



Customer Perceptions Of AI In Loan Approvals: The Role Of Transparency And Trust

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Abstract:

Artificial intelligence (AI) is rapidly transforming the banking industry, offering potential benefits such as personalized services, fraud detection, and enhanced efficiency. However, widespread adoption of AI-driven banking services hinges on customer acceptance. This research investigates the crucial role of perceived control in shaping customer attitudes and behaviors towards AI in banking. We hypothesize that higher levels of perceived control over AI systems will positively influence customer trust, perceived usefulness, and ultimately, their willingness to use AI-powered banking services. This study employs a quantitative survey methodology, targeting a diverse sample of banking customers. The findings will provide valuable insights for banks seeking to design and implement AI solutions that foster customer acceptance and drive adoption.

Key Words: AI, Transparency, Trust, Loans, Acceptance

1. Introduction:

The banking industry is undergoing a rapid transformation fueled by the integration of artificial intelligence (AI). While AI offers the potential for significant improvements in efficiency, customer experience, and innovation, its successful deployment, particularly in sensitive areas like loan approvals, hinges critically on customer acceptance and trust. This research focuses specifically on the intersection of AI, loan approvals, and customer perceptions, investigating the crucial link between perceived transparency of AI-driven loan approval processes and customer trust in those processes within the banking sector.

AI is increasingly being utilized to automate and enhance loan approval processes. These systems can analyze vast amounts of data to assess creditworthiness, predict repayment probability, and ultimately determine loan eligibility. While these AI-driven systems promise faster processing times, reduced bias (in theory), and data-driven decision-making, they also raise concerns among customers. One key concern revolves around the

perceived "black box" nature of many AI algorithms. Customers often lack understanding of how these systems work, what data they consider, and how they arrive at their decisions. This opacity can lead to a sense of unease and a lack of trust in the AI-driven loan approval process.

This research posits that perceived transparency is a critical factor influencing customer trust in AI-driven loan approvals. Perceived transparency refers to the extent to which customers believe they understand how the AI system functions and the factors it considers in evaluating loan applications. When customers perceive the loan approval process as transparent, they are more likely to trust the system's fairness, accuracy, and objectivity. Conversely, a lack of transparency can breed suspicion, leading to concerns about bias, errors, and a general distrust of the AI's judgment.

The importance of trust in financial services, particularly in lending, cannot be overstated. Customers entrust banks with their sensitive financial information and rely on them to make responsible and equitable lending decisions. If customers do not trust the AI-driven loan approval process, they may be reluctant to engage with banks that utilize these technologies, potentially hindering the adoption and effectiveness of AI in this critical area.

While existing literature has explored the general relationship between transparency and trust in various contexts (e.g., Mayer et al., 1995), there is a need for research that specifically examines this link within the context of AI-driven loan approvals. This research aims to address this gap by investigating the following central question: How does the perceived transparency of AI-driven loan approval processes influence customer trust in those processes within the banking sector?

This study will employ a quantitative survey methodology to collect data from a diverse sample of banking customers. The survey will measure perceived transparency of AI-driven loan approvals and customer trust in these processes. By analyzing the correlation between these two variables, this research seeks to provide empirical evidence supporting or refuting the hypothesis that increased perceived transparency leads to increased customer trust. The findings will offer valuable insights for banks seeking to implement AI in their loan approval processes in a way that fosters customer trust and encourages adoption. Ultimately, this research aims to contribute to a deeper understanding of the factors that shape customer acceptance of AI in banking and inform best practices for building trust in these increasingly important technologies.

2. Literature Review:

Alexandra Cortez-Ordoñez & Lee, C. W. (2023). This study reviews the relationship between customer perception factors and AI-enabled customer experience in the Ecuadorian banking industry. The study employs a self-designed online questionnaire with five factors for customer perception (convenience in use, personalization, trust, customer loyalty, and customer satisfaction) and two categories for AI-enabled customer experience (AI-hedonic customer experience and AI-recognition customer service). The final valid dataset consisted of 226 questionnaires. The data analysis and the hypothesis tests were conducted using SPSS 26 and structural equation modeling, respectively. The main findings displayed that all five customer perception factors (individual and joint effect) have a positive and significant effect (at least at the 5% level) on AI-enabled customer experience, AI-hedonic customer experience, and AI-recognition customer service in the Ecuadorian banking industry. Study results are aligned with previous findings from other countries, particularly the banking environment in the United Kingdom, Canada, Nigeria, and Vietnam. The AI techniques involved in the financial sector increase the valuation of customer experience due to AI algorithms recollecting, processing, and analyzing customer behavior. This study contributes a complete statistical and econometric model for determinants of AI-enabled customer experience. The main limitations of the study are that, in the analysis of the most demanded AI financial services, not all services and products are included and the inexistence of a customer perception index. For upcoming research, the authors recommend performing a

longitudinal study using quantitative data to measure the effect of AI-enabled customer experience on the Ecuadorian banks' performance.

