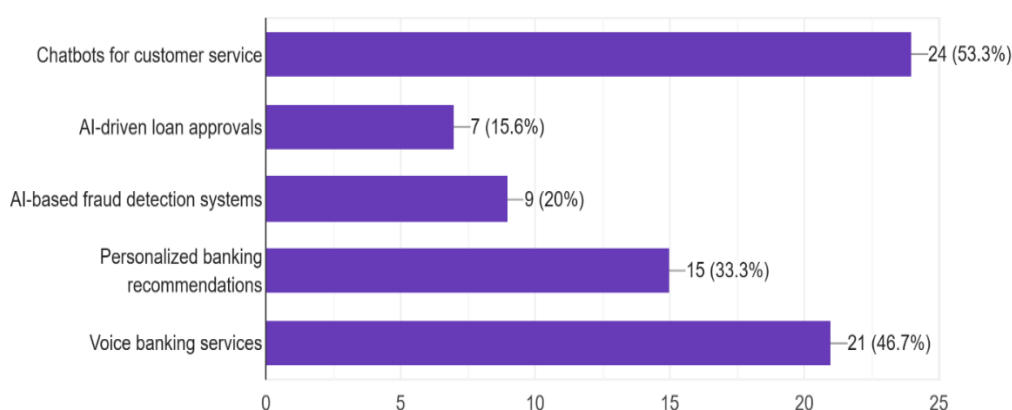


4. Awareness regarding AI technology

Chart 4 shows 36 respondent aware about the AI technology in banking sector where as 9 respondents were not aware about the same.

5. AI based services:

Which of the following AI-based banking services are you familiar with? (Select all that apply)
45 responses



5.AI based services:

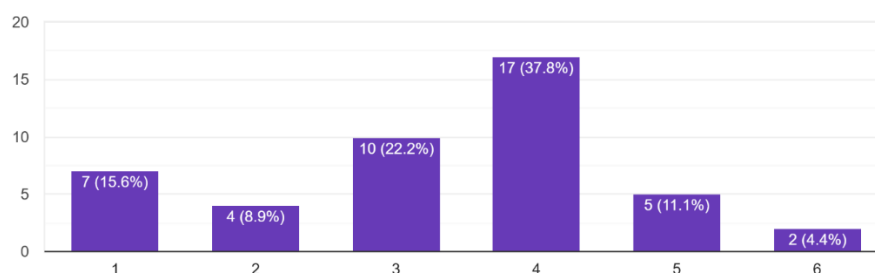
Study finds that 24 respondents familiar with Chatbots for customer service, 15 respondents familiar with AI-driven loan approvals, 09 respondents founds that AI-based fraud detection systems, 15 respondents familiar with Personalized banking recommendations, 21 respondents familiar with Voice banking services.

6. Understanding of AI banking(rating)

Particulars	Response
1	07
2	04
3	10
4	17
5	05
6	02
Total	45

How would you rate your understanding of AI in banking?

45 responses



6. Understanding of AI banking(rating)

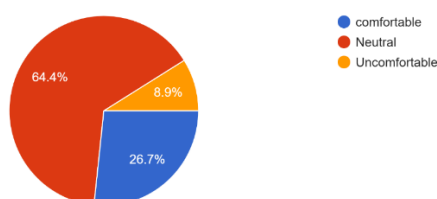
Chart 6. shows that on the basis of understanding 7 respondents gave 1 star, 4 responses as 2, 10 responses as 3, 17 responses as 4, 5 responses as 5, and 2 gave 6 stars rating.

7. Comfort with AI-Driven Services

Particulars	Response
Comfortable	12
Neutral	29
Uncomfortable	04
Total	45

How comfortable are you with using AI-driven services in your bank?

45 responses



7. AI driven service

Chart 7 shows that 29 respondents were neutral regarding using AI based services where as, 12 respondents were comfortable remaining 4 respondents were uncomfortable while using AI services.

8. Trust on AI:

Particulars	Response
Yes	12
No	14
May be	19
Total	45

Do you trust AI to handle sensitive banking tasks such as transactions or fraud detection?
45 responses

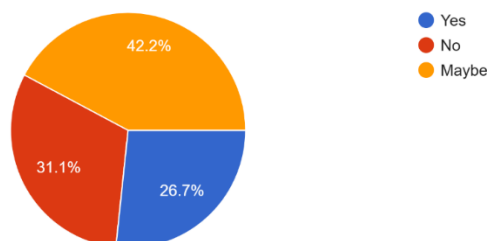


Chart 8 shows that the 19 respondents were not sure about that the AI can handle banking transaction or fraud detection, 12 respondents were sure that AI can handle such type but the remaining 14 respondents were not agree for the same.

