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**ORIGINAL**

# Revolution of financial services: analysing the impact of AI on banking sector

## Revolución de los servicios financieros: analizando el impacto de la IA en el sector bancario

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## ABSTRACT

**Introduction:** this study explores the transformative impact of artificial intelligence (AI) on banking, insurance, and investment firms within the financial services sector. It aims to examine the challenges faced by businesses and establish clear research objectives.
**Method:** the study adopts a descriptive research methodology, leveraging both primary and secondary data sources. Standardised questionnaires and expert interviews provide in-depth insights into AI adoption within the Indian banking sector.
**Results:** the study identifies key applications of AI in financial services and evaluates its impact on operational efficiency, client experience, and risk management. A conceptual framework is proposed to assess AI's benefits and limitations, particularly in relation to workforce dynamics. The research highlights concerns regarding job displacement, skills development, and the evolving interaction between AI systems and human workers.
**Conclusion:** the findings offer actionable insights for financial institutions seeking to optimise AI integration. The study suggests strategies for balancing automation with human expertise, addressing workforce transitions, and enhancing service delivery. This research contributes to the existing literature by providing a structured analysis of AI's role in financial services. It offers empirical evidence on its implications for operational processes and workforce management, with a particular focus on the Indian banking sector.

**Keywords:** Artificial Intelligence; Financial Services; Customer; Banking; Industry.

## RESUMEN

**Introducción:** este estudio explora el impacto transformador de la inteligencia artificial (IA) en la banca, los seguros y las empresas de inversión dentro del sector de servicios financieros. Su objetivo es examinar los desafíos que enfrentan las empresas y establecer objetivos claros de investigación.
**Método:** el estudio adopta una metodología de investigación descriptiva, aprovechando fuentes de datos tanto primarias como secundarias. Los cuestionarios estandarizados y las entrevistas con expertos brindan información detallada sobre la adopción de la IA en el sector bancario indio.
**Resultados:** el estudio identifica aplicaciones clave de la IA en los servicios financieros y evalúa su impacto en la eficiencia operativa, la experiencia del cliente y la gestión de riesgos. Se propone un marco conceptual

para evaluar los beneficios y limitaciones de la IA, particularmente en relación con la dinámica de la fuerza laboral. La investigación destaca las preocupaciones sobre el desplazamiento laboral, el desarrollo de habilidades y la interacción en evolución entre los sistemas de inteligencia artificial y los trabajadores humanos.

**Conclusiones:** los hallazgos ofrecen información útil para las instituciones financieras que buscan optimizar la integración de la IA. El estudio sugiere estrategias para equilibrar la automatización con la experiencia humana, abordar las transiciones de la fuerza laboral y mejorar la prestación de servicios. Esta investigación contribuye a la literatura existente al proporcionar un análisis estructurado del papel de la IA en los servicios financieros. Ofrece evidencia empírica sobre sus implicaciones para los procesos operativos y la gestión de la fuerza laboral, con especial atención en el sector bancario indio.

**Palabras clave:** Inteligencia Artificial; Servicios Financieros; Cliente; Banca; Industria.

## INTRODUCTION

Artificial intelligence (AI) is transforming the financial services sector, especially in the realm of digital banking. For the reason that AI is ready to evaluate enormous numbers of data and devise correct predictive fashions, it helps banks to supply customized experiences, export through effects operations, and lower above prices. Carter, S. (2021). This article will examine how AI is revamping digital banking and what promise and pitfalls await. D. M. & Siddiqui, L. (2020).

For example, artificial intelligence is used in digital banking for fraud detection, customer service and other tasks. AI has a huge impact on the consumer experience which is a very important vertical. Using their data and activity history, AI-powered virtual assistants and chatbots can provide clients with tailored guidance and assistance. Automating remote and follow-up tasks boosts client satisfaction while allowing organisations to cut costs. Wang, J. L. (2019).

