

The Impact of Artificial Intelligence on Financial Decision-Making: A Systematic Literature Review

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ABSTRACT

Background. The use of AI in various fields, including the use of Artificial Intelligence (AI) in financial management, has a significant impact on various sectors of the economy. AI's ability to analyze large amounts of data and make accurate predictions is creating new trends in financial decision-making, while also changing the way financial institutions operate.

Research Purpose. (1) To find out how the use of Artificial Intelligence (AI) can affect decision-making in the financial sector, (2) To find out the impact of the use of Artificial Intelligence (AI) on long-term financial strategies, (3) To explore the ethical implications associated with the use of AI in decision-making that impact the financial well-being of individuals and organizations.

Research Method. This research uses a qualitative method, carried out by collecting and analyzing article topics with the theme of Artificial Intelligence and Financial Decision Making, data is collected through Scopus, Google Scholar and ScienceDirect databases and then analyzed using *Systematic Literature Review* (SLR) with the PRISMA approach using the Wase Uwake Application.

Findings. that the implementation of Artificial Intelligence (AI) has had a broad and multidimensional influence on the financial decision-making process in the 2020–2025 range.

KEYWORDS: Artificial Intelligence, Financial Decision Making.

INTRODUCTION

In the context of the application of Artificial Intelligence (AI) in the financial sector, various studies have explained how this technology affects financial decision-making, as well as providing a clear conceptual framework and categorization regarding the variables and indicators involved. One important aspect of this literature is the introduction of AI as a tool to optimize portfolio management. According to , the application of AI in portfolio management improvement includes variables such as prediction accuracy, data processing speed, and potential return on investment. These variables are key in assessing the effectiveness of AI in helping investors make more informed and timely decisions. (Supports et al., 2024)

Furthermore, performance indicators are measured through several aspects, including reduced investor risk, management of market volatility, and increased transparency in asset allocation. The study notes that a hybrid approach that combines various AI techniques can result in better comparisons in predicting financial outcomes compared to a single technique. Therefore, choosing the right technique has a great effect on performance in every category related to financial decision-making (Bahrammirzaee, 2010) In addition, research on AI also highlights the ethical implications and social responsibility in financial decision-making. explains how the application of AI raises concerns regarding algorithmic bias and transparency, which are important aspects in ensuring that decisions taken do not harm specific (Oluwatobi Opeyemi Adeyelu et al., 2024) *stakeholders*. These elements become important indicators in evaluating the impact of AI, which then relates to a broader understanding of the decision structures generated by AI-based systems.

Not only limited to applications in risk management, but also in market predictions, AI has become a significant driver in the development of innovative investment strategies. shows that the use of AI in financial data analysis not only improves process

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efficiency but also provides new insights that can be used for more strategic investment decision-making. This suggests that indicators related to improved market performance, resulting from the use of AI, should be a focus in further research on financial performance (Kazachenok et al., 2023)

Furthermore, the expansion of the use of AI in the financial sector must also consider its impact on traditional business models. The emphasis is that the opportunities and challenges faced by financial institutions in implementing AI must be analyzed in depth to address the technical and ethical issues that may arise. By categorizing relevant variables and indicators, we can understand in more detail how AI can revolutionize financial decisions through applicable innovations. This literature review is important to evaluate the results that have been achieved as well as the implications that may arise from the further development of AI in finance. More in-depth research is needed to answer questions about the effectiveness of AI and predict future developments. highlighted that while much progress has been made, there is still a dire need to explore the linkages between the application of AI in finance and the strategic outcomes expected by the global financial industry (Roy et al., 2025).

LITERATURE REVIEW

The literature shows that artificial intelligence (AI) strengthens financial decision-making processes through improved prediction accuracy, data processing speed, and the ability to extract non-linear patterns from large-sized data. In the context of portfolio management, AI is used for return/risk forecasting, adaptive portfolio construction, and signal-based rebalancing, so that decisions become more timely and evidence-based. Key variables that are often studied include "prediction accuracy", "processing latency/throughput", and "expected excess return", while performance indicators include "risk reduction", "information ratio", "drawdown", and "turnover" strategies. These findings are in line with the argument that AI not only adds operational efficiencies but also expands the solution space to complex portfolio optimization problems (Supports et al., 2024)

Classical studies assert that hybrid approaches that combine, for example, tree-based machine learning, neural networks, and "ensemble" techniques, generally outperform single techniques in the context of noisy, non-stationary, and prone "regime shift" financial predictions. Showing that the combination of methods allows for the capture of non-linear relationships while reducing the "risk model" through algorithmic diversification. The advanced literature adds that "stacking" and "boosting" correct bias-variance, while "Bayesian model averaging" helps manage parameter uncertainty. Thus, the selection and assembly of techniques (architecture, features, prediction horizons) become determinants of performance, and evaluation must use metrics beyond point accuracy, such as "calibration, lift, profit-based metrics", as well as the model's resilience to "overfitting" and "concept drift" (Bahrammirzaee , 2010)

As adoption spreads, the literature emphasizes the importance of AI governance to mitigate bias and increase transparency. highlighting the risk of "measurement bias" in historical data, "selection bias" in training samples, and "automation bias" in model users. For this reason, recent studies advocate "model cards", "explainable AI" (XAI) for material decisions (e.g. credit disbursement, "pre-trade risk", and "fairness constraints" in the training process. Governance indicators include "explainability score", cross-group bias/fairness metrics, "auditability" (model & data footprint), and "accountability" ("the role of humans in human-in-the-loop"). The integration of these indicators is important so that performance improvements are not paid for at a disadvantage for vulnerable stakeholders (Oluwatobi Opeyemi Adeyelu et al., 2024).