9. Preference for Human vs. AI Interaction

Particulars	Response
Human representative	31
AI system	02
Either is fine	06
Not sure	06
Total	45

Would you prefer to interact with a human representative or an AI system for customer service?
45 responses

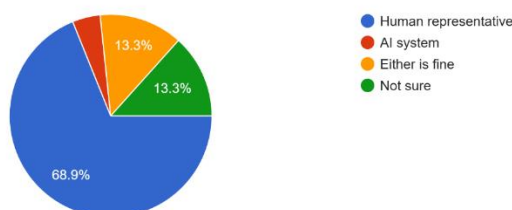


Chart 9 shows that the 31 respondents were like to interact with human representative, whereas 6 respondents were not sure, 13 respondents were comfortable with either one of them and the remaining 2 will like to interact with AI representative.

10. Perceived Benefits of AI in Banking

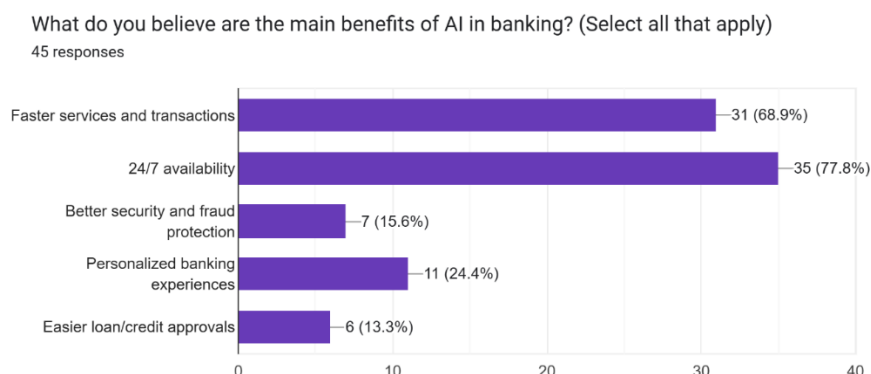


Chart 10 shows that the respondent selected multiple options in which 31 believes in Faster services and transactions 35 respondents believes that 24/7 availability service , 7 respondents found Better security and fraudprotection, 11 respondents selected Personalized bankingexperiences, 6 responednts found benefit on Easier loan/credit approvals.

11. Concern regarding AI banking:

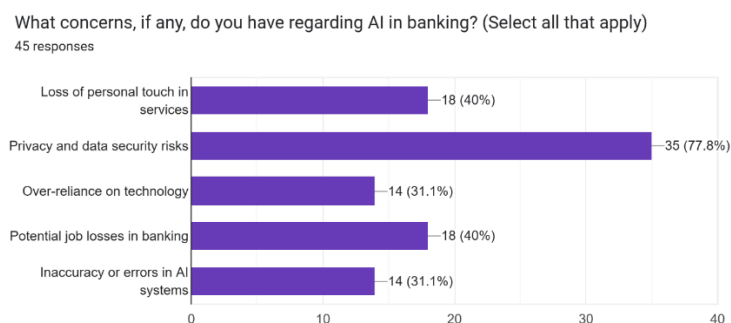


Chart 11 shows that the concern regarding AI in banking sector in which we found out that 18 repondents feels Loss of personal touch inservices, 35 respondents feels Privacy and data security risks, 14 respondents responses as Over-reliance on technology, 18 respondents responses as Potential job losses in banking, 14 trespondents responses as Inaccuracy or errors in AI systems.

12. Customer experience with AI:

Particulars	Response
More transparency in AI systems	06
Clearer communication about AI usage	13
More personalized interactions	09
Improved AI accuracy and reliability	07
Better privacy and security measures	10
Total	45

In your opinion, how can banks improve customer experience with AI?

