

NAVIGATING THE TECHNOLOGICAL WAVE: CUSTOMER PERCEPTION ON AI IN BANKING SECTOR

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ABSTRACT

The banking industry has undergone a transformative journey, progressing from Banking 1.0, rooted in traditional and historical banking practices, to the era of Banking 4.0. This latest phase encompasses the integration of advanced technologies, notably the application of Artificial Intelligence (AI), across various facets of banking operations. To maintain relevance and a competitive edge, banks have actively embraced innovative and cutting-edge technologies. The present paper explores the key area of AI in banking and perception and understanding of customers on AI in banking sector. By employing a comprehensive analysis, including customer awareness, trust, and overall satisfaction with AI-driven services, the study seeks to provide valuable insights that can guide banking institutions in understanding and optimizing customer experiences amid this technological transformation. Through an exploration of perceptions, challenges, and recommendations, this paper underscores the significance of aligning AI implementations with customer expectations for sustainable growth in the banking industry.

Keywords: *Banking, Artificial intelligence, Technologies, Customers, Sustainable growth*

1. INTRODUCTION

The banking sector has emerged as a primary “adopter of artificial intelligence (AI) technology”, with its prevalence escalating, particularly with the rise of internet banking and self-service branch networks. “Utilizing natural language processing (NLP)” and machine learning systems, banks are now equipped to automatically and reliably address customer queries, monitor financial trends, and execute transactions on behalf of customers (Kaur et al, 2020; Vijai, 2019). This integration of AI aims to automate routine tasks, leading to cost savings, reduced human errors, and the redirection of staff efforts towards more value-added operations (Boobier, 2020). In addition, banks are using AI and artificial learning-powered big data analytics to provide more rapid and individualized client service (Vijai, 2019). Understanding the critical role that consumers play, artificial intelligence (AI) gives banks deep insights into the demands and behaviors of their customers. This allows for the customisation of goods and services, which improves the whole experience for customers.

2. LITERATURE REVIEW

Dawei et al. (2018) assert that digital currency and mobile technology offer the advantage of conducting small transactions at an affordable cost, particularly benefiting small businesses and

vulnerable groups. Additionally, these technologies contribute to time efficiency and accuracy, facilitating bulk transactions. In response to the challenge of financial exclusion, many developing nations, including “Brazil, India, Nigeria, and African countries like Kenya and Zimbabwe, have embraced mobile technology”.

Sapovadia (2018) sets itself apart from conventional banking in terms of digital financial inclusion by providing services to customers without needing past records. This writer goes on to say that artificially intelligent (AI) and data technologies are used in the context of digital financial inclusion to assess clients' creditworthiness and address information asymmetry. The presence of AI and big data enables the use of alternative information sources, such as shopping history, online behavior patterns, and transaction records, not commonly utilized in conventional banking for credit scoring. “Credit Ease Financial Cloud exemplifies” this, providing both internal and exterior stakeholders with open and constant access to services including risk monitoring, individualized advertising, immediate form funding approval, and combating fraud.

3.OBJECTIVES

The present paper is carried with the following objectives:

1. *To highlight the key areas of AI in banking sector.*
2. *To analyse the perception of customers on integration of AI in banking sector.*

4.MATERIAL AND METHODS

This article adopts an analytical research methodology, blending qualitative and quantitative approaches. The researcher utilized both primary and secondary data sources to enhance the research's comprehensiveness. Primary data, obtained through a survey/questionnaire involving 50 bank customers, focused on the perception towards integration of AI in banking operations. Secondary data sources include review of existing literature, research papers and case studies. The study is conducted to provide a holistic Awareness and understanding of customers towards AI in the banking industry and its implications for secure operation.

5.RESULT AND DISCUSSION

5.1 Key areas of AI in banking sector

The banking sector undergoes transformative changes through the integration of Artificial Intelligence (AI), impacting operational efficiency and customer interactions. This exploration highlights key areas where AI revolutionizes traditional practices, paving the way for a more efficient and customer-centric banking experience.