In the area of fraud detection, artificial intelligence is transforming digital banking. AI-based systems can quickly identify and prevent fraud by analyzing transaction data as it happens. This is essential for banks because fraud is costly and can hurt a bank's reputation. Mhlanga, D. (2020).

Benefits of AI in Digital Banking, but it also has its sharing disadvantages. It is paramount that we make sure AI systems are transparent and comprehensible. As people start using more AI in banking, banks are increasingly required to explain the reasoning behind their AI systems' decisions and disclose the data that was used. Zachariadis, M. (2022).

AI will impact the operation of banks in the future. As AI evolves, banks will offer better personalised experiences, eliminate boring work, and will upgrade fraud detection. Waliszewski, K., & Warchlewska, A. (2020). Banks need to ensure that their AI systems are transparent and understandable – failure to do so risks destroying client trust. Harnessing AI will allow banks to stake a strong claim to the digital future. Kumari, B., Kaur, J., & Swami, S.

Artificial intelligence (AI) technologies have brought a remarkable revolution over the last few years for financial services sector. With its potential to processes large amounts of data, learn from patterns, and produce accurate predictions, artificial intelligence has transformed many business sectors. Rupeika-Apoga, R. (2022). The banking and investing arms have seen significant disruption as well, changing the way things have always been done and creating new pathways for productivity and growth. Mhlanga, D. (2022).

This essay will explore the evolving role of AI in banking and investment looking at its impact on the bigger financial services universe. It explores AI's capacity to disrupt a variety of industries, providing the tools necessary to elevate customer experience, reimagine operational processes, and reshape risk management strategies. Kapoor, A. (2020). Through examining the risks and benefits associated with AI adoption, this study aims to offer insight that will aid financial institutions in optimally harnessing the potential of AI and solidifying their ongoing transformation toward the digital realm.

AI in banking has helped in intelligent automation, which allows banks to improve operational efficiency, automate repetitive tasks, and reduce costs. Anagnostopoulos, I. (2018). From automated fraud detection systems, customer service chatbots, and virtual assistants, AI-based technologies have redefined how financial institutions interact with customers and safeguard their assets. Moreover, today investment firms have data insights underpinned by AI algorithms and machine learning mechanisms. These then allow for improved portfolio management, accurate market predictions, and optimal decision-making. B, Ta., & S, M. (2021).

While AI has certainly transformed banking and investing, it has also brought about new challenges and considerations. Unless the workforce has become an irrelevant concept, this is a concern. Chatterjee, A. (2020). The interesting part, however, is that AI systems are replacing repetitive tasks and producing faster and more accurate results and there is a fundamental shift in job roles and skill requirements within the company. Modgil, S. (2021). To maximize the benefits of what Ai can do, we must redefine human-machine interaction

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and build new capabilities. This report describes how artificial intelligence is defined: data created from machines that simulate human thinking and behavior. AI saves lives every day, in real time. It has many different applications in the world of business. Alzaidi, A. A. (2018).

This research article utilizes a systematic approach to broadly grasp how AI affects cross-sectional complications in both banking and investments. The availability of these key evidence-based recommendations is primarily through the collection of primary data from identified financial institutions structured in surveys which would allow financial institutions the opportunity to share their reflection on AI use. Purwandari, B. (2020). In addition, interviews with professionals offer business leaders who effectively employed AI strategies into their companies valuable insights. Our objective will be to define major AI applications, assess their benefit to various areas of financial services and highlight best practices of implementation based on both primary and secondary data analysis. References: D. N. Sree, Durga, S. (2022).

This research aims to arm financial institutions with the knowledge and understanding needed to navigate the ever-evolving landscape by shining a light on the AI revolution in banking and investments. It aspires to eventually serve as a reference tool, making guidance recommendations across the areas of utilizing AI technology, increasing operational efficiency, providing superior client experience and driving sustainable growth across the financial services landscape.

