International Journal of Innovative Research and Scientific Studies, 8(3) 2025, pages: 435-455

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Artificial intelligence and its applications in financial process and finance: A bibliometric analysis

Nashat Ali Almasria[1*], Zaidoon Alhatabat[2], Diala Ershaid[3], Faozi A. Almaqtari[4]

[1,4]*Department of Accounting and Finance, College of Business Administration, A'Sharqiyah University, Oman.*
[2,3]*Arab Open University - Business Faculty, Amman, Jordan.*

Corresponding author: Nashat Ali Almasria (*Email: nashat.almasria@asu.edu.om*)

Abstract

Artificial intelligence (AI) is increasingly utilized in different industries, particularly financial services, where it handles functions traditionally performed by humans, yet a significant gap exists in understanding its real-world applications in corporate reporting. This research purposes to contribute to the financial process and finance literature by reviewing comprehensively how previous literature have addressed the topic of Artificial Intelligence and its Applications in financial process and Finance. This study aims to address these gaps through conducting a bibliometric analysis, focusing on peer-reviewed articles from 2010 to 2024. The study's findings highlighted a marked increase in research output, particularly during the COVID-19 pandemic, highlighting the integration of AI in financial and financial process research by enhancing accuracy and reducing errors in financial reporting. The analysis highlighted a collaborative effort among researchers, primarily from China and the United States, for the advancements in this field. AI dominates financial process and finance research, with key terms like machine learning, blockchain, big data, and deep learning highlighting a multidisciplinary approach to enhance efficiency and decision-making. However, challenges such as data protection and ethical considerations remain prevalent. The findings and discussions emphasized the need for new regulatory frameworks and skill development for professionals to adapt to these technological changes. Future research should explore the implications of AI on corporate governance and accountability, providing a way for innovative practices in the industry. This study contributed valuable insights into AI's transformative potential, providing practitioners and policymakers with knowledge to navigate the evolving landscape of finance and Financial Process.

Keywords: Algorithm, Artificial intelligence, Bibliometric analysis, Challenges, Digital, Finance, Financial process, Machine learning.

DOI: 10.53894/ijirss.v8i3.6546
Funding: This study received no specific financial support.
History: Received: 14 March 2025 / **Revised:** 14 April 2025 / **Accepted:** 16 April 2025 / **Published:** 28 April 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: Conceptualization: Nashat A., Zaidoon Alhatabat, Diala Ershaid, Faozi Al-Maqtari were responsible for the conceptualization of the study.
Data Curation: Nashat A and Zaidoon Alhatabat contributed to data curation.
Formal Analysis: Faozi Al-Maqtari, Nashat A, Zaidoon Alhatabat performed the formal analysis of the data.
Investigation: Diala Ershaid and Faozi Al-Maqtari contributed to the investigation of the study.
Methodology: Diala Ershaid, Faozi Al-Maqtari, Nashat A., were responsible for the methodology.
Project Administration: Diala Ershaid and Faozi Al-Maqtari managed the project.

Supervision: The study was supervised by Nashat A, and Zaidoon Alhatabat.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Acknowledgement: We are also grateful for the guidance provided by Human Systems Management on the latest version of the manuscript. There is no funding for the study.
Publisher: Innovative Research Publishing

1. Introduction

AI is widely adopted in various industries, mainly financial services, where it performs tasks traditionally handled by humans. AI excels in processing large volumes of data, identifying fraud, and interacting with customers online [1]. AI is a highly dynamic and topical field in the Finance sector, bringing significant changes to the way financial institutions conduct their business. The rise of FinTech is a significant shift in the financial sector, combining technology with sustainable practices. Fintech continues to advance rapidly. In the era of AI, central banks are embracing and overseeing the new landscape. According to Fintech Benchmarks 2024, more than half (56.8%) of these institutions reported using machine learning and AI tools, a slight increase from 51.4% the previous year. Monetary policy is one of the most important areas where AI is being applied. This progressive change signals a gradual adaptation to new financial technologies and a shift towards efficiency and innovation among central banks [2] including upper-middle-income central banks. Moreover, it involves using technological advancements to offer financial services [3] with effective IT governance playing a crucial role in integrating FinTech and enhancing sustainability outcomes [4, 5]. The Financial Stability Board's study highlights AI's role in regulatory enforcement, oversight, and improving data quality for both public and private organizations [6]. Consequently, this technology revolutionizes fraud detection and enhances operational efficiency across the financial sector [7]. As AI tools improve, organizations can more effectively manage their operations, reduce human error, and optimize customer service experiences [8-10] contributing to the overall transformation of the industry. This shift enables businesses to adapt to the increasing demands of a digital and data-driven environment, where automation is pivotal in driving growth and operational excellence [8, 9].