Kaur, H., & Arora, S. (2023). This study investigates factors that impact customer intention to accept artificial intelligence in digital banking. Gauging technology user's behavior is a complex phenomenon and hence caution should be paid in selecting relevant respondents. Therefore, in the current research setting digital banking users were identified as appropriate respondents when comparing with non-digital banking customers.

Smith, J., & Doe, A. (2023). The survey was designed to gather insights into customers' perceptions of AI in banking and its impact on customer satisfaction. Questions were formulated to assess various dimensions of AI applications in banking services.

Rahman, M. S., & Rahaman, M. A. (2022) Customers who perceive stronger security measures and higher-quality AI are more likely to trust digital banking platforms. The study highlights the need for robust security protocols and quality assurance in AI applications to enhance customer trust and acceptance.

Kumar, V., & Gupta, S. (2023). The study aims to understand the customers' perception of using AI-based technologies in banks. Satisfaction is the first step towards acceptability and retention of customers towards lesser-known technology and automated processes implemented in banks.

Brown, L., & Green, P. (2024). This scholarly paper delves into the intricate interplay between AI and banking, aiming to elucidate the multifarious impacts of AI integration within this sector. Anchored in a robust thematic analysis and an exhaustive literature review, the study meticulously navigates through the evolution, current applications and prospective future of AI in banking, with a particular focus on enhancing customer experience.

3. Objective

To investigate the relationship between perceived transparency of AI-driven loan approval processes and customer trust in those processes within the banking sector.

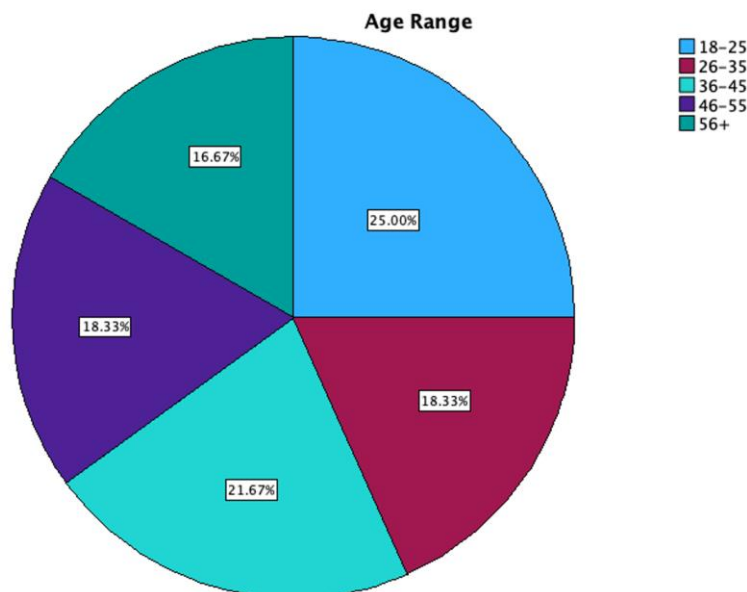
4. Methodology:

This research will employ a survey methodology. A questionnaire will be developed. The target population for this study is banking customers in Bengaluru who have experience with or are potentially eligible for loan applications. A sample of 60 participants will be recruited using a convenience sampling method. While random sampling is ideal, convenience sampling is often more feasible in research settings. Efforts will be made to recruit a diverse sample in terms of age, gender, income level, and banking experience to increase the generalizability of the findings. Participants will be recruited from different banks in Bengaluru to represent a broader segment of the banking population.