**The Global Growth of the Artificial Intelligence Industry**

Artificial Intelligence Market report covers the market landscape and its growth prospects, and provides a straightforward idea of the performance of this market. The global artificial intelligence market size was valued at USD 136,55 billion in 2022, and is projected to reach USD 1 811 8 billion by 2030, growing at a CAGR of 37,3 % from 2023 to 2030. Arora, H. (2022). Research and updates by thousands of companies in manufacturing, healthcare, retail, automotive – just to name a few industries – enable the utilization of new technology. Rahman, A. A., & Sarmidi, T. (2020). Intel Corporation purchased Ai for expanding its AI sector. io, an Israeli startup that builds the tools and infrastructure for data scientists to build and deploy machine learning models. Although AI has brought technology to the forefront of corporations, technology itself has long been an indispensable part of these enterprises. Everything from self-driving cars to basic, life-saving medical tools to home mini assistants use the nearly ubiquitous implementation of artificial intelligence in one form or another in nearly every device and application. Fernando, S. (2021).

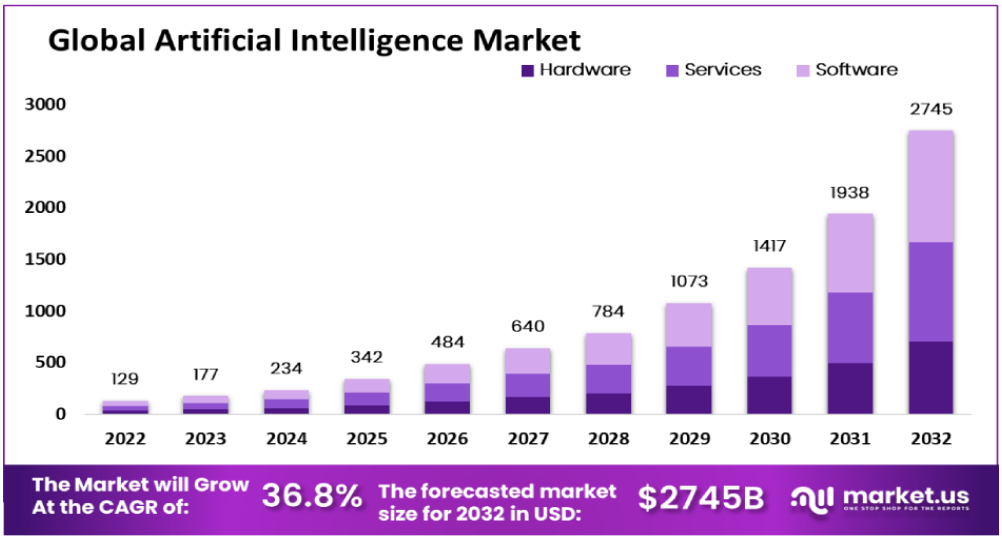


**Figure 1.** Global Artificial Intelligence MARKET
**Source:** https://market.us/report/artificial-intelligence-market/

**Applications of AI in Financial Services**

Routine operations automation: Robotic process automation (RPA) AI technology can automate routine operations, increasing operational efficiency.

Fraud detection and prevention: AI technologies can analyse large volumes of data to identify patterns and anomalies, ultimately improving fraud detection, as well as reducing financial risks.

Personalised services for customers: AI-powered chatbots and virtual assistants can offer personalised recommendations, support, and advice to customers, enhancing their overall experience.

Data Analytics & Insight: AI allows for advanced data analytics empowering financial institutions to gain powerful insights and make data-driven decisions.

Operational effectiveness: Artificial intelligence technologies accelerate processes, reduce the dependency

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on manual effort, and enhance precision, therefore increasing operational effectiveness and lowering costs.

Improving customer experience: AI allows personalized engagement, instantly responding to enquiry, and recommending products, increasing customer satisfaction and loyalty.