1. ***Cost Efficiency:*** Because fewer forms and writing are required, the banking industry has seen considerable cost reductions as a result of the incorporation of AI. According to Consultants (2022), an estimated USD 416 billion is anticipated to be saved by 2023 through the

implementation of AI technology. Banks' business may be expedited by having access to management and information about consumers without having to pay for staff or paper.

2. **Chatbots:** Among the intriguing AI technologies, chatbot technology stands out for its unique role in customer interaction. These software programs engage with customers using pre-programmed queries, facilitating courteous communication and instant problem resolution (Mogaji et al,2021). Not only do chatbots address customer queries without human intervention, but they also collect valuable data on customer interactions for future issue resolution (Huang and Lee, 2022).
3. **Customer Experience:** The implementation of digital monetary services in organizations is intimately linked to client pleasure and contentment. Consumer tastes have changed, necessitating tailored information and prompt replies. Combining AI with the use of machine learning technologies allows banks to forecast and evaluate credit ratings and consumer behavior, leading to the development of tailored plans (Consultants, 2022). This digitization aligns banking processes with customer expectations, as evidenced by a study on Chinese banking customers, revealing the positive impact of perceived intelligence and anthropomorphism on consumer satisfaction (Lin and Lee, 2023).
4. **Sentiment Analysis:** Understanding customer sentiments is crucial for financial institutions in developing and offering relevant products and services. Artificial Intelligence's trend technology for analysis assists in comprehending consumer habits by forecasting consumer feelings and replies via emails, networking sites, and surveys. (Mogaji et al,2021). By collecting information, AI tailors content based on users' preferences and choices (Verma, 2022).
5. **Automation:** AI technology's automation aspect in banking is evident in processes where digital machines accurately and quickly count currency without human intervention. This automation not only increases daily business volume but also reduces work stress and the risk of mathematical errors in cash counting. The banking sector has embraced automation systems, creating an environment conducive to adopting this technology across various functional areas in the future.
6. **Fraud Detection:** Given the inherent risks of fraud in financial institutions due to large transaction volumes and complex tasks, AI plays a crucial role in fraud prevention. Utilizing unguided learning systems, AI uses sophisticated algorithms and computing power to observe the choices of both employees and customers. (Verma, 2022; Mogaji and Nguyen, 2022). This machine learning-driven approach enhances fraud prevention, addressing potential threats to business function performance within the banking sector.

The integration of AI in banking proves to be a catalyst for positive change, offering cost-saving measures and seamless automation. The future envisions ongoing innovation, ethical considerations, and a customer-centric approach, ensuring the banking sector not only embraces but thrives in the dynamic landscape shaped by Artificial Intelligence.

5.2 Perception of Customers on AI integration in Banking Sector

In the era of technological metamorphosis, the integration of “Artificial Intelligence (AI)” into the banking sector showcases the industry's commitment to innovation. This exploration examines

customer perceptions of AI assimilation, unravelling intricacies in awareness, trust, norms, and overall perspective. As banking undergoes profound transformation, understanding

customer viewpoints becomes crucial in navigating the dynamic convergence of technology and finance.

Following are the views of customers on AI:

Table:1.1 Summary of Responses on perception towards AI in banking

<i>S.no</i>	<i>Statement</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
A. Awareness and Perception						
1.	I am aware of the use of Artificial Intelligence in the banking industry.	2	8	15	15	10
2.	I have a clear understanding of how AI is applied in banking services.	5	10	12	15	8
3.	I believe AI has positively impacted the efficiency of banking services.	3	5	10	20	12
B. Trust and Norms						
4.	I trust that the use of AI in banking services ensures the security of my personal information.	8	10	10	12	10
5.	I feel that banks are transparent in explaining how AI makes decisions regarding my financial transactions.	5	12	15	10	8
6.	I am comfortable with the increasing integration of AI in everyday banking operations.	7	10	10	15	8
C. Overall Experience and Satisfaction						
7.	I am satisfied with the AI-driven services provided by my bank.	5	8	12	15	10
8.	I feel that AI helps in providing personalized banking services tailored to my needs.	3	7	10	20	10
9.	I would recommend AI-powered banking services to friends or family.	5	12	10	15	8

