



# INTERNATIONAL RESEARCH JOURNAL OF HUMANITIES AND INTERDISCIPLINARY STUDIES

( Peer-reviewed, Refereed, Indexed & Open Access Journal )

DOI : 03.2021-11278686

ISSN : 2582-8568

IMPACT FACTOR : 8.031 (SJIF 2025)

## Humanising the Machine: Conceptual Reflections on Responsible AI in Banking

**Mr. Syed Salman**

Research Scholar,  
Karnataka State Open University,  
Mukthagangothri, Mysuru - 570006  
Assistant Professor, Mount Carmel College  
(Autonomous), Bengaluru - 560001

**Dr. Chaya. R**

Associate Professor,  
Department of P G Studies and Research in  
Commerce,  
Karnataka State Open University,  
Mukthagangothri, Mysuru - 570006

DOI No. **03.2021-11278686** DOI Link :: <https://doi-ds.org/doilink/06.2025-62668497/IRJHIS2506003>

### ABSTRACT:

*The rapid integration of Artificial Intelligence (AI) into the banking sector has revolutionized customer service, risk assessment, and operational efficiency. However, this transformation brings forth critical ethical challenges related to trust, fairness, accountability, and emotional intelligence in AI-driven interactions. This conceptual paper explores the notion of "humanising the machine," emphasizing the need to embed empathy, transparency, and contextual understanding into AI systems used in banking. By examining the principles of responsible AI and the paradox of machine-led emotional detachment in financial services, the study underscores the importance of aligning AI technologies with human-centric values. Key constructs such as explainability, perceived fairness, and emotional resonance are analyzed in relation to customer perception and psychological acceptance. The paper further discusses the ethical dimensions of AI in banking and proposes a hybrid human-AI interaction model as a pathway to preserving relational trust. Ultimately, the paper advocates for a future where AI in banking is not only intelligent but also responsible, inclusive, and emotionally aware, serving as a strategic tool for ethical and sustainable financial services.*

**KEYWORDS:** Responsible AI, Humanised Artificial Intelligence, AI Ethics in Banking.

### INTRODUCTION:

The rapid advancement of artificial intelligence (AI) has significantly transformed the banking industry, enabling automation, predictive analytics, fraud detection, and personalized customer service. However, this accelerated adoption raises ethical concerns, especially regarding customer trust, transparency, fairness, and decision accountability. The growing reliance on algorithmic decision-making highlights the urgent need for responsible AI—AI systems that are transparent, ethical, human-centric, and aligned with societal and organizational values. In the context of banking, responsible AI is not merely a technical requirement but a strategic necessity to ensure sustainable customer relationships and regulatory compliance. Central to this discussion is the

concept of “humanising AI”, which involves embedding empathy, fairness, and trust into AI-driven interactions. This is particularly relevant as banks increasingly deploy AI-powered tools such as chatbots, virtual assistants, and robo-advisors that directly interface with customers. These tools must be designed not only to optimize performance but also to mimic human understanding, responsiveness, and ethical behaviour.

### OBJECTIVES OF THE STUDY:

- 1) **To conceptualize the framework of responsible AI in the banking sector by identifying its ethical, emotional, and functional dimensions.** This objective focuses on understanding how responsible AI should be designed and implemented to align with human values such as empathy, trust, fairness, and accountability in banking services.
- 2) **To explore the concept of ‘humanising AI’ in banking and its impact on customer perception, trust, and psychological acceptance.** This aims to analyze how embedding emotional intelligence and ethical responsiveness into AI systems can enhance customer experiences and strengthen human-AI relationships.

### METHODOLOGY:

The study employs a conceptual research methodology based on literature review of academic journals, industry reports, Articles and ethical AI frameworks. It uses qualitative analysis to identify constructs related to responsible AI and human-AI interaction in banking. The approach integrates multidisciplinary perspectives from ethics, technology, and customer behaviour. No primary data is collected, as the focus is on theoretical exploration. The findings provide a foundation for future empirical and applied research in AI ethics and banking.

### UNDERSTANDING RESPONSIBLE AI:

Responsible Artificial Intelligence (AI) refers to the design, development, and deployment of AI systems that uphold ethical standards and human values such as fairness, transparency, accountability, privacy, and inclusivity. It ensures that AI technologies not only perform effectively but do so in a way that is just, explainable, and aligned with societal norms. Key principles of responsible AI include fairness to avoid bias and discrimination; transparency to ensure decision-making processes are understandable and explainable; and accountability to guarantee that outcomes can be traced back to human or organizational oversight. In customer-centric sectors like banking, these principles become especially crucial. Financial services frequently deal with sensitive personal data and high-stakes decisions (e.g., loan approvals, credit scoring, fraud alerts), where algorithmic bias or opacity can erode trust and lead to reputational damage (Rita Jain, 2023) (Al-Araj et al., 2022). Unlike traditional automation systems that follow fixed rules, responsible AI systems learn and evolve, making it essential to embed ethical governance into their lifecycle. Traditional automation in banking focused on reducing human error and improving speed through rule-based processing,

whereas responsible AI emphasizes dynamic learning with ethical oversight, particularly in direct customer interactions (Bhattacharya & Sinha, 2022). For instance, while chatbots have significantly improved service efficiency, their ability to mimic empathy and fairness remains under scrutiny (Andrade & Tumelero, 2022). As such, responsible AI represents a paradigm shift from efficiency-centric automation to value-driven intelligent systems that enhance not only operational outcomes but also customer relationships and long-term brand integrity.