According to statistical data, it is estimated that by 2027, global spending on AI could reach around US$450 billion, with the Finance sector expected to contribute around 13% of this amount. This investment could generate between US$200 billion and US$340 billion annually, representing a 9% to 15% increase in Finance operating profits. The accelerating impact of the digitalization of Finance services, already exacerbated by the COVID-19 pandemic, has dramatically changed the financial landscape [11]. The dramatic increase in the use of digital services raises questions about the gaps in the skills and knowledge of the general population and those who provide these services [12]. The evolution of process software and the development of AI have significantly transformed financial process systems. However, studies showed that the integration of internet-based technologies, expert systems, and AI have positively impacted the efficiency of Financial process [8, 13, 14]. The increasing use of blockchain technology and cryptocurrency acceptance also enhances transactional and account security [15]. As digital assistants and AI applications continue to evolve through cognitive computing, they are becoming more effective at handling complex Financial process tasks [14, 16]. This shift is expected to reduce errors, increase productivity, and allow Financial process professionals to focus on more strategic, high-level responsibilities [17, 18]. Consequently, AI is reshaping the financial process industry, enabling more accurate financial reporting and auditing while fostering innovation [19-21].

AI in Financial process frees staff to focus on strategic tasks, improving performance and productivity. Recent innovations include AI-powered robots and advanced software [22-24]. AI adoption is revolutionizing business by enhancing efficiency, accuracy [25, 26] and adaptability in Financial process , pushing boundaries and making the industry more agile and adaptable to technological changes [27, 28]. Moreover, AI algorithms are becoming increasingly sophisticated, offering new capabilities for the financial sector as computing power advances [16, 29, 30]. These algorithms are widely used in investment management, algorithmic trading, fraud detection, and underwriting loans and insurance [31]. However, AI's ability to analyze vast amounts of data in real-time allows regulators to detect non-compliance and fraudulent activities more efficiently [32, 33] while this evolution transforms how financial transactions are supervised, requiring regulators to develop new skills to keep up with these advancements [12, 34]. As AI continues to reshape the financial industry, it is expected to drive further innovation, enhance compliance, and streamline financial operations for companies and regulators [35].

Financial process and finance have become critical components of economic development, influencing national economies and individual businesses [36, 37]. Financial process serves as a critical source of information for stakeholders [38] guiding decision-making and reflecting the fiduciary responsibilities of managers [39, 40]. AI is revolutionizing the financial process industry by automating repetitive tasks and applying data-driven techniques, reducing errors and improving decision-making, despite the challenges posed by traditional methods [41-43].

AI has become a dominant technology since the 2010s, providing significant opportunities for the Financial process and finance sectors [44-46]. AI enhances how companies manage their finances by optimizing business processes and improving operational efficiency [47]. Machine Learning (ML) models, in particular, provide the computational power and flexibility needed to analyze complex data patterns, supporting more accurate and data-driven analyses [45, 48, 49]. AI is revolutionizing Financial process and finance, enabling businesses to make informed financial decisions based on vast

data, offering a competitive edge in the industry [23]. Figure 1 highlights the diverse role of AI in Financial process and Finance in this digital era.