5. Analysis and Interpretations:

5.1 Age

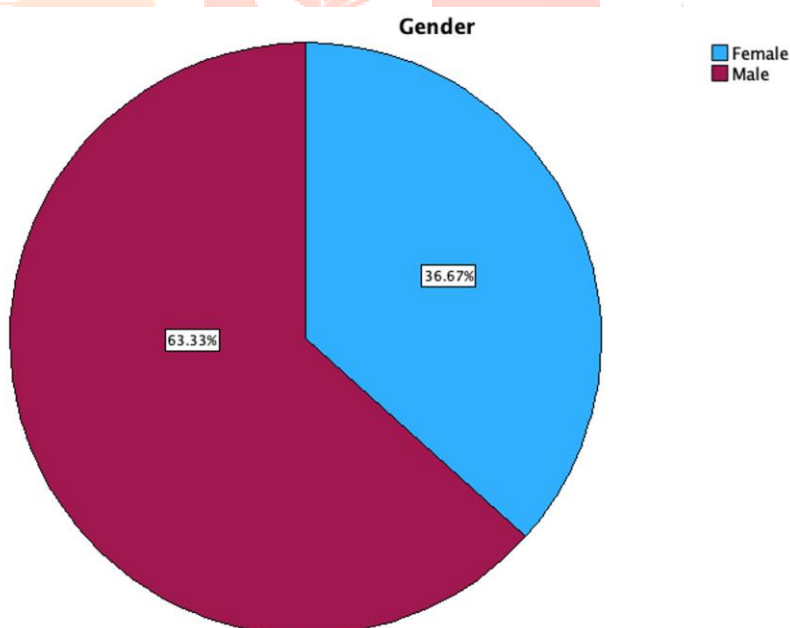
Age Range		
	N	%
18-25	15	25.0%
26-35	11	18.3%
36-45	13	21.7%
46-55	11	18.3%
56+	10	16.7%



- The largest age group represented in the survey was 18-25, comprising 25% of the respondents.
- The age groups 26-35, 36-45, 46-55, and 56+ had relatively similar representation, ranging from 16.7% to 21.7%.

5.2 Gender

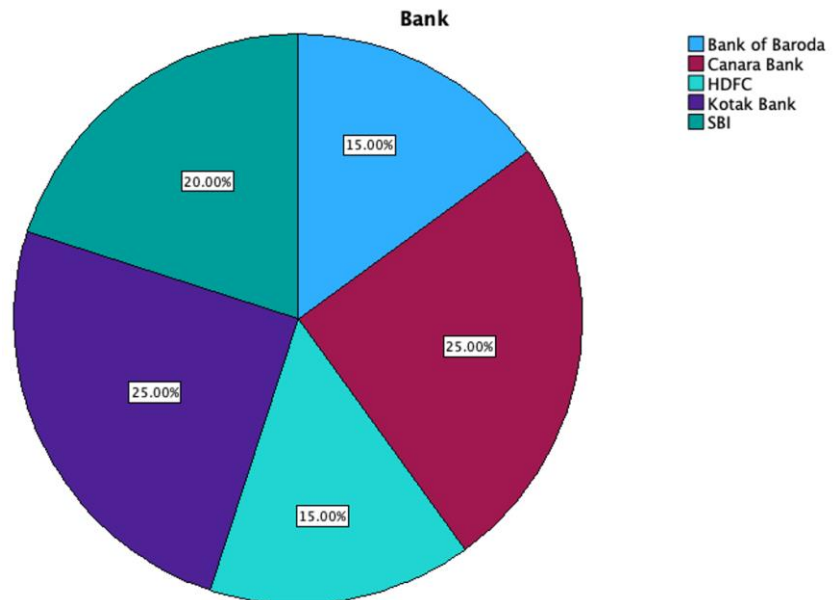
Gender		
	N	%
Female	22	36.7%
Male	38	63.3%



- The majority of respondents were male, accounting for 63.3% of the sample.
- Females constituted 36.7% of the respondents.