Risk management: AI algorithms can be used to identify and assess risks more accurately and efficiently, which enables proactive risk mitigation strategies, thus enhancing risk management processes.

**Benefits of AI Adoption in Financial Institutions**

Improved decision-making: Decision-making procedures are supported by data-driven insights provided by AI algorithms, which leads to more effective decision-making.

Enhanced operational effectiveness: AI automation lowers human mistake rates, expedites procedures, and boosts operational effectiveness all around.

Cost savings: AI technology help financial organisations cut costs by streamlining human tasks and allocating resources more efficiently.

Competitive advantage: By offering cutting-edge services, enhanced client experiences, and quicker reaction times, adopting AI can give businesses a competitive edge.

**Challenges of AI Adoption in Financial Institutions**

Data security and privacy: Handling sensitive financial data necessitates strict security protocols and adherence to data protection laws.

Ethical considerations: AI systems should follow ethical principles to provide justice, accountability, and openness in decision-making processes.

Acquisition of talent and the skill gap: For AI to be successfully implemented, skilled individuals who can create, support, and use AI technologies are needed.

**AI on the financial services industry's workforce dynamics and job roles**

*Workforce Dynamics*

Job displacement: The adoption of AI may result in the automation of specific jobs, which may result in the displacement of specific job roles and call for the reskilling and repositioning of the workforce.

Skill enhancement: Developing new abilities is necessary for AI deployment, including data analysis, AI programming, and strategic decision-making.

Collaboration between humans and AI: Financial institutions should promote a culture of cooperation between people and AI systems, using AI as a supplement rather than a substitute.

**Statement of the problem**

Traditional financial services have historically faced challenges in risk management, personalised consumer experiences, and operational efficiency. The advancement of AI technology has generated new potential to effectively address these issues. This study examines the magnitude of the problem by concentrating on several domains within banking and investing where AI exerts a significant influence. This study aims to identify the specific financial and investment sectors significantly influenced by AI. Artificial intelligence is employed in banking to automate mundane tasks, improve fraud detection, and provide personalised customer service via virtual assistants. Businesses are utilising AI to expedite claims processing, assess risks, and deliver customised insurance solutions. AI is transforming the implementation of investment strategies by analysing extensive data, identifying trends, and facilitating data-driven investment decisions.

**Objective of the Study:**

- To examine how AI is transforming the banking and investment sectors.
- To identify the main uses of AI in the financial services industry.
- Assess the advantages and difficulties of AI adoption in financial organisations.
- To consider how AI may affect labour dynamics and job positions in the financial services industry.

**Research Questions**

- Why is AI currently not employed as frequently in financial services as it is in technical firms like Google, Facebook, etc.?
- What potential benefits and drawbacks could there be from merging various AI techniques?

**Scope of the study**

The financial industry as one of the largest consumers of AI services is growing in usage at a rapid pace. At first, AI was mainly adopted by hedge funds and high-frequency trading companies; however, today, various financial institutions, ranging from banks to insurance companies, regulators and other FinTech platforms adopted AI into their standard operating procedure. Many different AI applications are used in these areas and

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their number is rapidly growing. The edit parts are first-rate: algorithmic trading, portfolio composition and optimisation, robotic advisory facilities, virtual buyer assistants, marketplace analysis and loads of analyses using large data sets.

### Hypothesis of the study

- The adoption of AI technology in the financial sector is significantly correlated with increases in operational effectiveness and quicker decision-making.
- AI-driven financial services solutions improve the customer experience by offering personalised services, which boosts client satisfaction and loyalty.

## METHOD

The present study employs a descriptive and observational research design to examine the impact of artificial intelligence (AI) on financial services, specifically within the banking, insurance, and investment sectors. The investigation was conducted in India over a period of six months, from January to June 2023.