Other research groups show that AI enriches "alpha discovery" through the use of "alternative data" (news texts, social media, ESG data) and modern NLP techniques. shows that combining traditional market features with text/main signals can improve the efficiency of the analytical process and generate new insights for quantitative strategies. However, the literature also emphasizes the need for "backtest hygiene": control of "look-ahead bias", "data snooping", and adjustments to "transaction costs" and "market impact". Commonly used indicators include risk-adjusted return (Sharpe/Sortino), hit ratio, profit factor, and stability of performance across volatility regimes all evaluated by walk-forward "cross-market validation") (Kazachenok et al., 2023)

Contemporary literature places AI as a driver of business model transformation: "front-to-back" automation, personalization services, real-time risk assessment, to "AIOps" for technological reliability. These changes require data readiness (quality, lineage, real-time pipelines), technology architecture ("MLOps", "feature store"), and model risk frameworks ("risk management model", independent validation). Indicators of organizational readiness include "data maturity level", "time-to-model", frequency of "model refresh", and "governance compliance". On the other hand, transition costs, talent needs, and prudential regulations are implementation challenges. The literature recommends a roadmap that balances operational "quick wins" with long-term investment in infrastructure and analytics capabilities.

Although significant progress has been made, a number of research gaps remain open. emphasizing the need for causal evidence on the relationship between AI adoption and strategic performance, beyond predictive correlation, as well as methodologies that are resistant to "structural breaks" and "non-stationarity" markets. Promising research directions include: (i) the integration of "causal ML" to bridge policy predictions and inference; (ii) AI value-added measurement on end-to-end "portfolio construction" (from signal to execution and cost management); (iii) a multi-objective evaluation framework that balances returns, risks, explainability, and fairness; and (iv) independent governance and auditing standards for high-risk models. This agenda is expected

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to mature practices and reduce the gap between the technical potential and strategic impact of AI in the financial sector. (Roy et al., 2025)

RESEACH METHOD

This research aims to explore the impact of Artificial Intelligence (AI) on financial decision-making through an approach to financial decision-making. *Systematic Literature Review* (SLR). The focus of the analysis includes a wide range of studies and scientific articles that relate the application of AI in financial contexts, including risk management, portfolio analysis, and investment strategies. The source of information is taken from articles that are indexed in reputable databases such as *Scopus ScienceDirect*, and *Google Schooler* as well as leading journals in the field of finance and technology, reflecting the latest developments in the application of AI technology in financial services (Ranković et al., 2023) ;(Yi et al., 2023) ; (Warin & Stojkov, 2021)

The design of this research is qualitative, with the SLR (*Systematic Literature Review*) method as the main approach. SLR was chosen because it provides high accuracy in assessing and analyzing the existing literature. This approach not only collects various publications but also evaluates and synthesizes information to generate new insights and knowledge regarding the use of AI in financial decision-making. This is important because many previous studies have focused only on one aspect without integrating a comprehensive view of the relationship between AI and financial decisions (Oluwatobi Opeyemi Adeyelu et al., 2024) ;(Warin & Stojkov, 2021)

The data collection process is divided into several stages. **First**, a literature search was conducted using keywords relevant to the research theme, such as "Artificial Intelligence", "financial decision making", and "systematic literature review". **Second**, relevant articles are selected based on inclusion criteria such as the year of publication, the relevance of the topic, and the methodology used. **Third**, articles that meet these criteria are recorded and evaluated for further study. The final stage in this process is to collect all the data and information from the selected articles for in-depth analysis (Yi et al., 2023) ; (Warin & Stojkov, 2021) ; (Valle-Cruz et al., 2024)

Data analysis was carried out by following the systematic steps set out in the SLR protocol, including the use of the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) guide, using the Watase Uake Application. The Watase Uake application is a collaborative research system that was launched in 2018, and began to be developed in 2020 involving various researchers from various universities, this watase was created to make it easier for researchers from various universities to collaborate (*Collaborative Research*). By using Watase Uake, researchers can share with other researchers. A feature developed to search for research themes based on keywords by applying PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*). The data collected was analyzed to identify key themes, trends, and gaps in previous research. The analysis techniques used include narrative synthesis, in which data from different sources are integrated to provide a comprehensive understanding of the impact of AI on financial decisions (Roman et al., 2023) ; (Warin & Stojkov, 2021) ; (Sanchez-Roger et al., 2019).