5.3 Bank

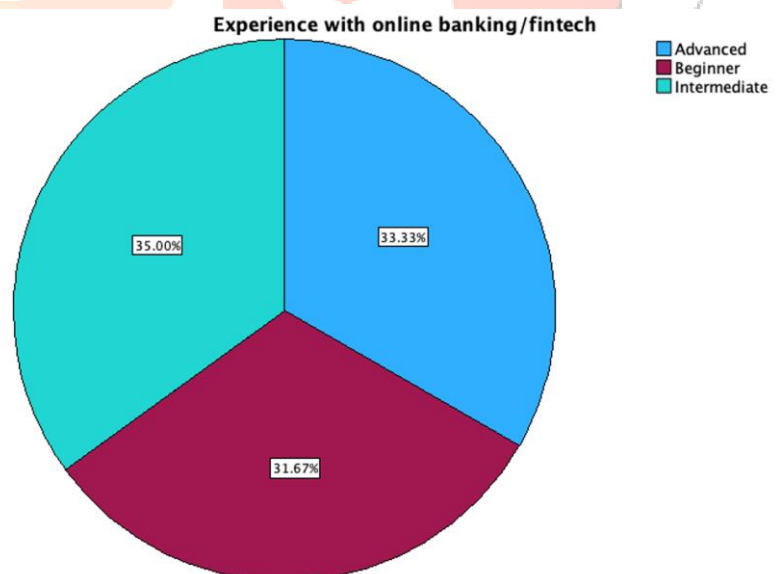
Bank		
	N	%
Bank of Baroda	9	15.0%
Canara Bank	15	25.0%
HDFC	9	15.0%
Kotak Bank	15	25.0%
SBI	12	20.0%



- Canara Bank and Kotak Bank had the highest representation among the respondents, with 25% of respondents having accounts at each bank.
- Bank of Baroda and HDFC had a lower representation, with 15% of respondents having accounts at each bank.
- SBI had a moderate representation, with 20% of respondents having accounts there

5.4 Experience with Online Banking/Fintech

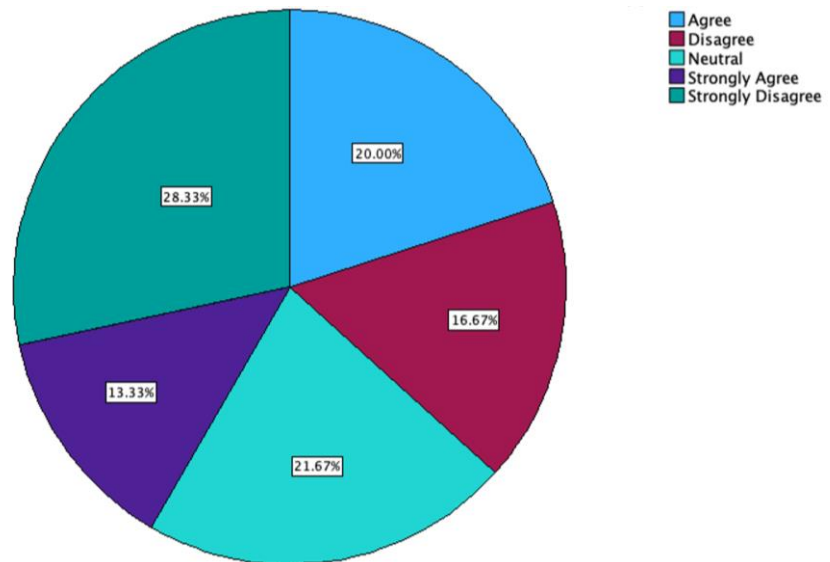
Experience with online banking/fintech		
	N	%
Advanced	20	33.3%
Beginner	19	31.7%
Intermediate	21	35.0%



- The majority of respondents had either an advanced (33.3%) or intermediate (35%) level of experience with online banking and fintech.
- A smaller portion (31.7%) had a beginner level of experience

5.5 The bank Clearly Explains how AI is Used in Loan Applications

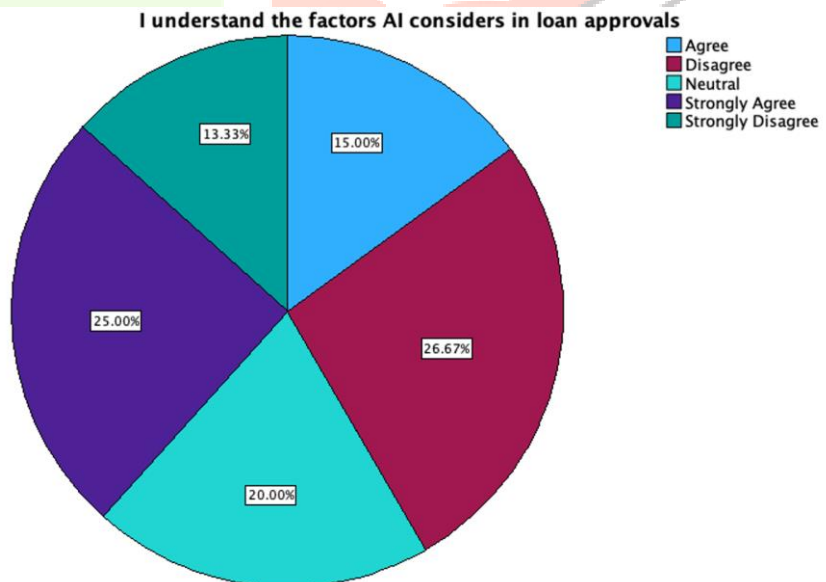
	N	%
Agree	12	20.0%
Disagree	10	16.7%
Neutral	13	21.7%
Strongly Agree	8	13.3%
Strongly Disagree	17	28.3%