### Research Design and Approach

This study adopts a descriptive observational approach, utilising both primary and secondary data sources to substantiate the findings. A structured questionnaire was developed to collect primary data from industry professionals in the banking and investment sectors. Additionally, secondary data were obtained from newspapers, periodicals, academic journals, and online sources to complement and validate the primary findings.

### Population and Sampling

The study population comprises professionals from Indian banking and investment firms. The sample selection process employed the snowball sampling method, whereby initial respondents referred additional participants within their professional network. This approach facilitated access to relevant expertise within the industry.

To ensure the reliability and validity of the questionnaire, a pre-test was conducted with 100 participants. Based on the findings and respondent feedback, unnecessary items were eliminated, and modifications were made to enhance clarity and precision.

### Challenges and Limitations

AI remains a relatively nascent and evolving technology, which posed challenges in aggregating quantitative data from AI enterprises. Companies in this sector demonstrated hesitancy in disclosing sensitive primary data, restricting direct access to internal operational insights. Consequently, the study relied on industry professionals' perspectives rather than enterprise-level disclosures.

### Data Collection Method

The main data was collected by using Likert scale questionnaire, and secondary data were obtained from journals, books, magazines, banking reports, and government publications. The numerical data banks all over Indian represent the bank's demography. We have primarily been on the operation side since the source data is supposedly too complex for us to truly understand. We are gathering data on real world practices in order to answer our research questions and clarify the merits and drawbacks of AI.

## RESULTS AND DISCUSSION

### Data Analysis and Interpretation

**Table 1.** Applications of AI in Financial Services

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Automation of tasks | Pearson correlation | 1,000 | 0,547 | 0,247 | 0,637 |
| | Sig. (2 -tailed) | | 0,000 | 0,163 | 0,000 |
| | N | 100 | 100 | 100 | 100 |
| Fraud detection | Pearson correlation | 0,547 | 1,000 | 0,637 | 0,347 |
| | Sig. (2 -tailed) | 0,000 | | 0,000 | 0,014 |
| | N | 100 | 100 | 100 | 100 |
| Personalized customer services | Pearson correlation | 0,318 | 0,579 | 1,000 | 0,012 |
| | Sig. (2 -tailed) | 0,153 | 0,000 | | 0,873 |
| | N | 100 | 100 | 100 | 100 |
| Data analytics and insights | Pearson correlation | 0,765 | 0,537 | 0,015 | 1,000 |
| | Sig. (2 -tailed) | 0,000 | 0,017 | 0,936 | |
| | N | 100 | 100 | 100 | 100 |

**Source:** SPSS Output.

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**Correlation Analysis of AI Applications in Financial Services**

The correlation analysis examines the interrelationships among key AI applications in financial services, namely routine task automation, fraud detection and prevention, personalised customer service, and data analytics and insights. Table 1 presents the correlation coefficients (r) and corresponding p-values, highlighting the strength and significance of these relationships.

**Routine Task Automation**

Routine task automation exhibits a strong positive correlation with data analytics and insights (r = 0,637, p = 0,000) and fraud detection and prevention (r = 0,547, p = 0,000). These results suggest that AI-driven automation enhances both fraud mitigation efforts and analytical capabilities. However, no significant correlation is observed between routine task automation and personalised customer service (r = 0,318, p = 0,153), indicating that automation does not directly impact individualised client interactions.

**Fraud Detection and Prevention**

A significant positive correlation is found between fraud detection and both routine task automation (r = 0,547, p = 0,000) and data analytics and insights (r = 0,637, p = 0,000), as shown in table 1. These findings confirm the essential role of AI-powered analytics in enhancing fraud detection mechanisms. The correlation between fraud detection and personalised customer service is moderate (r = 0,537, p = 0,017), suggesting some influence but not a strong dependency.

**Data Analytics and Insights**

Data analytics and insights demonstrate a substantial positive relationship with routine task automation (r = 0,765, p = 0,000) and fraud detection and prevention (r = 0,579, p = 0,000). This reinforces the idea that AI's analytical capabilities are integral to both process automation and fraud prevention efforts. However, data analytics does not significantly correlate with personalised customer services (r = 0,012, p = 0,873), as reflected in table 1.