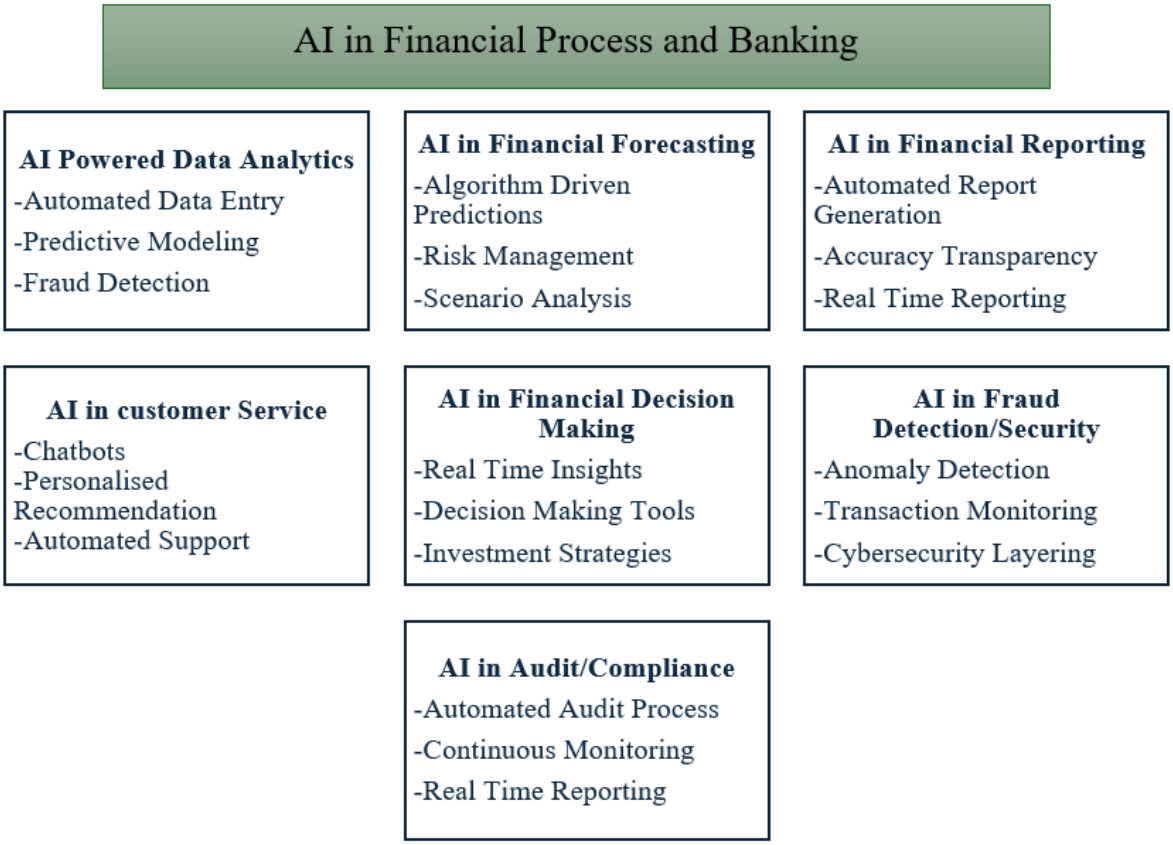

Figure 1.
Role of AI in Financial process and Finance.

The rapid advancement of AI and digital technologies has led to a significant gap in understanding how these innovations transform corporate reporting. Existing studies explore the potential benefits of AI in financial reporting [22, 50], but few have comprehensively examined its real-world application across diverse industries [51, 52]. Thus, the recent development of various AI technologies, such as machine learning, deep learning, neural networks, natural language processing, reinforcement learning, and robotic process automation, has greatly amplified the capabilities of AI decision-making algorithms. This gap leaves unanswered questions about how AI is reshaping reporting standards, accuracy, and organizational decision-making processes. This paper aims to bridge this gap by conducting a bibliometric analysis, identifying key trends and emerging areas within AI-driven corporate reporting, and enhancing the analysis with real-world data by incorporating insights from industry reports and scholarly publications [22, 50]. The study's unique approach combines academic insights with industry trends, offering a comprehensive view of how AI and digital technologies influence corporate reporting practices and fresh perspectives on the future landscape of AI-driven finance and financial process systems. The following are the research questions of this analysis.

RQ1. What are the key features of literature that explore the intersection of artificial AI, technology, and financial process and Finance?

RQ3. How have different authors evolved in examining the integration of AI and technology within financial process and Finance?

RQ2. What are the most prominent themes and topics discussed in the existing literature on AI and technological advancements in financial process and Finance?

RQ4. What are the key theoretical frameworks and technical approaches utilized in this field, and how do they influence current research trends?

RQ5. What are the potential theoretical and practical implications for future research in AI, technology, and their applications in financial process and Finance?

The novelty of this research relates to the exemplary approach to evaluating the changes caused by AI technologies in financial process and finance [53]. Using a bibliometric analysis, the study provides insights into the trends, new topics of interest, and researchers' collaboration throughout 2010-2024, with particular emphasis on the COVID-19 period. Besides, Alqudah, et al. [54] this analysis not only focuses on the benefits of AI in improving the effectiveness and accuracy of operational corporate reporting but also the ethical and the regulatory problems with using AI [47, 55]. In addition, this paper combines academic and practitioner opinions regarding the influence of AI in financial practices, giving it a comprehensive approach. The study raises more questions for future research on the impact of AI on regulations and

corporate governance and thus provides important insights into practitioners and policymakers practicing in this field [56]. This study significantly contributes to understanding AI's potential to revolutionize financial process and finance by bridging the gap between theoretical frameworks and real-world applications.

According to a survey 77% of Finance professionals believe that the ability to harness the potential of AI will be the deciding factor between the success and failure of Finance institutions [57]. In another survey, it was found that 80% of retail Finance executives believe that generative AI represents a major advance in AI technologies [58]. However, only 6% of commercial banks have implemented an enterprise-wide AI-powered transformation strategy. This discrepancy between perception and action may indicate either a misunderstanding of the true potential of the technology or challenges in implementing it in practice.

2. Methodology

A bibliometric analysis was conducted to ensure the analysis of high-ranking academic scholarly works. The methodology comprised the following phases to ensure the reliability of the research analysis. The search for relevant academic papers was performed using leading academic databases, including Web of Science, Scopus, and Google Scholar. To ensure comprehensive coverage, a range of keywords were employed, such as "AI in corporate reporting," "blockchain in finance," "digital transformation in financial process," and "machine learning in financial auditing." Boolean operators ("AND," "OR") were applied to broaden or narrow the search scope as necessary. Studies published between 2010-2024 were included, focusing on papers that examined the intersection of AI, blockchain, and digital technologies within the financial process and finance sectors.

2.1. Inclusion/Exclusion Criteria

2.1.1. Inclusion Criteria

- Peer-reviewed journal articles.
- Papers were published between 2010 and 2024.
- Studies focused on corporate reporting, digital technologies, and AI applications in financial process or finance.
- Papers discuss the impact of technologies like blockchain, machine learning, or cognitive computing.

2.1.2. Exclusion Criteria

- Non-peer-reviewed articles, editorials, or opinions.
- Papers published before 2010.
- Studies unrelated to digital technologies in the financial domain or lacking substantial empirical evidence.
- Duplicates, conference papers without proceedings, and non-English papers.