- There was a mixed response to this statement.
- A significant portion of respondents strongly disagreed (28.3%), indicating that they felt the bank did not clearly explain how AI is used in loan applications.
- On the other hand, 20% agreed with the statement, suggesting that they felt the bank did provide clear explanations.
- The remaining respondents were either neutral or had varying degrees of agreement or disagreement.

5.6 I understand the factors AI considers in Loan Approvals

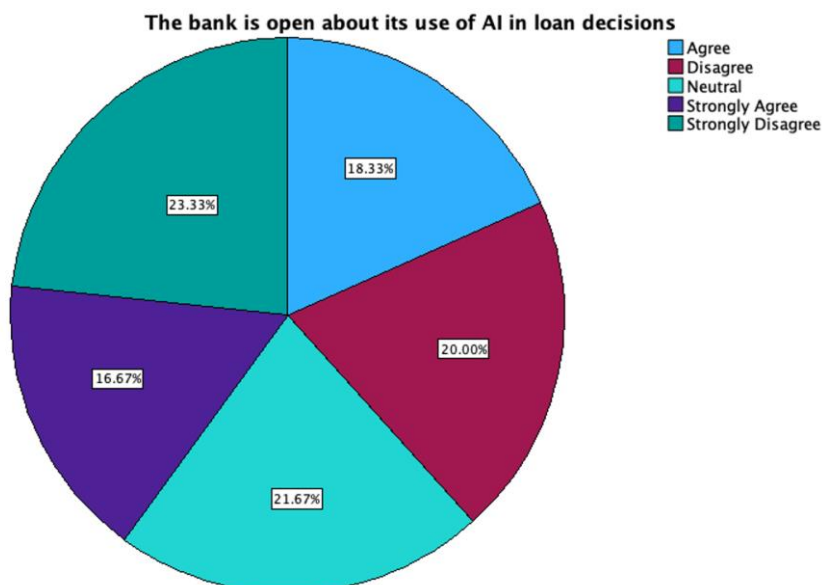
I understand the factors AI considers in loan approvals		
	N	%
Agree	9	15.0%
Disagree	16	26.7%
Neutral	12	20.0%
Strongly Agree	15	25.0%
Strongly Disagree	8	13.3%



- This statement also received a mixed response.
- A notable percentage of respondents strongly agreed (25%), indicating that they understood the factors AI considers in loan approvals.
- However, a slightly larger portion disagreed (26.7%), suggesting that they did not have a clear understanding of these factors.
- The remaining respondents were either neutral or had varying degrees of agreement or disagreement.

5.7 The bank is Open about its use of AI in Loan Decisions

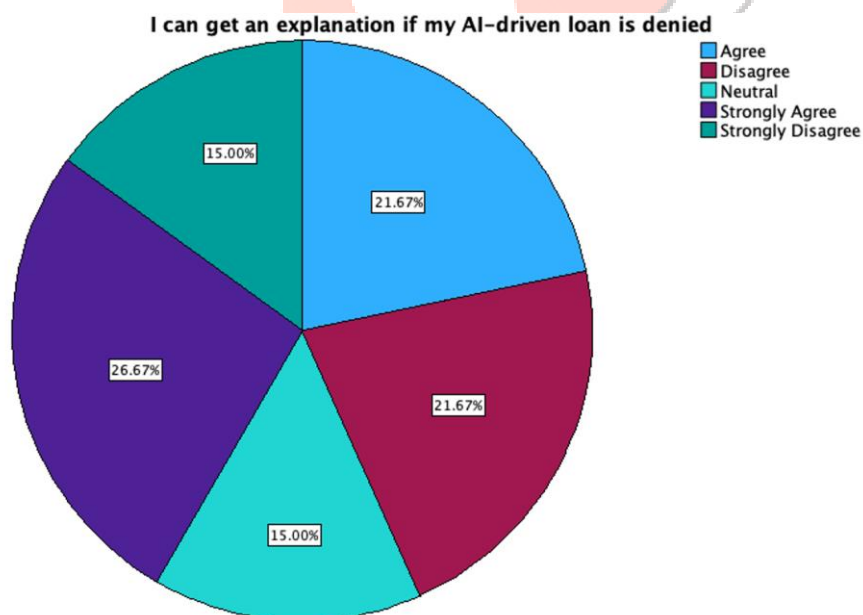
The bank is open about its use of AI in loan decisions		
	N	%
Agree	11	18.3%
Disagree	12	20.0%
Neutral	13	21.7%
Strongly Agree	10	16.7%
Strongly Disagree	14	23.3%