### **THE HUMAN-MACHINE PARADOX IN BANKING:**

As banks increasingly adopt AI technologies to streamline operations and enhance customer experiences, a central tension emerges between emotional intelligence—the hallmark of human service—and the cognitive capabilities of artificial intelligence. While AI excels in data-driven decision-making, pattern recognition, and round-the-clock availability, it still lacks the emotional depth, empathy, and nuanced understanding that define traditional human interactions. This paradox is especially pronounced in relational banking, where trust, empathy, and personalized service are key determinants of customer satisfaction and loyalty (Ayinaddis et al., 2023).

Despite advances in natural language processing and sentiment analysis, replicating human-centric service through machines remains a major challenge. AI tools like chatbots and virtual assistants may efficiently resolve basic queries but often fall short when handling emotionally complex or sensitive customer issues, such as loan rejections or fraud disputes (El-Gohary et al., 2021). The lack of emotional resonance can result in customer dissatisfaction, especially in scenarios where compassion and reassurance are expected. In contrast, human bankers draw on social cues and emotional intelligence to tailor their responses, building rapport and trust.

In the AI age, the role of empathy must be intentionally designed into AI systems to preserve the human touch in digital banking. This involves integrating ethical design principles, human-AI collaboration models, and hybrid service models where machines augment rather than replace human capabilities (Sheth et al., 2022). Ultimately, the goal is not to make machines human, but to “humanise the machine”—ensuring AI systems act in ways that respect and reflect the values customers associate with trustworthy, humane service.

### **CONCEPTUALISING “HUMANISING” IN AI:**

In the context of banking, “humanising the machine” refers to the strategic and ethical enhancement of AI systems to emulate characteristics traditionally associated with human services—such as empathy, trustworthiness, emotional responsiveness, and contextual understanding. Rather than making AI emotionally intelligent in the literal sense, the goal is to design interactions that feel more human-like, offering clarity, care, and fairness in customer engagements. This is particularly relevant in financial services, where decision outcomes (e.g., loan approval or fraud detection) directly affect a customer's emotional and financial well-being.



Key theoretical constructs underpinning this concept include trust, which is foundational in any financial relationship; emotional resonance, which relates to the AI system's perceived ability to respond empathetically; and explainability, ensuring that AI decisions are transparent and understandable to users (Al-Araj et al., 2022) (Bhattacharya & Sinha, 2022). These constructs not only shape user perceptions but also determine the extent to which customers are willing to engage with AI systems. For example, AI-powered chatbots that provide contextual responses and show a "human touch" are more likely to foster trust and sustained engagement (Oyeniya et al., 2024).

When AI systems are humanised effectively, the outcomes extend beyond operational efficiency. They contribute significantly to customer satisfaction by making interactions smoother, more relatable, and emotionally attuned. This, in turn, enhances customer loyalty, especially in an industry where service differentiation is a competitive advantage. Thus, humanising AI is not just a design philosophy; it is a customer-centric imperative that aligns technology with emotional intelligence to build deeper, more resilient banking relationships.

#### **ETHICAL DIMENSIONS OF AI IN BANKING:**

The integration of artificial intelligence into banking systems brings with it a complex set of ethical challenges that demand critical attention. One of the foremost concerns is data privacy and protection, as AI relies heavily on large volumes of customer data to function effectively. Without robust data governance, there is a risk of misuse, unauthorized access, and breaches that can compromise customer trust (Almustafa et al., 2023). Additionally, concerns surrounding bias and discrimination in AI algorithms have gained prominence. AI models trained on historical data can unintentionally reinforce existing social or institutional biases, leading to unfair outcomes in areas such as loan approvals, credit scoring, and fraud detection. This can systematically disadvantage certain demographic groups, violating principles of fairness and equality (Rabbani et al., 2023).

Furthermore, automated decision-making raises profound ethical dilemmas. Decisions once made by experienced human bankers who could consider context, compassion, and exceptions are now delegated to algorithms that may lack interpretive flexibility. For instance, an AI system might reject a loan application purely on the basis of credit data, without considering recent changes in a customer's financial situation, thereby overlooking the human context behind the numbers (Cerrone, 2023). This shift challenges the traditional norms of relational banking and introduces accountability issues, as it is often unclear who is responsible when an AI system errs.