With this approach, the research will present a clear picture of how AI can be used in financial decision-making, concluding the benefits as well as challenges faced by financial institutions in integrating this technology. The implications of these findings are expected to make a meaningful contribution to the existing literature and encourage further research in the field of (Ranković et al., 2023) ;(Warin & Stojkov, 2021)

Based on the Research Method, research design, and SLR Protocol with the PRISMA approach using Watase Uake, the researcher carried out the following analysis steps: (1) Identification: by entering keywords relevant to the research theme (Artificial Intelligence and Financial Decision) to find journal articles for the 2020-2025 period, (2) Screening: based on the findings of article titles, selected titles that are relevant to the research theme, (3) retrieval: based on the results of the screening of the findings of the research themes, a process of downloading and importing them into the Mendeley Reference Manager application, and uploaded to be classified into PRISMA. (4) report: based on the screening and retrieval that has been carried out, produce a PRISMA scheme that contains the PRISMA Stages, along with the number of article titles that meet the criteria for SLR analysis.

FINDINGS

Based on the Research Method, research design, and SLR Protocol with the PRISMA approach, the results of the research with the theme of AI and Financial Decision Making are as follows:

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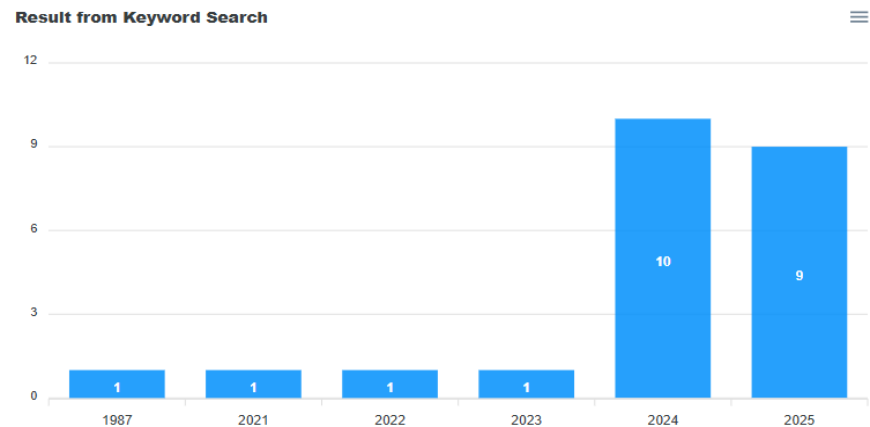


Figure 1: Results of Article Titles by Keywords

Based on the graph in figure 1, it shows that from 2020 to 2025, there are 23 articles relevant to the theme of this research. Furthermore, a screening process was carried out, resulting in the number of article titles that met the criteria for the next stage as many as 8 titles as follows:

Table 1: Article Title Search Results (Watase Uake)

Yes		Article title	Rank	Author	Year
1		Embracing AI advisors for making (complex) financial decisions: an experimental investigation of the role of a maximizing decision-making style, <i>International Journal of Bank Marketing</i> DOI: 10.1016/j.csi.2024.103965 [2025-10-09 21:28:45]	Q2	Arvid Hoffmann ; Alex Belli	2025
2		Evaluating the capacity and limitations of generative AI in financial decision making, <i>Computer Standards and Interfaces</i> DOI: 10.3390/electronics13153069 [2025-10-06 21:00:51]	Q1	Gabriela Pakhtinková Bartáková, at.al	2025
3		Smart Money, Greener Future: AI-Enhanced English Financial Text Processing for ESG Investment Decisions, <i>Sustainability</i> DOI: 10.1080/12460125.2024.2349425 [2025-10-06 21:00:46]	Q1	Junying Fan, at.al	2025
4		AI and the decision-making process: a literature review in healthcare, financial, and technology sectors, <i>Journal of Decision Systems</i> DOI: 10.3390/bs14100964 [2025-10-06 21:00:43]	Q2	Imad Banihani; at.al	2024
5		AI-Driven Intraday Trading: Applying Machine Learning and Market Activity for Enhanced Decision Support in Financial Markets, <i>IEEE Access</i> DOI: 10.3389/fpsyg.2021.697101 [2025-10-06 21:00:38]	Q1	Mhi-Chi Hung; at.al	2024
6		Trust Dynamics in Financial Decision Making: Behavioral Responses to AI and Human Expert Advice Following Structural Breaks, <i>Behavioral Sciences</i> DOI: 10.1109/ACCESS.2024.3355446 [2025-10-06 21:00:35]	Q2	Hyo Young Kim; at.al	2024
7		Unlocking Business Value: Integrating AI-Driven Decision-Making in Financial Reporting Systems, <i>Electronics (Switzerland)</i> DOI: 10.3390/su17156971 [2025-10-06 21:00:31]	Q2	brother-in-law, Emanuel Antene; at.al	2024