2.2. Analysis of Included Studies

The analysis of previous research reveals a diverse range of methodologies applied in the intersection of AI and Financial process & Finance. As shown in Figure 2, 35% of the studies employed qualitative methods, 26% used quantitative approaches, and 21% were conceptual in nature. A smaller portion (8%) utilized bibliometric analysis. The analysis of previous studies as shown in Figure 3 highlighted that the dominant research areas include AI in financial reporting (23%), auditing and disclosure (20%), and financial risk prediction (17%). Other notable areas include AI in Financial process and automation (14%) and AI in education and curriculum integration (9%). In this study, the method of bibliometric analysis has been chosen for its ability to systematically evaluate large volumes of literature, providing quantitative insights into research trends, influential works, and collaboration networks. This method is particularly significant for understanding the evolving integration of technology, AI, and financial practices, as it uncovers hidden patterns and research gaps. By using this approach, we aim to offer a comprehensive overview of the field and guide future research trajectories.

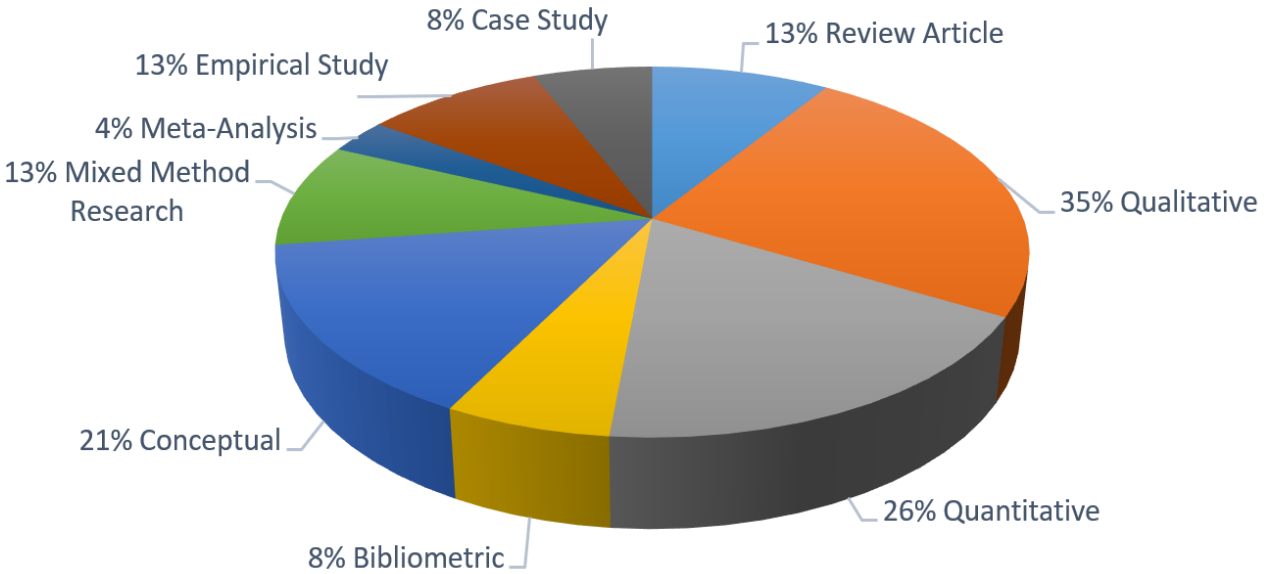

Figure 2.
Methodological Application of AI Research in Financial process and Finance.

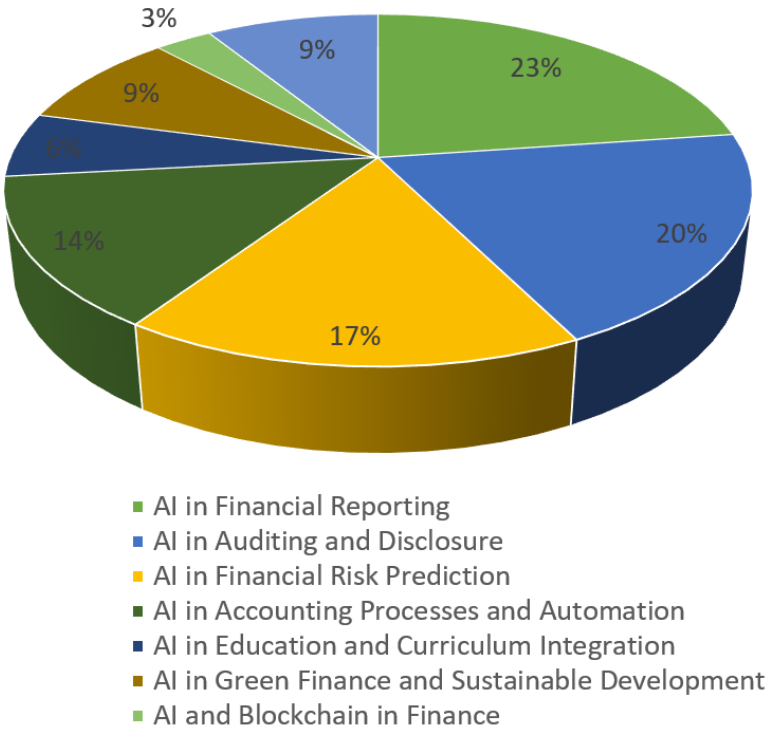

Figure 3.
Research Areas of Included Studies.