To address these challenges, banks must embed ethical AI frameworks into their systems ensuring fairness, accountability, transparency, and human oversight in all AI-driven processes. Ethical AI is not only a compliance requirement but a strategic necessity for preserving customer trust and institutional integrity in the digital age.

#### **CUSTOMER PERCEPTION AND PSYCHOLOGICAL ACCEPTANCE:**

Customer perception plays a pivotal role in the success of AI integration within the banking sector. One of the primary determinants of psychological acceptance is the level of trust customers place in AI systems; a trust that can be fostered through transparency and explainability. When customers understand how decisions are made by AI (such as credit assessments or fraud alerts), they are more likely to accept and engage with these systems (Al-Araj et al., 2022). Explainability not only demystifies the decision-making process but also humanises AI by making it appear more logical and accountable.

Perceived fairness is equally crucial. Customers expect banking decisions to be unbiased and grounded in ethical principles. If AI is seen as opaque or discriminatory—such as denying loans without clear reasons—it can lead to resistance, dissatisfaction, and reputational damage for the bank (Rabbani et al., 2023). Therefore, ensuring accountability through human oversight and clear grievance redressal mechanisms is essential to support customer confidence.

Moreover, the psychological need for human connection in financial decision-making cannot be overlooked. Money is inherently emotional, and decisions involving savings, loans, or investments often carry personal weight. Many customers still prefer the assurance and empathy of a human advisor, particularly in complex or high-stakes situations. Studies have shown that while customers appreciate AI for its efficiency, they value human touchpoints for emotional support and relational trust (El-Gohary et al., 2021) (Boustani, 2022). Thus, banks must adopt a hybrid model, where AI supports but does not entirely replace human interaction—ensuring technology serves as a bridge, not a barrier, to meaningful customer relationships.

#### **THE FUTURE OF HUMANISED AI IN BANKING:**

The evolution of AI in banking is rapidly moving toward more humanised, empathetic, and responsible systems, yet several challenges must be addressed to realise this vision. Ethical challenges such as data misuse, algorithmic bias, and opaque decision-making processes remain significant concerns. Operationally, banks face difficulties in integrating AI with legacy systems and aligning AI outputs with real-world customer expectations. Additionally, the regulatory landscape is still evolving, with inconsistent frameworks across jurisdictions, making it difficult for banks to standardize ethical AI governance (Balaji, 2023) (Dietzmann et al., 2023).

Despite these barriers, the future holds vast opportunities for inclusive and customer-centric innovation. Humanised AI has the potential to transform banking services by enhancing financial accessibility, delivering hyper-personalized experiences, and promoting fairness in service delivery. For example, AI-driven virtual assistants that can communicate in regional languages, adapt to emotional cues, and offer contextual financial advice can empower underserved segments and bridge the digital divide (Sheth et al., 2022). Furthermore, AI can help banks proactively identify customer needs, prevent financial distress, and promote long-term financial well-being.

To enable this transformation, policymakers and banks must act collaboratively. Regulatory bodies should establish clear, enforceable guidelines for ethical AI use, including standards for explainability, fairness, and data accountability. Banks, on their part, should invest in AI ethics training, create multidisciplinary AI governance teams, and adopt transparent customer communication strategies. A human-in-the-loop approach where critical decisions involve human validation can ensure that empathy, fairness, and responsibility remain at the core of AI-driven banking. Ultimately, the path forward lies in leveraging AI not just for efficiency, but to build a more ethical, inclusive, and emotionally intelligent banking ecosystem.

### **FINDINGS:**

The study identifies that the growing integration of Artificial Intelligence in banking has introduced significant advantages in terms of efficiency, automation, and data-driven decision-making. However, this technological shift also presents critical challenges, particularly concerning trust, transparency, bias, and emotional engagement in customer interactions. Findings emphasize that customers are more likely to accept and trust AI when systems are explainable, fair, and show signs of human-like empathy. Moreover, AI tools such as chatbots and virtual assistants are efficient in handling routine tasks but often fail to deliver when it comes to emotionally complex scenarios, highlighting the limitations of non-human systems. The concept of "humanising the machine" infusing empathy, contextual awareness, and ethical behaviour into AI emerges as a key factor in building sustained customer relationships.

### **CONCLUSION:**

Responsible AI in banking is no longer a peripheral consideration but a strategic imperative for sustainable digital transformation. The study concludes that while AI offers immense operational potential, it cannot fully replace human interaction in domains that require emotional intelligence and personalized service. Particularly in high-stakes financial decisions, customers expect more than just speed; they value empathy, clarity, and fairness. Thus, a balanced approach that integrates ethical AI design with human oversight is crucial. The idea is not to humanize AI in a literal sense, but to ensure that its functions and decisions reflect the values traditionally associated with humane service.