**Personalised Customer Service**

Personalised customer service does not exhibit a significant correlation with routine task automation (r = 0,247, p = 0,163), fraud detection and prevention (r = 0,347, p = 0,014), or data analytics and insights (r = 0,015, p = 0,936). These results, summarised in table 1, indicate that AI-driven customer service operates independently of automation and fraud detection tools.

**Discussion**

The results suggest a robust interconnection among routine task automation, fraud detection, and data analytics, highlighting AI's synergistic role in these domains. This indicates that AI applications in financial services often perform optimally when used in conjunction rather than in isolation. Conversely, the absence of significant correlations between personalised customer service and other attributes suggests a weaker relationship, implying that AI-driven customer service operates through separate mechanisms.

**Table 2.** Firedman Test-Benefits of AI Financial Institutions

| Dimension | Mean Rank | Chi square value | P Value |
|---|---|---|---|
| Operational Effectiveness | 3,79 | 7,49 | 0,000 |
| Decision Making | 4,47 | | |
| Consumer Knowledge | 5,49 | | |
| Competitive Benefit | 2,88 | | |
| Risk Supervisions | 3,53 | | |
| Scalability | 5,34 | | |

**Interpretation**

The benefits of AI adoption in financial institutions differ significantly, hence the p value is less than 0,05. It is concluded that the following benefits of AI adoption in financial institutions have a mean difference between variables:

**Table 3.** Firedman Test- Challenges of AI in Financial Institutions

| Dimension | Mean Rank | Chi square value | P Value |
|---|---|---|---|
| Data privacy | 2,31 | 7,89 | 0,001 |
| Ethical deliberations | 3,53 | | |
| Skill gap | 3,59 | | |

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| | |
|---|---|
| Incorporation and execution | 4,43 |
| Permissible and supervisory agreement | 4,57 |
| Belief and variation | 4,67 |

**Interpretation**

The barriers of AI adoption in financial institutions varied significantly, hence the p value is less than 0,05. It is determined that the following variables have a mean difference among problems of AI adoption in financial institutions:

**Table 4.** T-Test- Implications of Work Dynamism

| Dimensions | F | Sig. | Result |
|---|---|---|---|
| Job Displacement | 43,253 | 0,000 | S |
| Skill Development | 31,279 | 0,000 | S |
| Association Between Humanoid And AI | 71,266 | 0,000 | S |

**Interpretation and Discussion**

**Impact of AI on Workforce Dynamics: T-Test Analysis**

This study examines the effects of AI adoption on job displacement, skill augmentation, and human-AI collaboration within the financial services sector. A T-test analysis was conducted to assess disparities in these three domains. Table 4 presents the T-values, significance levels (Sig.), and interpretations of the statistical tests.

**Job Displacement**

The T-value for job displacement is 43,253, with a p-value < 0,001, indicating statistical significance. These results suggest that AI integration has a significant impact on job relocation within the financial sector. The rejection of the null hypothesis confirms that AI-induced displacement is a substantial and measurable phenomenon. However, the degree and nature of job displacement require further exploration to assess sector-specific variations and long-term effects.

**Skill Augmentation**

The T-value for skill enhancement is 31,279, with a p-value < 0,001, demonstrating significance. This suggests that AI adoption substantially influences skill development in financial services. The necessity for employees to adapt to AI-driven workflows and acquire advanced technical and analytical skills is evident. These findings reinforce the growing demand for reskilling and upskilling initiatives to ensure a smooth transition in the workforce.

**Human-AI Collaboration**

The T-value for human-AI collaboration is 71,266, with a p-value < 0,001, confirming a significant relationship. These results suggest that AI has reshaped human-AI interaction models, requiring greater synergy between employees and AI-driven systems. The findings indicate a paradigm shift in workforce structures, emphasizing the need for effective strategies to enhance collaboration between AI technologies and human workers.