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8		"The Flow in the Funnel": Modeling Organizational and Individual Decision-Making for Designing Financial AI-Based Systems, <i>Frontiers in Psychology</i> DOI: 10.1108/IJBM-10-2024-0647 [2025-10-06 21:00:28]	Q2	Mhi-Chih Hung	2024
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Source: Watase Uake/Scopus (2025)

Furthermore, a search for article titles sourced from other sources (Google scholar and ScienceDirect), found 15 relevant articles with details as shown in table 2 below:

Table 2: Article Title Search Results (Other sources)

Yes	Article title	Rank	Author	Year
1	Cheng, Xuanmei; Du, Anna Min; Yan, Chengnuo; Goodell, John W., 2025, Internal business process governance and external regulation How does AI technology empower financial performance, <i>International Review of Financial Analysis</i> DOI: 10.1016/j.irfa.2025.103927 [2025-10-09 21:37:17]	Q1	Xuan Mei Cheng	2025
2	Zhu, Alex Yue Feng, 2024, Optimizing financial decision-making for emerging adults A compact Python-based personalized financial projection approach, <i>Technology in Society</i> DOI: 10.1016/j.techsoc.2024.102599 [2025-10-09 21:22:16]	Q1	Zhu; at.al	2024
3	Yes, Cong; Shi, Wenquan, 2021, Establishment and Improvement of Financial Decision Support System Using Artificial Intelligence and Big Data, <i>Journal of Physics: Conference Series</i> DOI: 10.1088/1742-6596/1992/3/032082 [2025-10-09 21:14:11]	Q1	Junying Fan, at.al	2025
4	Akour, Iman; Alzyoud, Mazen ; Alquqa, Enass Khalil; Tariq, Emad ; Alzboun, Nidal ; Al-Hawary, Sulieman Ibraheem Shelash; Alshurideh, Muhammad Turki, 2024, Artificial intelligence and financial decisions Empirical evidence from developing economies, <i>International Journal of Data and Network Science</i> DOI: 10.5267/j.ijdns.2023.10.013 [2025-10-09 21:05:32]	Q2	Imad Banihani; at.al	2024
5	Sutiene, Kristina; Schwendner, Peter; Sipos, Ciprian; Lorenzo, Luis; Mirchev, Miroslav; Lameski, Petre; Kabasinskas, Audrius; Tidjani, Chemseddine; Ozturkkal, Belma; Cerneviciene, Jurgita, 2024, Enhancing portfolio management using artificial intelligence literature review, <i>Frontiers in Artificial Intelligence</i> DOI: 10.3389/frai.2024.1371502 [2025-10-09 20:32:36]	Q2	Mhi-Chi Hung; at.al	2024
6	Bao, Ying; Gong, Wankun; Yang, Kaiwen, 2023, A Literature Review of Human-AI Synergy in Decision Making from the Perspective of Affordance Actualization Theory, <i>Systems</i> DOI: 10.3390/systems11090442 [2025-10-09 20:32:33]	Q2	Hyo Young Kim; at.al	2024
7	Kazachenok, Olesya P.; Stankevich, Galina V.; Chubaeva, Natalia N.; Tyurina, Yuliya G., 2023, Economic and legal approaches to the humanization of FinTech in the economy of artificial intelligence through the integration of blockchain into ESG Finance, <i>Humanities and Social Sciences Communications</i> DOI: 10.1057/s41599-023-01652-8 [2025-10-09 20:32:26]	Q1	brother-in-law, Emanuel Antene; at.al	2024
8	Sanchez-Roger, Marc; Oliver-Alfonso, María Dolores; Sanchís-Pedregosa, Carlos, 2019, Fuzzy Logic and Its Uses in Finance A Systematic Review Exploring Its Potential to Deal with Banking Crises, <i>Mathematics</i> DOI: 10.3390/math7111091 [2025-10-09 20:32:22]	Q2	Mhi-Chih Hung	2024