### **SUGGESTIONS:**

To effectively implement humanised AI, banks should adopt ethical AI governance frameworks that prioritize fairness, transparency, and accountability. Incorporating a "human-in-the-loop" approach for critical decisions can help preserve empathy and reduce algorithmic rigidity. AI systems should be designed to recognize emotional cues and provide contextual responses, especially in customer-facing roles. Additionally, banks must invest in AI literacy, both for their workforce and customers, to improve understanding and engagement. Lastly, inclusive AI tools—such as multilingual virtual assistants and adaptable interfaces—can help bridge digital divides and ensure



equitable access to financial services.

## REFERENCES:

1. Al-Araj, R., Haddad, H., Shehadeh, M., Hasan, E., & Nawaiseh, M. Y. (2022). The Effect of Artificial Intelligence on Service Quality and Customer Satisfaction in Jordanian Banking Sector. *WSEAS Transactions on Business and Economics*, 19, 1929–1947. <https://doi.org/10.37394/23207.2022.19.173>
2. Almustafa, E., Assaf, A., & Allahham, M. (2023). Implementation of Artificial Intelligence for Financial Process Innovation of Commercial Banks. *RGSA – Revista de Gestão Social e Ambiental*, 17(9), 1–17. <https://doi.org/https://doi.org/10.24857/rgsa.v17n9-004>
3. Andrade, I. M. De, & Tumelero, C. (2022). Increasing customer service efficiency through artificial intelligence chatbot. *Revista de Gestao*, 29(3), 238–251. <https://doi.org/10.1108/REGE-07-2021-0120>
4. Ayinaddis, S. G., Taye, B. A., & Yirsaw, B. G. (2023). Examining the effect of electronic banking service quality on customer satisfaction and loyalty: an implication for technological innovation. *Journal of Innovation and Entrepreneurship*, 12(1). <https://doi.org/10.1186/s13731-023-00287-y>
5. Balaji, D. (2023). Opportunities and challenges of artificial intelligence in banking and financial services. *International Journal of Science and Research Archive*, 10(2), 272–279. <https://doi.org/https://doi.org/10.30574/ijrsra.2023.10.2.0947>
6. Bhattacharya, C., & Sinha, M. (2022). Role of Artificial Intelligence in Banking for Leveraging Customer Experience. *Australasian Accounting, Business and Finance Journal*, 16(5), 89–105. <https://doi.org/10.14453/AABFJ.V16I5.07>
7. Boustani, N. M. (2022). Artificial intelligence impact on banks clients and employees in an Asian developing country. *Journal of Asia Business Studies*, 16(2), 267–278. <https://doi.org/10.1108/JABS-09-2020-0376>
8. Cerrone, R. (2023). Are Artificial Intelligence and Machine Learning Shaping a New Risk Management Approach? *International Business Research*, 16(12), 82. <https://doi.org/10.5539/ibr.v16n12p82>
9. Dietzmann, C., Jaeggi, T., & Alt, R. (2023). Implications of AI-based robo-advisory for private banking investment advisory. *Journal of Electronic Business & Digital Economics*, 1–16. <https://doi.org/10.1108/jebde-09-2022-0037>
10. El-Gohary, H., Thayaseelan, A., Babatunde, S., & El-Gohary, S. (2021). An Exploratory Study on the Effect of Artificial Intelligence-Enabled Technology on Customer Experiences in the Banking Sector. *Journal of Technological Advancements*, 1(1), 1–17. <https://doi.org/10.4018/jta.20210101.oa1>

11. Oyeniyi, L. D., Ugochukwu, C. E., & Mhlongo, N. Z. (2024). Implementing AI in banking customer service : A review of current trends and future applications. *International Journal of Science and Research Archive*, 12(1).  
<https://doi.org/https://doi.org/10.30574/ijrsra.2024.11.2.0639>
12. Rabbani, M. R., Lutfi, A., Ashraf, M. A., Nawaz, N., & Ahmad Watto, W. (2023). Role of artificial intelligence in moderating the innovative financial process of the banking sector: a research based on structural equation modeling. *Frontiers in Environmental Science*, 10(January), 1–16. <https://doi.org/10.3389/fenvs.2022.978691>
13. Rita Jain. (2023). Role of artificial intelligence in banking and finance. *Journal of Management and Science*, 13(3), 1–4. <https://doi.org/10.26524/jms.13.27>
14. Sheth, J. N., Jain, V., Roy, G., & Chakraborty, A. (2022). AI-driven banking services: the next frontier for a personalised experience in the emerging market. *International Journal of Bank Marketing*, 40(6), 1248–1271. <https://doi.org/10.1108/IJBM-09-2021-0449>