**Discussion**

The T-test results indicate that AI implementation significantly affects workforce dynamics, with notable disparities observed in job displacement, skill augmentation, and human-AI collaboration.

1. Job Displacement: AI automation reduces manual intervention, leading to role redundancies, particularly in repetitive, rule-based tasks. However, this also presents opportunities for redeployment into emerging AI-related roles.
2. Skill Enhancement: The increasing integration of AI systems demands specialized expertise in data analytics, AI governance, and automation management. The results highlight the growing necessity for training programs to bridge the skill gap.
3. Human-AI Collaboration: AI's role is not merely to replace but to augment human capabilities. While AI excels in automation, human intervention remains crucial for decision-making, ethical considerations, and strategic oversight. Effective collaboration between AI and employees can lead to optimized workflows and enhanced productivity.

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## CONCLUSION

The study confirms that AI is revolutionizing financial services, with its applications spanning fraud detection, customer experience enhancement, and investment decision-making. While AI adoption remains in its early stages, its influence on modern society is profound, reshaping workforce dynamics, business processes, and consumer interactions.

AI offers significant opportunities in financial services, including enhanced risk assessment, fraud detection, automation of routine tasks, and improved investment strategies. These advancements foster greater operational efficiency and data-driven decision-making. However, challenges persist, including ethical concerns, regulatory constraints, data privacy risks, and economic implications. Addressing these hurdles will be critical for maximizing AI's potential.

Through engagement with AI-driven organizations, this study highlights the practical integration of AI in financial institutions, demonstrating its ability to process vast datasets, uncover hidden patterns, and enhance consumer-employee relationships. Findings suggest that AI improves service delivery and optimizes operational processes, reinforcing its strategic value in financial services.

AI adoption is driving a more efficient and customer-centric financial ecosystem, allowing businesses to offer personalized services and predictive analytics. However, for widespread AI acceptance, a balance must be struck between technological advancement and human adaptability. The study underscores the necessity of ethical AI deployment, regulatory frameworks, and workforce upskilling to support a sustainable, AI-driven future.

As financial institutions increasingly integrate AI, they must navigate technological, ethical, and legal challenges while leveraging AI's capabilities for growth and innovation. Future research should focus on long-term AI adoption trends, regulatory developments, and AI's evolving role in economic structures. The findings of this study offer a foundation for further exploration of AI's transformative impact on financial services and beyond.

## REFERENCES

1. Alzaidi, A. A. (2018). Impact of artificial intelligence on performance of banking industry in Middle East. International Journal of Computer Science and Network Security, 18(10), 140-148.

2. Anagnostopoulos, I. (2018). Fintech and regtech: Impact on regulators and banks. Journal of Economics and Business, 100, 7-25.

3. Carpenter, T. (2020). Revolutionising the consumer banking experience with artificial intelligence. Journal of Digital Banking, 4(4), 291-300.

4. Chalmers, D., MacKenzie, N. G., & Carter, S. (2021). Artificial intelligence and entrepreneurship: Implications for venture creation in the fourth industrial revolution. Entrepreneurship Theory and Practice, 45(5), 1028-1053.

5. Chatterjee, A. (2020). Financial inclusion, information and communication technology diffusion, and economic growth: a panel data analysis. Information Technology for Development, 26(3), 607-635.

6. Da Costa, S. (2018). How Artificial Intelligence is changing the banking sector?

7. Deepthi. B, Gupta, P., Rai, P., & Arora, H. (2022). Assessing the Dynamics of AI Driven Technologies in Indian Banking and Financial Sector. Vision, 09722629221087371.

8. Flejterski, S., & Labun, J. (2016). The banking industry and digital innovation: in search of new business models and channels. European Journal of Service Management, 20, 5-15.