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9	Valle-Cruz, David; García-Contreras, Rigoberto; Gil-Garcia, J. Ramon, 2023, Exploring the negative impacts of artificial intelligence in government the dark side of intelligent algorithms and cognitive machines, <i>International Review of Administrative Sciences</i> DOI: 10.1177/00208523231187051 [2025-10-09 20:32:17]	Q1	Valle-Cruz; at.al	2023
10	Roman, Alex; Al-Sharif, Lubna; AL Gharyani, Mohamed, 2023, The Expanding Role of ChatGPT (Chat-Generative Pre-Trained Transformer) in Neurosurgery A Systematic Review of Literature and Conceptual Framework, <i>Cureus</i> DOI: 10.7759/cureus.43502 [2025-10-09 20:32:14]	Q2	Novel; at.al	2023
11	Xiao, Feng; Ke, Jintao, 2021, Pricing, management and decision-making of financial markets with artificial intelligence introduction to the issue, <i>Financial Innovation</i> DOI: 10.1186/s40854-021-00302-9 [2025-10-06 21:53:22]	Q1	Xiao; at.al	2021
12	erneviciene, Jurgita; Kabasinskas, Audrius, 2024, Explainable artificial intelligence (XAI) in finance a systematic literature review, <i>Artificial Intelligence Review</i> DOI: 10.1007/s10462-024-10854-8 [2025-10-06 21:10:48]	Q1	Ernevi; at.al	2024
13	Fares, Omar H.; Butt, Irfan; Lee, Seung Hwan Mark, 2022, Utilization of artificial intelligence in the banking sector a systematic literature review, <i>Journal of Financial Services Marketing</i> DOI: 10.1057/s41264-022-00176-7 [2025-10-06 21:10:45]	Q2	Fares; at.al	2022
14	Yi, Ziwei; Cao, Xinwei; Chen, Zuyan; Li, Shuai, 2023, Artificial Intelligence in Accounting and Finance Challenges and Opportunities, <i>IEEE Access</i> DOI: 10.1109/ACCESS.2023.3333389 [2025-10-06 21:00:54]	Q1	Yi Ziwi; at.al	2023
15	Hasan, Zahid; Vaz, Daicy; Athota, Vidya S.; Désiré, Sop Sop Maturin; Pereira, Vijay, 2023, Can Artificial Intelligence (AI) Manage Behavioural Biases Among Financial Planners, <i>Journal of Global Information Management</i> DOI: 10.4018/JGIM.321728 [2025-10-06 21:00:48]	Q2	Hasan; at.al	2023

Source: Google schooler and Scienedirect (2025)

Based on the results of identification, screening, and withdrawal of article titles using Watase Uake (Scopus Q1, Q2, Q3, and Q4), as well as findings sourced from other sources (Google schooler and ScienceDirect, classified in PRISMA as shown in figure 2 below:

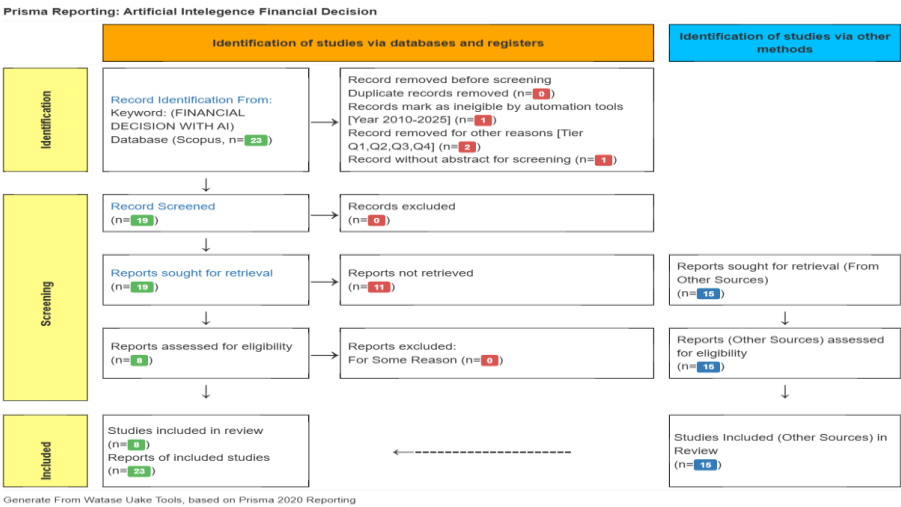


Figure 3: PRISMA Report
Source: Watase Uake (2025)

Based on the findings of the articles obtained from the Scopus Database using the Watase Uake Application (Scopus Database), Google Schooler, and ScienceDirect as follows:

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Table 3: Results of Screening and Article Selection

Sourced from Watase Uake	Issued	Sum	Selection Results
Total Article Titles	-	23	
Beyond the Period 2010-2025	1		
Excludes Categories Q1, Q2, Q3, and Q4	2		
Has No Abstract	1		
Inaccessible	11		
Amount Issued		15	8
Sourced from ScienceDirect and Google Schooler:			15
Number of Selected Articles			23

Source: Watase Uake, data processed (2025)

Based on table 3 above 23 article titles that are considered relevant to the keywords in this study: "Artificial Intelligence" and "Financial Decision Making", the following are the results of the presentation of 23 article titles as in table 4 below:

Table 4: Article Review and Analysis

No.	Title (Publication)	Research Methods	Author	Year/Rank	Result
1	Evaluating the capacity and limitations of generative AI in financial decision making	Qualitative	khan, Falak; Bartáková, Gabriela Pajtinková; Almadhor, Ahmad; Qayyum, Amna; Abeer, Cainat; Durrani, Aman	2025/Q1	Consumers are quite vulnerable due to a lack of financial and digital literacy, bank cooperation, and trust issues and regulatory differences
2	Internal business process governance and external regulation How does AI technology empower financial performance	Quantitative	Cheng, Xuanmei; Du, Anna Min; Yan, Chengnuo; Goodell, John W.	2025/Q2	AI improves the operational quality of financial companies beyond risk management, internal governance, and internal controls, providing technical support to improve service capabilities by increasing the number of businesses across cross-regional operations, resource competition and potential customer exploration
3	Embracing AI advisors for making (complex) financial decisions: an experimental investigation of the role of a maximizing decision-making style	Quantitative	Silber, Dietrich; Hoffmann, Arvid; Belli, Alex	2025/Q2	Individuals who optimize mindsets show higher odds of using AI as a tool in decision-making
4	Smart Money, Greener Future AI-Enhanced English Financial Text Processing for ESG Investment Decisions	Quantitative	Fan, Junying; Wang, Daojuan; Zheng, Yuhua	2025/Q1	By automating the extraction of sustainability metrics from complex financial documents, FinATG supports emerging markets in meeting International ESG standards
5	Optimizing financial	Qualitative	Zhu, Alex Yue Feng	2024/Q1	Interactive Artificial Intelligence (AI) for financial guidance,

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	decision-making for emerging adults A compact Python-based personalized financial projection approach				Python-based PFPs stand out as an essential resource capable of leveraging interactive AI to improve the financial decision-making process
6	Explainable artificial intelligence (XAI) in finance a systematic literature review	Qualitative SLR	Ernevi ien, Jurgita; Yours truly, Audrius	2024/Q1	The most popular Financial tasks using AI are credit management, stock price prediction, and fraud detection
7	Artificial intelligence and financial decisions Empirical evidence from developing economies	Quantitative	Akour, Iman; Alzyoud, Mazen ; Alquqa, Enass Khalil; Tariq, Emad ; Alzboun, Nidal ; Al-Hawary, Sulieman Ibraheem Shelash; Alshurideh, Muhammad Turki	2024/Q2	shows that the dimension of artificial intelligence has a positive impact on financial decisions. Therefore, companies must spend on building strong artificial intelligence infrastructure and skills
8	AI and the decision-making process a literature review in healthcare, financial, and technology sectors	Qualitative SLR	BaniHani, Imad; Alawadi, Sadi; Elmrayyan, Nadia	2024/Q2	AI often functions as a cognitive assistant in data collection and evaluation, its role in decision-making is expected to grow as technology becomes more institutionalized
9	AI-Driven Intraday Trading Applying Machine Learning and Market Activity for Enhanced Decision Support in Financial Markets	Qualitative	Hung, Min-Chih; Chen, An-Pin; Yu, Wan-Ting	2024/Q1	showed that the accuracy achieved through this research methodology went beyond the random path theory used by the control group. The apparent divergence of results confirms that low-risk entry points in the intraday market can be identified through this approach
10	Unlocking Business Value Integrating AI-Driven Decision-Making in Financial Reporting Systems	Qualitative	Artene, Alin Emanuel; Domil, Aura Emanuela; Ivascu, Larisa	2024/Q2	By leveraging advanced analytics, automation, and adaptive decision support capabilities, organizations are navigating the complexities of a rapidly evolving business environment, where neural networks are emerging as a valuable tool for calibrating outcomes in a complex accounting environment, demonstrating effectiveness in processing complex financial data, identifying patterns, and making predictions, ushering in a new era of transformative possibilities
11	Trust Dynamics in Financial Decision Making Behavioral Responses to AI	Quantitative	Kim, Hyo Young; Park, Young so	2024/Q2	The Dynamics of Trust in Financial Decision-Making: Behavioral Responses to AI and HumanExpert's Advice After a Structural Break

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	and Human Expert Advice Following Structural Breaks				
12	Enhancing portfolio management using artificial intelligence literature review	Quantitative	Sutiene, Kristina; Schwendner, Peter; Sipos, Ciprian; Lorenzo, Luis; Mirchev, Miroslov; Lameski, Petre; Kabasinskas, Audrius; Tidjani, Chemseddine; Ozturkkal, Belma; Cerneviciene, Jurgita	2024/Q2	Recent advances in artificial intelligence provide methodological and technological capabilities to solve highly complex problems, and investment portfolios are no exception
13	The Expanding Role of ChatGPT (Chat-Generative Pre-Trained Transformer) in Neurosurgery: A Systematic Review of Literature and Conceptual Framework	Qualitative SLR	Roman, Alex; Al-Sharif, Lubna; AL Gharyani, Mohamed	2023/Q2	The reviewed study demonstrates the potential of AI and deep learning (DL), through language models such as ChatGPT, to improve the accuracy and efficiency of neurosurgery procedures, as well as patient diagnosis, treatment, and outcomes across a wide range of medical specialties, including neurosurgery
14	A Literature Review of Human-AI Synergy in Decision Making From the Perspective of Affordance Actualization Theory	Qualitative SLR	Bao, Ying; Gong, Wankun; "Come on, Kaiwen.	2023/Q2	Our findings provide a holistic framework for understanding the human-AI synergy phenomenon in decision-making
15	Can Artificial Intelligence (AI) Manage Behavioural Biases Among Financial Planners	Qualitative SLR	Hasan, Zahid; Vaz, Daicy; Athota, Vidya S.; Sophia©©, Sop Sop Maturin; Pereira, Vijay	2023/Q2	AI can assist financial planners in subduing their behavioral biases and propose the adoption of AI in financial planning services to avoid behavioral bias.
16	Exploring the negative impacts of artificial intelligence in government, the dark side of intelligent algorithms and cognitive machines	Qualitative SLR	Valle-Cruz, David; Garc�a-Contreras, Rigoberto; Gil-Garcia, J. Ramon	2023/Q1	Lack of understanding of AI outcomes, bias, and errors, as well as manipulation of intelligent algorithms and cognitive machines are factors of approach. The public sector must create knowledge about AI from an ethical, inclusive, and strategic perspective, involving experts from different fields
17	Artificial Intelligence in Accounting and Finance Challenges and Opportunities	Quantitative	Yi, Ziwei; Cao, Xinwei; Chen, Zuyan; Li, Shuai	2023/Q1	AI is a new solution in the field of Accounting and Finance, but it still needs further study.