The data was collected from Dimensions, The Lens and Scopus. Datasets of most cited papers, influential authors, leading journals, and critical topics were extracted. Bibliometric data focused on publications relevant to AI in Financial process and finance since 2010-2024. The program, www.vosviewer.com, is a widely used tool in bibliometric to illustrate knowledge structure and research dynamics. It is free and allows academics to study bibliometric maps from multiple perspectives. Its color visualization aids in easy identification of clusters and is user-friendly. However, most computer tools for bibliometric mapping struggle to display such maps well, as noted by Eck and Waltman [59]. VOS-viewer was employed to visually represent bibliographic data, such as co-citation networks, co-authorship relationships, country analysis, and keyword co-occurrence patterns. The following are the significance of bibliometric analysis that has included Co-citation networks to identify clusters of frequently cited journals and authors, keyword co-occurrence to explore the most popular research themes and their interrelationships, co-author networks to reveal patterns of collaboration between scholars and institutions, and country analysis to identify clusters of the most active states in the research of AI in Financial process and Finance. These visualizations demonstrate the intellectual structure of the research field and highlight emerging

trends and dominant research streams. The method of using VoS and its analysis has been represented in Figure 4 while the overall framework of the study is represented in Figure 5.

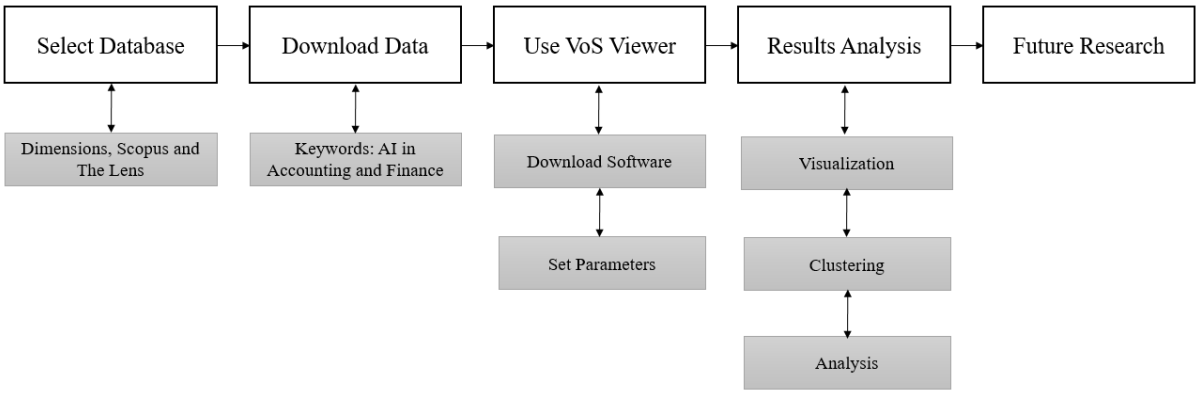

Figure 4.
Process of VoS Viewer Analysis.