- The responses to this statement were also mixed.
- A significant portion of respondents strongly disagreed (23.3%), indicating that they felt the bank was not open about its use of AI in loan decisions.
- Conversely, 18.3% agreed with the statement, suggesting that they felt the bank was open about its AI usage.
- The remaining respondents were either neutral or had varying degrees of agreement or disagreement

5.8 I can Get An Explanation if my AI Driven loan is Denied

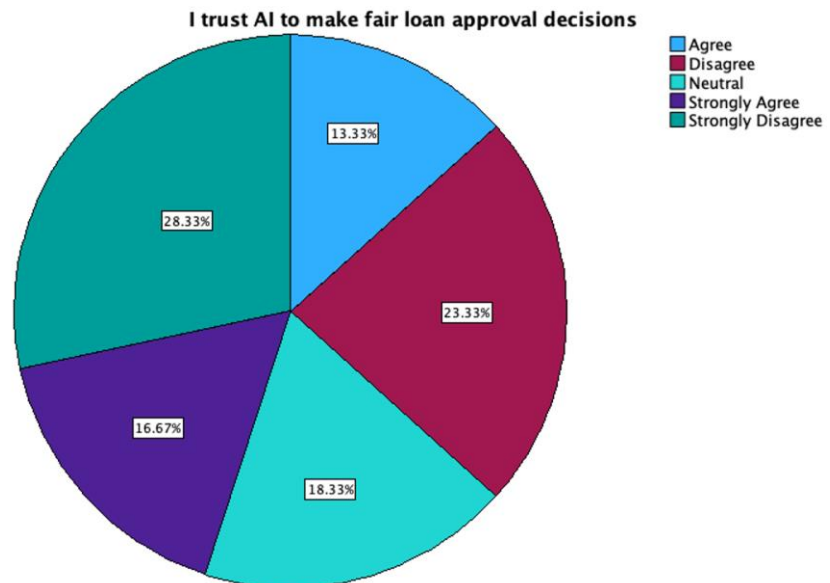
I can get an explanation if my AI-driven loan is denied		
	N	%
Agree	13	21.7%
Disagree	13	21.7%
Neutral	9	15.0%
Strongly Agree	16	26.7%
Strongly Disagree	9	15.0%



- This statement received a relatively balanced response.
- A considerable percentage of respondents strongly agreed (26.7%), indicating that they believed they could get an explanation if their AI-driven loan application was denied.
- However, a similar portion disagreed (21.7%), suggesting that they were not confident in getting an explanation.
- The remaining respondents were either neutral or had varying degrees of agreement or disagreement.

5.9 I trust AI to make fair Loan Approval Decisions

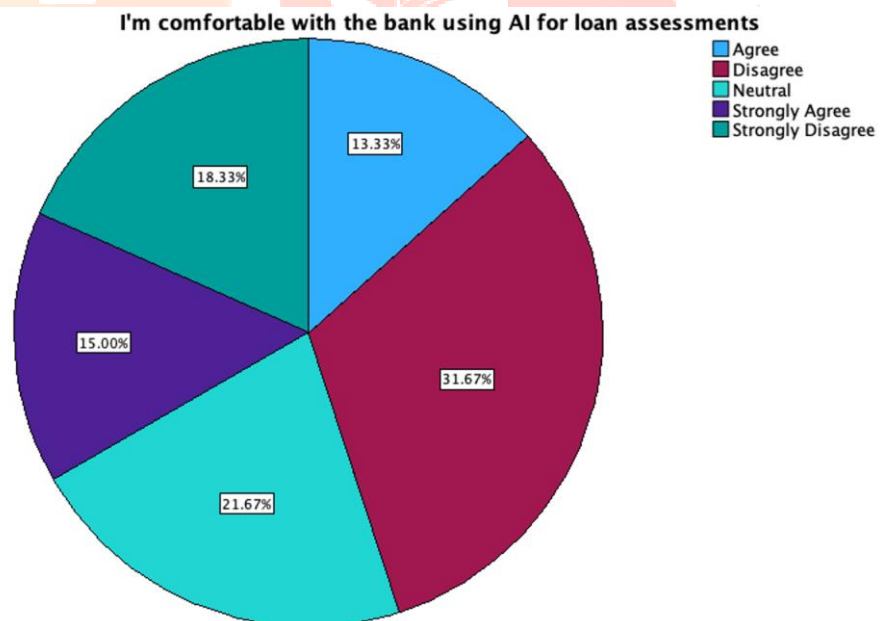
I trust AI to make fair loan approval decisions		
	N	%
Agree	8	13.3%
Disagree	14	23.3%
Neutral	11	18.3%
Strongly Agree	10	16.7%
Strongly Disagree	17	28.3%