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18	Economic and legal approaches to the humanization of FinTech in the economy of artificial intelligence through the integration of blockchain into ESG Finance	Quantitative-SEM	Kazachenok, Olesya P.; Stankevich, Galina V.; Chubaeva, Natalia N.; Tyurina, Yuliya G	2023/Q2	that they have formed a clear idea of modern barriers ("market failures" and "institutional traps") and prospects (improvement of the institutional environment through the application of economic and legal approaches) for the humanization of FinTech in the artificial intelligence economy through the integration of blockchain into ESG finance
19	Utilization of artificial intelligence in the banking sector: a systematic literature review	Qualitative SLR	Fares, Omar H.; Butt, Irfan; Lee, Seung Hwan Mark	2022/Q2	These findings can benefit marketers and decision-makers in the banking sector to formulate strategic decisions regarding the utilization and optimization of the value of AI technology in the banking sector.
20	The Flow in the Funnel Modeling Organizational and Individual Decision-Making for Designing Financial AI-Based Systems	Qualitative	Talamo, Alessandra; Morocco, Silvia; Tricol, Chiara	2021/Q1	The implications suggest that human/AI integration in the field can be implemented by developing a system in which AI can be understood in two different functions: (a) automation: treating Big Data from the market defined by VCO management; and (b) support: creating a coherent warning system with regular VCO weighted decision criteria
21	Pricing, management and decision-making of financial markets with artificial intelligence introduction to the issue		Xiao, Feng; Ke, Jintao	2021/Q1	AI has an important role in the Financial Markets.
22	Establishment and Improvement of Financial Decision Support System Using Artificial Intelligence and Big Data	Quantitative	Yes, Cong; Shi, Wenquan	2021/Q1	The proposed AI and big data will improve the accuracy, automation, and timeliness of financial decision-making.
23	Fuzzy Logic and Its Uses in Finance: A Systematic Review Exploring Its Potential to Deal with Banking Crises	Qualitative SLR	Sanchez-Roger, Marc; Oliver-Alfonso, MarÁa Dolores; SanchÁs-Pedregosa, Carlos	2019/Q2	The main finding of this analysis is that fuzzy logic has not been used to address the banking crisis or as an alternative to ensure bank resolution while minimizing the impact on the real economy

Source: data processed (2025)

DISCUSSION

The findings of the systematic review show that the application of Artificial Intelligence (AI) in financial decision-making has grown rapidly in the last five years (2020–2025), with a primary focus on three areas: (1) improving the efficiency of decision

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processes, (2) optimizing risk management and portfolios, (3) improving the transparency and reliability of financial statements. The studies analyzed show that AI plays a role not only as a predictive analysis tool, but also as a cognitive partner in supporting strategic decisions in financial institutions.

First, the results show that AI contributes significantly to improving the quality of financial decisions. According to , the adoption of AI in internal governance systems and investor behavior analysis allows for increased decision-making effectiveness by minimizing human bias. On the other hand, the application of machine learning models in intraday trading as outlined by shows that AI is capable of identifying low-risk entry points that conventional approaches cannot capture (Cheng Et Al., 2024) ; (Silber et al., 2025) ; (Hung et al., 2024)

Second, research by and confirms that AI is becoming an important instrument in portfolio management and sustainable investments (ESG). AI is capable of processing complex financial texts to assess sustainability performance, thereby assisting institutional investors in meeting international ESG standards. This expands the role of AI not only in profit optimization but also in supporting ethical and responsible investments (Supports et al., 2024) ;(Fan et al., 2025).

Third, a number of studies such as and show that "AI is capable of improving financial reporting systems" through neural network-based automation and predictive modeling. This process improves data accuracy and reduces human error, while strengthening organizational transparency in the eyes of regulators and stakeholders (Milon, 2024) ; (Artene et al., 2024) ;(Yi et al., 2023).