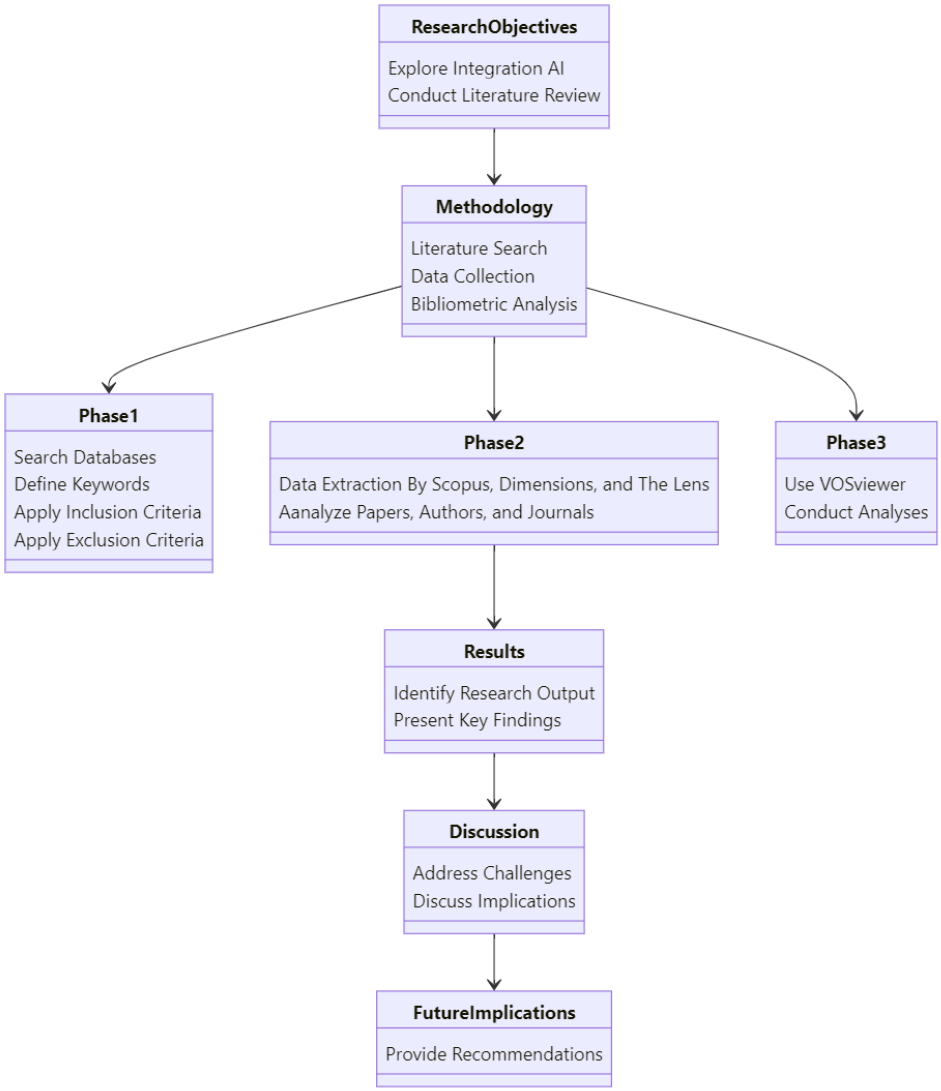

Figure 5.
Study Framework.

3. Results

RQ1. *What are the key features of the literature that explore the intersection of artificial AI, technology, and financial process and finance?*

The literature exploring the intersection of AI, technology, Financial Process, and finance highlights several key features to answer the first research question. A central theme was adopting AI-driven tools like machine learning, robotic process automation (RPA), and natural language processing (NLP), transforming traditional Financial process functions like auditing, financial reporting, and decision-making [60, 61]. These technologies enabled the automation of routine tasks, improved the accuracy of data processing, and provided predictive analytics for financial forecasting. Another significant area of focus was AI's impact on auditing and fraud detection, with studies examining how AI enhances real-time monitoring, anomaly detection, and fraud identification, thereby increasing the reliability of financial data while reducing human error [62-64].

Additionally, the literature highlighted the changing skill requirements for financial process professionals due to technological disruption. As AI and advanced technologies become more integrated into financial operations, accountants need to possess skills in data analytics, technology literacy, and strategic thinking [65, 66] but this shift also underscores the need for continuous professional development to adapt to these technological changes [67]. However, ethical and regulatory concerns were also prevalent in the literature, particularly regarding AI decision-making transparency, potential algorithm biases, and accountability for AI-driven errors [68, 69]. Researchers highlighted the evolving regulatory landscape and the need for new standards to govern AI's role in financial practices [70].

Another feature of the literature was the integration of AI with blockchain technology, especially in the context of financial process and auditing. With AI's data analysis capabilities, block chain’s secure, immutable ledgers offer enhanced transaction verification and improved financial data security [71-73]. The literature frequently discussed the efficiency gains brought about by AI, including cost reduction, improved speed, and higher quality in financial analysis, forecasting, and risk assessment [74, 75]. However, challenges such as data privacy, the high cost of AI implementation, integration difficulties, and resistance to change are common themes [76, 77]. Lastly, many studies employed bibliometric analyses to track the evolution of research in this field, identifying key authors, influential papers, and emerging subfields. This provided insights into the development and maturity of research at the intersection of AI, technology, and Financial process and finance [15, 78, 79].

3.1. Publication Trend Analysis

The graph in Figure 5 highlighted a significant rise in research related to the synergy of technology, artificial intelligence, and financial process and finance from 2010 to 2024. This trend is likely influenced by several factors, including advancements in AI technology, increased accessibility of AI tools, and a growing recognition of their transformative potential in the financial process and finance sectors. However, the COVID-19 pandemic may have played a role in shaping this trend. The pandemic accelerated digital technology adoption in finance, enabling businesses to adapt to remote work and social distancing measures, enhancing automation, data analysis, and risk management [80, 81]. This increased demand for AI-related capabilities may have increased the research activity in this area. Overall, the graph suggested a sustained interest in exploring the intersection of technology, AI, Financial Process, and finance, indicating a promising future for research and innovation.