9. Garg, P., Gupta, B., Chauhan, A. K., Sivarajah, U., Gupta, S., & Modgil, S. (2021). Measuring the perceived benefits of implementing blockchain technology in the banking sector. Technological forecasting and social change, 163, 120407.

10. Kaur, D. N., Sahdev, S. L., Sharma, D. M., & Siddiqui, L. (2020). Banking 4.0:'the influence of artificial intelligence on the banking industry & how ai is changing the face of modern day banks'. International Journal of Management, 11(6).

11. Kumari, B., Kaur, J., & Swami, S. (2021). System dynamics approach for adoption of artificial intelligence

in finance. In Advances in Systems Engineering: Select Proceedings of NSC 2019 (pp. 555-575). Springer Singapore.

12. Mahalakshmi, V., Kulkarni, N., Kumar, K. P., Kumar, K. S., Sree, D. N., & Durga, S. (2022). The Role of implementing Artificial Intelligence and Machine Learning Technologies in the financial services Industry for creating Competitive Intelligence. Materials Today: Proceedings, 56, 2252-2255.

13. Mhlanga, D. (2020). Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion. International Journal of Financial Studies, 8(3), 45.

14. Mhlanga, D. (2021). Financial inclusion in emerging economies: The application of machine learning and artificial intelligence in credit risk assessment. International journal of financial studies, 9(3), 39.

15. Mhlanga, D. (2022). Financial Inclusion and the Fourth Industrial Revolution. In Digital Financial Inclusion: Revisiting Poverty Theories in the Context of the Fourth Industrial Revolution (pp. 39-57). Cham: Springer International Publishing.

16. Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. International Review of Financial Analysis, 81, 102103.

17. Nizam, R., Karim, Z. A., Rahman, A. A., & Sarmidi, T. (2020). Financial inclusiveness and economic growth: New evidence using a threshold regression analysis. Economic research-Ekonomska istraživanja, 33(1), 1465-1484.

18. Patel, R., Migliavacca, M., & Oriani, M. E. (2022). Blockchain in banking and finance: A bibliometric review. Research in International Business and Finance, 62, 101718.

19. Rahman, M., Ming, T. H., Baigh, T. A., & Sarker, M. (2021). Adoption of artificial intelligence in banking services: an empirical analysis. International Journal of Emerging Markets.

20. Soni, N., Sharma, E. K., Singh, N., & Kapoor, A. (2020). Artificial intelligence in business: from research and innovation to market deployment. Procedia Computer Science, 167, 2200-2210.

21. Suryono, R. R., Budi, I., & Purwandari, B. (2020). Challenges and trends of financial technology (Fintech): a systematic literature review. Information, 11(12), 590.

22. Thisarani, M., & Fernando, S. (2021, June). Artificial intelligence for futuristic banking. In 2021 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC) (pp. 1-13). IEEE.

23. Varma, P., Nijjer, S., Sood, K., Grima, S., & Rupeika-Apoga, R. (2022). Thematic Analysis of Financial Technology (Fintech) Influence on the Banking Industry. Risks, 10(10), 186.

24. Waliszewski, K., & Warchlewska, A. (2020). Attitudes towards artificial intelligence in the area of personal financial planning: a case study of selected countries. Entrepreneurship and Sustainability Issues, 8(2), 399.

25. Wall, L. D. (2018). Some financial regulatory implications of artificial intelligence. Journal of Economics and Business, 100, 55-63.

26. Xie, M. (2019, April). Development of artificial intelligence and effects on financial system. In Journal of Physics: Conference Series (Vol. 1187, No. 3, p. 032084). IOP Publishing.

27. Zhao, Q., Tsai, P. H., & Wang, J. L. (2019). Improving financial service innovation strategies for enhancing china's banking industry competitive advantage during the fintech revolution: A Hybrid MCDM model. Sustainability, 11(5), 1419.

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