Nevertheless, the SLR results also reveal "significant ethical and social challenges". and highlight that algorithmic bias, unclear decision-making processes, and the risk of data misuse can threaten financial fairness and institutional accountability. These issues reinforce the importance of applying the principles of "explainable AI (XAI)" and strict ethical governance in the digital financial system. Without algorithm transparency, AI decisions have the potential to result in unconscious discrimination against certain groups or individuals (Oluwatobi Opeyemi Adeyelu et al., 2024) ;(Valle-Cruz et al., 2024).

In addition, the literature shows that there is a "disparity in the application of AI between developed and developing countries". Research and suggest that the limitations of digital infrastructure and financial literacy are the main obstacles to AI adoption in developing countries. This has an impact on the efficiency gap between global financial institutions, which ultimately affects the competitiveness of the economy on a macro basis (Akour et al., 2024) ; (Hasan et al., 2023).

From a theoretical perspective, these findings strengthen the "Decision Support System Theory" and the "Behavioral Finance Perspective", where AI acts as an additional rational agent that minimizes human emotional bias. Empirically, the results of the study also show that human-AI integration provides synergy in a more objective and efficient decision-making process. In this context, AI does not replace the role of humans completely, but rather becomes a "collaborative intelligence" that strengthens the quality of financial analysis (Bao et al., 2023).

Overall, the results of this discussion confirm that AI has great potential to revolutionize the financial system, but its implementation requires a careful and measured approach. The need for adaptive regulation, increased digital literacy, and global ethical standards are the main keys for the use of AI in finance to provide added value without sacrificing justice, transparency, and data security. Therefore, further research is recommended to develop an integrative model between an "ethical governance framework" and an AI-driven decision system to ensure sustainability and public confidence in AI-based financial innovation.

CONCLUSION

The results of this systematic study confirm that the implementation of Artificial Intelligence (AI) has had a broad and multidimensional influence on the financial decision-making process in the 2020–2025 range. From the 23 studies analyzed, there is a consistent pattern that AI acts as a catalyst that strengthens information quality, accelerates the analysis process, and improves decision accuracy, while opening up opportunities for the application of sustainability principles to modern financial activities.

First, the application of AI through machine learning techniques, natural language processing, and neural networks has been shown to improve the accuracy of predictions and reduce human error. This technology is also able to filter out excessive information so that the process of analysis of investments, credits, and budgeting becomes more objective.

Second, a number of empirical findings show AI's ability to detect market patterns that conventional methods cannot identify. The algorithm-based approach allows for more disciplined timing of transactions and portfolio management, as well as helping to control volatility at a measurable level of risk.

Third, the application of automation and predictive analytics strengthens the integrity of financial statements and internal control systems. Financial institutions that adopt this technology gain a higher level of transparency and compliance efficiency by lowering the potential for operational errors.

Fourth, AI also contributes to the integration of "Environmental, Social, and Governance" (ESG) aspects into financial practices. With its ability to extract sustainability indicators from complex documents, AI helps financial actors make decisions that align with the principles of sustainable social and economic responsibility.

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Fifth, cross-study findings show that the role of AI is most optimally achieved through human-machine collaboration, rather than as a complete replacement. In this configuration, AI serves as a "cognitive co-pilot" that provides an alternative to data-driven decisions, while the final decision still requires moral and contextual considerations by humans.

Sixth, the issue of ethics and justice is the main concern. The risk of algorithmic bias, limited model transparency ("opacity"), and data privacy issues underscore the need for the implementation of "explainable AI" (XAI), algorithmic audits, and accountable data governance so that the resulting decisions do not harm certain parties.

Seventh, there is a significant gap between developed and developing countries in AI adoption readiness. Barriers in the form of digital infrastructure, data literacy, and initial investment can widen efficiency disparities between regions.

Eighth, the future direction of organizational policies needs to be focused on building a reliable "data pipeline", strengthening the capacity of human resources in the field of analytics, and implementing an ethical governance framework to ensure the sustainability of AI's added value to long-term business strategies.

In terms of implementation, financial institutions are advised to prioritize the implementation of "explainable AI", algorithmic risk management, and the integration of ESG metrics in the decision-making process. Data literacy training is also needed so that decision-makers are able to interpret the results of AI analysis critically.

In terms of policy, regulators need to establish guidelines related to model transparency, algorithm audits, data quality, and consumer protection mechanisms against automated decisions.

This study has limitations because it only includes literature that is available online and is still dominated by the context of developed countries. Variation in methodology between studies also limits generalizations across sectors and regions.

For further research, it is recommended that there be comparative studies between developing and developed countries, quasi-experiments to measure the influence of AI on financial performance and compliance, and field testing of the application of XAI to high-value decisions. In addition, the development of an integrative model between an "ethical governance framework" and an "AI-driven decision system" is needed to bridge the gap between technological efficiency and social justice.

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