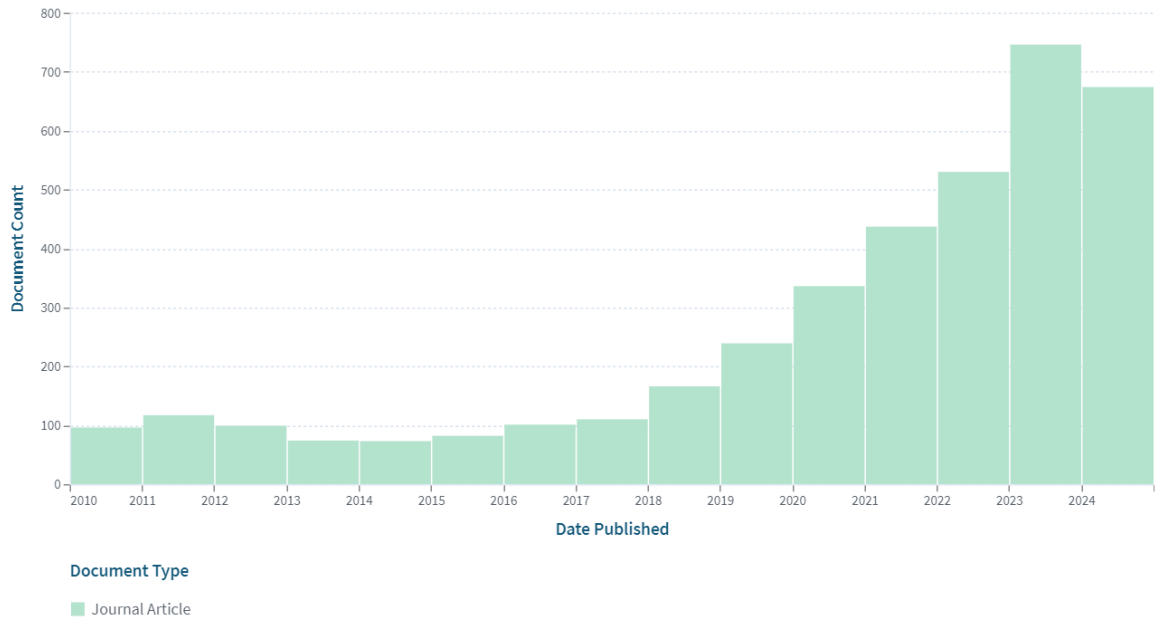

Figure 6.
Publication Trends Analysis.

3.2. Co-Authorship Analysis

RQ3. How have different authors evolved in examining the integration of AI and technology within financial process and Finance?

To answer the second research question, the co-authorship analysis of the study in Figure 6 was conducted using VOSviewer, which highlighted key collaborations among authors from extracted data on Lens Dimensions and Scopus. The visualization shows [82] as the most central figure, connected to several influential authors, including [83] forming significant clusters in the network. The analysis reveals distinct collaborations within technology and artificial intelligence domains, with authors like [84] contributing to the red cluster. Sharma, et al. [85] represent independent yet connected nodes in the blue and green clusters, showcasing their relevance. These strong co-author connections reflect interdisciplinary research efforts in this growing field.

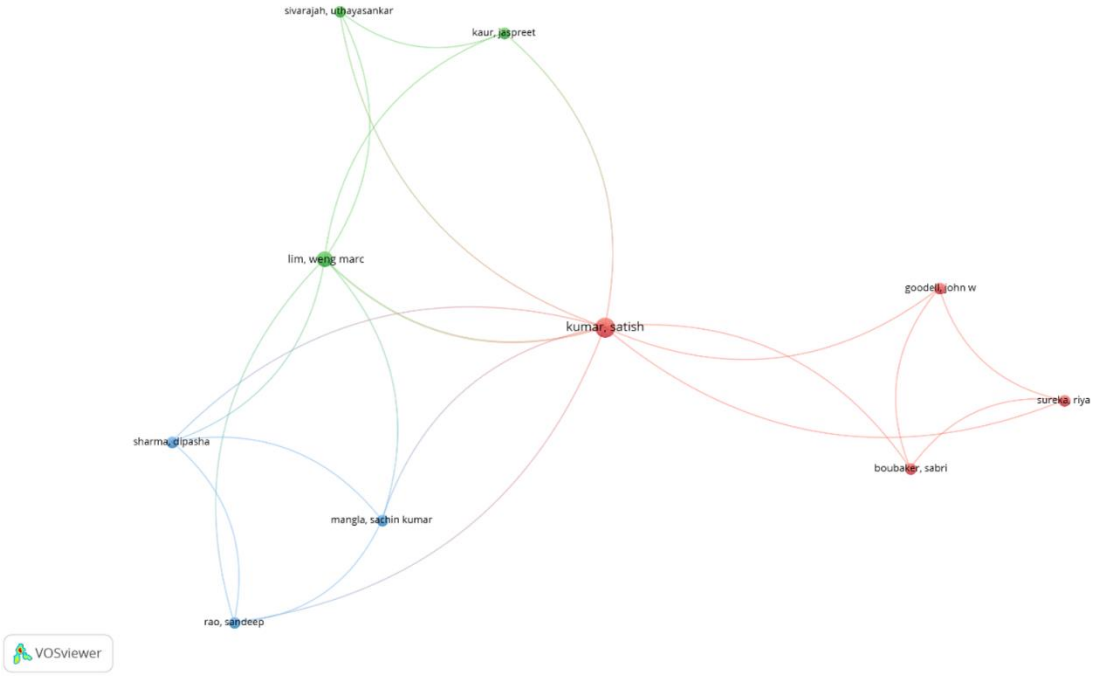

Figure 7.
Co-Authorship Analysis.

3.3. Co-Citation Analysis

The citation analysis in Figure 7 revealed a fluctuating trend in the number of cited scholarly works over the years. Between 2010 and 2015, the citation count remained relatively consistent, with moderate fluctuations. However, starting in 2016, there was a gradual increase in citations, indicating growing scholarly interest. This upward trend continued with a significant increase in 2020, where the number of citations reached nearly 10,000, highlighting the highest point in the dataset. Following this peak, citations slightly declined but remained relatively high in 2021 and 2022. In 2023, a significant decline was observed, while 2024 showed a minimal number of citations, likely due to the early stage of the citations analysis.