45 responses

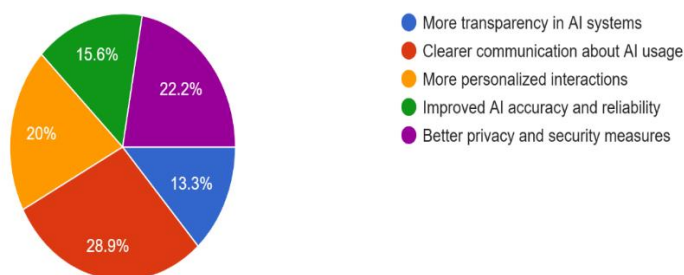
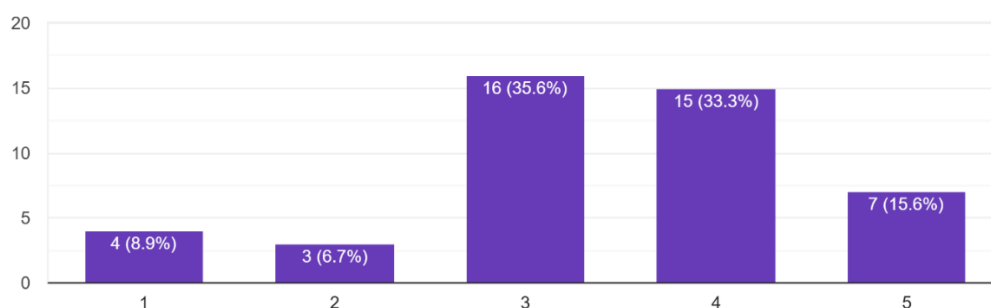


Chart 12 shows that the bank can improve their customer experience while using AI with some steps 13 respondents responses as Clearer communication about AI usage, 10 respondents as Better privacy and security measures, 9 responses as More personalized interactions, 7 responses as Improved AI accuracy and reliability and the remaining 6 responses as More transparency in AI systems.

13. Likelihood of Using AI Services in the Future

How likely are you to use AI-based banking services in the future?

45 responses

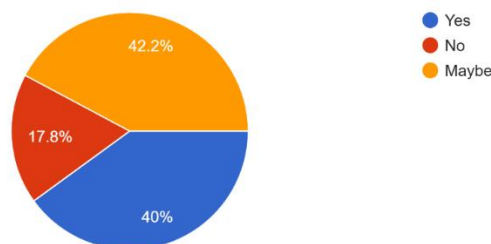


Respondents review on future aspects on AI based banking for which 16 responses as 3 star, 15 response as 4, 5 respondents gave 5 remaining 4 and 3 responses gave 1 and 2 stars rating.

14. Recommendation for AI driven banking service:

Particulars	Response
Yes	18
No	08
May be	19
Total	45

Would you recommend AI-driven banking services to others?
45 responses



The chart 14 shows that they might be recommend AI based banking service to others, where as 18 respondent said yes while remaining 8 responses as no.

Findings:

The study finds that the most of the respondents are aware about the AI based technology in banking sector. They are also familiar with the services based on AI technology like chatbots, virtual assistance etc. it also shows that on an average 3.33 rated to their understanding.

It also found that the respondents are comfortable while using this technology. Study also displays the trust level of customers towards AI handling sensitive banking task. While comparing AI vs human most of the respondents feel comfortable with human representative rather than AI.

It also finds that most of the respondents are happy with 24*7 availability of banking services in within a seconds they can do transaction.. where as on negative aspects respondents were concern about their privacy and loss of personal touch. The study also find out about how likely respondent will use AI driven technology in future also.

Suggestions and recommendations:

bank should provide clear information to their customers regarding AI, they should educate their customers how AI works it will build trust to their customers.

bank should discuss about their privacy concern and try to resolve with providing more transparency. They should not only AI technology banks must involve human interaction for more clearance and building trust by demonstrating practical experience and ensuring customer concern effectively.

This will help banks to build their customer trust on AI driven services to all age groups.

Conclusion:

The study concluded that most of the respondent were aware about the AI technology in banking sector. Respondents were aware about the AI services like chatbots and virtual assistance etc this are the most frequently used service by all age group respondents. banks should provide more information regarding AI to their customers because most of the respondents rate between 3 to 6 out of 10. customers are using AI technology but they feel neutral while using the services bank should involve and build trust among them so that they can trust on AI. Response on AI doing sensitive task like fraud detection and transaction is mixed between yes, maybe and no because of their privacy concern. The study concluded that most of the respondents feel that human interaction

is must over AI technology . AI make ponts because of 24*7 availalibilty in service respondents feels this more convenient rather than visitng bank. Bank should provide more privacy , security measures and personalized interaction. Respondents were concern about their privacy but they are willing to adapt AI technology .

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