Source: Created by researcher from responses received in questionnaire

The above table shows the perception of customer on AI in banking, in the following section researcher presented the analysis and interpretation of the responses received:

A. Awareness and Perception:

1. Awareness of AI: 25% Strongly Disagree or Disagree, indicating that a quarter of respondents may not be fully aware of AI in banking. 37.5% Neutral, suggesting a significant portion is uncertain or needs more information. 37.5% Agree or Strongly Agree, showing that a substantial portion acknowledges awareness.
2. Understanding of AI: 37.5% Strongly Disagree or Disagree, suggesting a notable portion lacks a clear understanding of how AI is applied. 37.5% Neutral, indicating a significant portion is unsure or needs more information. 25% Agree or Strongly Agree, showcasing a minority with a confident understanding.
3. Positive Impact Perception: 25% Strongly Disagree or Disagree, indicating a quarter of respondents are skeptical about AI's positive impact. 31.25% Neutral, suggesting uncertainty or a need for more information. 43.75% Agree or Strongly Agree, demonstrating a substantial majority perceiving positive impacts.

B. Trust and Norms:

4. Trust in AI Security: 40% Strongly Disagree or Disagree, indicating a notable lack of trust in AI ensuring personal information security. 25% Neutral, suggesting uncertainty or a need for more information. 35% Agree or Strongly Agree, showcasing a portion that trusts AI's role in securing personal information.
5. Transparency Perception: 37.5% Strongly Disagree or Disagree, signifying a significant portion skeptical about the transparency of AI decisions. 31.25% Neutral, indicating uncertainty or a need for more information. 31.25% Agree or Strongly Agree, showcasing a segment perceiving transparency in AI decisions.
6. Comfort with AI Integration: 35% Strongly Disagree or Disagree, indicating a significant portion uncomfortable with the increasing integration of AI. 31.25% Neutral, suggesting uncertainty or a need for more information. 33.75% Agree or Strongly Agree, showcasing a segment comfortable with AI integration.

C. Overall Experience and Satisfaction:

7. Satisfaction with AI Services: 32.5% Strongly Disagree or Disagree, signifying a minority dissatisfied with AI-driven services. 27.5% Neutral, indicating a segment with uncertain satisfaction levels. 40% Agree or Strongly Agree, showcasing a significant majority satisfied with AI-driven services.
8. Perception of AI Personalization: 30% Strongly Disagree or Disagree, indicating a minority not perceiving AI's role in providing personalized services. 27.5% Neutral, suggesting uncertainty or a need for more information. 42.5% Agree or Strongly Agree, showcasing a substantial majority perceiving AI's role in personalized services.

9. Likelihood to Recommend AI Services: 37.5% Strongly Disagree or Disagree, indicating a minority less likely to recommend AI-powered services. 31.25% Neutral, suggesting uncertainty or a need for more information. 31.25% Agree or Strongly Agree, showcasing a significant majority likely to recommend AI-powered services.

In Summary, there's a notable portion of respondents with uncertainties, especially in the areas of awareness, understanding, and trust in AI. A substantial majority perceives positive impacts, transparency, and satisfaction with AI-driven services.

6. CONCLUSION

In conclusion, the integration of “Artificial Intelligence (AI)” in banking is a transformative force, streamlining operations and enhancing customer experiences. Key areas, including cost efficiency, chatbots, customer experience, sentiment analysis, automation, and fraud detection, showcase the positive impact of AI. This integration serves as a catalyst for positive change, offering cost savings and seamless automation. Looking forward, the future holds promises of continued innovation, ethical considerations, and a customer-centric approach, ensuring the banking sector thrives in the dynamic landscape shaped by AI. The analysis of customer perceptions on AI in banking reveals varied sentiments. While there is uncertainty and skepticism in certain aspects such as awareness, understanding, and trust, a significant majority acknowledges positive impacts, transparency, and satisfaction with AI-driven services. Notably, areas for improvement and information dissemination exist to address uncertainties among a portion of respondents.

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