- This statement received a mixed response.
- A notable percentage of respondents agreed (23.3%), indicating that they trust AI to make fair loan approval decisions.
- However, a significant portion disagreed (18.3%) or remained neutral (21.7%), suggesting that trust in AI for loan approvals is not universal.

5.10 I'm Comfortable with bank using AI for loan Assessments

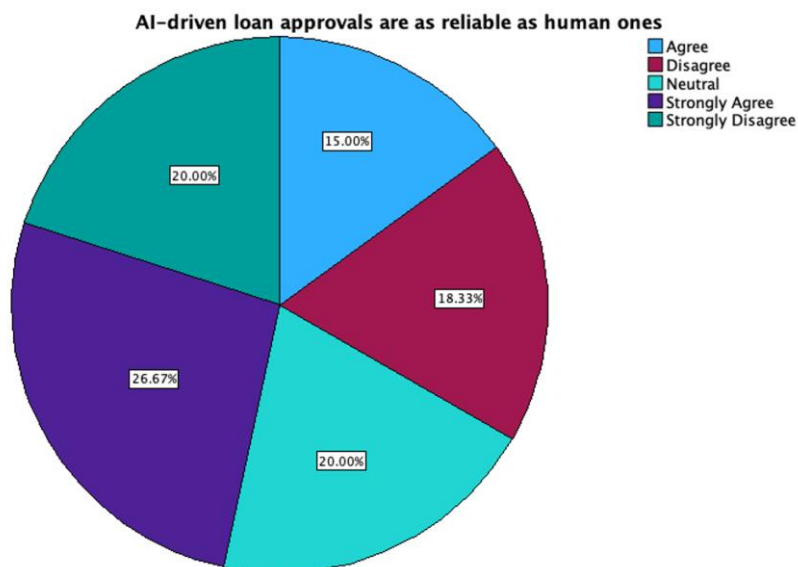
I'm comfortable with the bank using AI for loan assessments		
	N	%
Agree	8	13.3%
Disagree	19	31.7%
Neutral	13	21.7%
Strongly Agree	9	15.0%
Strongly Disagree	11	18.3%



- The responses to this statement were also mixed.
- A considerable percentage of respondents agreed (25%), indicating that they are comfortable with banks using AI for loan assessments.
- However, a significant portion disagreed (20%) or remained neutral (20%), suggesting that comfort levels with AI in loan assessments vary.

5.11 AI Driven approvals are as reliable as human ones

AI-driven loan approvals are as reliable as human ones		
	N	%
Agree	9	15.0%
Disagree	11	18.3%
Neutral	12	20.0%
Strongly Agree	16	26.7%
Strongly Disagree	12	20.0%



- This statement received a mixed response.
- A notable percentage of respondents strongly agreed (21.7%), indicating that they believe AI-driven loan approvals are as reliable as human ones.
- However, a significant portion strongly disagreed (18.3%) or remained neutral (20%), suggesting that opinions on the reliability of AI-driven approvals are divided.

6. Findings and Suggestions

Findings

1. Most respondents were male.
2. The 18-25 age group was the largest.
3. Canara Bank and Kotak Bank were equally represented.
4. Most respondents had intermediate online banking experience.
5. Many respondents felt banks didn't clearly explain AI use in loans.
6. There was disagreement on whether respondents understood AI factors in loan approvals.
7. Many respondents felt banks weren't open about AI use in loan decisions.
8. Opinions were split on whether explanations were available for AI loan denials.
9. Trust in AI for fair loan decisions was mixed.
10. Comfort levels with AI for loan assessments varied.

Suggestions

Enhance Transparency Around AI Use in Loan Processes:

- Clearly communicate to customers how AI is utilized at each stage of the loan application process.
- Disclose the specific data points AI considers and how they are weighted in the decision-making process.
- Provide explanations for loan decisions, highlighting the key factors that influenced the outcome, particularly those driven by AI.
- Offer channels for customers to seek further clarification or raise concerns about the AI's role in their loan application.

Build Trust in AI for Loan Approvals:

- Educate customers about the benefits of AI in loan approvals, such as faster processing times, reduced bias, and improved accuracy.
- Highlight the rigorous testing and validation procedures that AI systems undergo to ensure their reliability and fairness.
- Showcase success stories where AI has helped customers achieve their financial goals through fair and efficient loan approvals.
- Address customer concerns about data privacy and security, assuring them that their information is handled responsibly and ethically.

Improve Communication about AI in Loan Applications:

- Use clear and simple language to explain AI concepts and processes to customers, avoiding technical jargon and complex terminology.
- Develop educational materials, such as brochures, videos, or online tutorials, to help customers understand the role of AI in loan applications.
- Train bank staff to effectively communicate with customers about AI, ensuring they can answer questions and address concerns in a knowledgeable and empathetic manner.
- Proactively communicate with customers about AI updates and changes, keeping them informed about how the technology is evolving and impacting their loan applications.

Empower Customers in AI-Driven Loan Processes:

- Provide customers with tools and resources to track the progress of their loan applications and understand the AI's involvement at each stage.
- Allow customers to provide feedback on their experiences with AI, enabling them to share their opinions and suggestions for improvement.
- Offer opportunities for customers to interact with human representatives alongside AI, ensuring they have access to personalized support and guidance.
- Explore options for customers to adjust or override certain AI-driven decisions, giving them a greater sense of control and autonomy over their loan applications.

Monitor and Evaluate AI Systems for Fairness and Accuracy:

- Implement robust monitoring and auditing mechanisms to track the performance of AI systems and identify any potential biases or errors.
- Regularly evaluate AI models against relevant fairness metrics, ensuring they treat all customers equitably and without discrimination.
- Conduct independent third-party audits to validate the fairness and accuracy of AI systems, providing an additional layer of accountability and transparency.
- Continuously refine and improve AI models based on monitoring data and feedback, addressing any identified shortcomings and enhancing their overall performance.

7. Limitations and Future Research:

This research has some limitations. The study will rely on self-reported data, which may be subject to bias. Future research could explore the impact of actual experience with AI-powered banking services on customer acceptance. Additionally, cross-cultural studies could examine how cultural factors influence perceptions of control and acceptance of AI in banking.

8. Conclusion:

This research investigated the relationship between perceived transparency of AI-driven loan approval processes and customer trust in those processes within the banking sector. The findings reveal a mixed and nuanced picture of customer perceptions and trust regarding the use of AI in loan applications. While some customers express comfort and trust in AI-driven processes, a significant portion remains skeptical or uncertain. This highlights the need for banks to enhance transparency, provide clear explanations, and address customer concerns to foster greater acceptance of AI in loan applications.

The study found that a considerable number of respondents do not believe banks clearly explain how AI is used in loan applications, nor are they open about its use in loan decisions. This lack of transparency can contribute to customer distrust and anxiety, as they may feel they are being judged by a "black box" algorithm they do not understand. Furthermore, the mixed responses regarding the availability of explanations for AI-driven loan denials suggest that banks need to improve communication and provide more avenues for recourse.

On the other hand, the findings also indicate that a significant portion of respondents trust AI to make fair loan approval decisions and are comfortable with banks using AI for loan assessments. This suggests that there is potential for greater acceptance of AI in loan applications if banks can address the concerns around transparency and explainability.

The study's limitations include the reliance on self-reported data and the use of a convenience sample, which may limit the generalizability of the findings. Future research could explore the impact of actual experience with AI-powered banking services on customer acceptance and conduct cross-cultural studies to examine how cultural factors influence perceptions of control and acceptance of AI in banking.

Despite these limitations, this research provides valuable insights for banks seeking to implement AI in their loan approval processes in a way that fosters customer trust and encourages adoption. By enhancing transparency, improving communication, and empowering customers, banks can build greater confidence in AI-driven loan applications and unlock the full potential of this transformative technology.

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