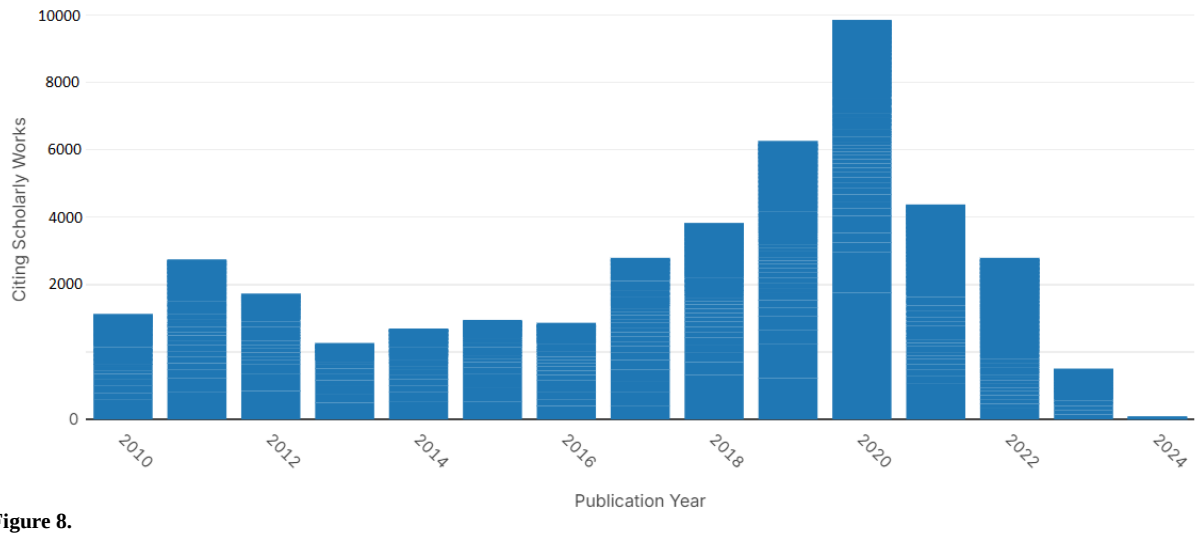

Figure 8.
Co-citation Analysis Overtime.

The co-citation analysis of the study in Figure 8 revealed distinct research clusters. The red cluster, featuring authors like Mohamed and Wamba [86] focuses on AI and ML applications in finance. The green cluster, with Wamba, et al. [87] explores AI's role in corporate finance and decision-making. The blue cluster addresses ethical and regulatory challenges, including [88]. The yellow cluster, with Sarkar and Latan [89] emphasizes digital transformation and FinTech. A smaller purple cluster focuses on econometrics in AI. Central figures like [90]. connect these themes, reflecting the evolving landscape of AI in Financial process and finance.

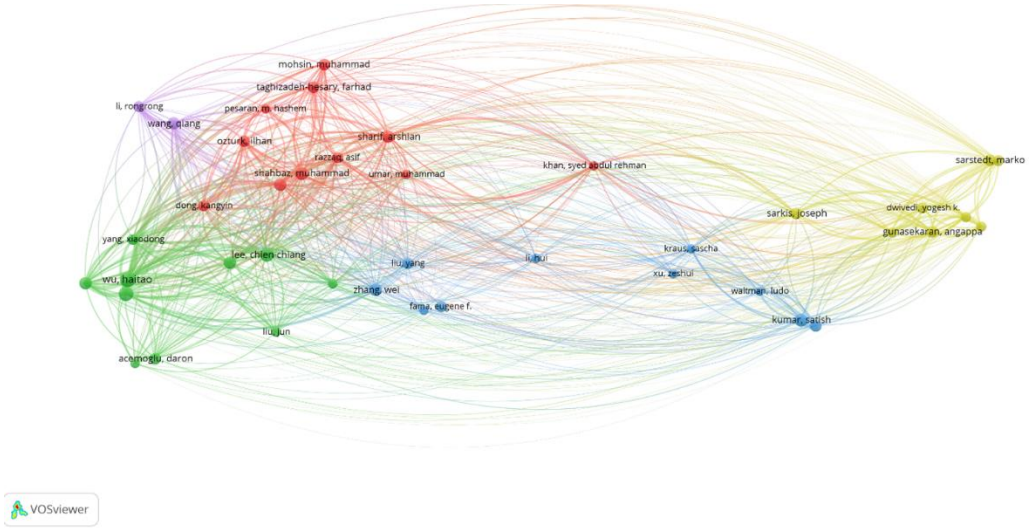

Figure 9.
Co-citation Analysis of Authors.

3.4. Analysis of Sources

The co-citation analysis of sources in Figure 9 highlighted key clusters of journals frequently cited together, indicating thematic research areas. The red cluster, featuring journals like "Expert Systems with Applications" and "Knowledge-Based Systems", focuses on AI, expert systems, and decision-making in finance. The green cluster, with sources such as "Journal of Business Research" and "Technological Forecasting and Social Change", emphasizes the impact of emerging technologies on business and information systems. The yellow cluster is anchored by finance journals like "The Journal of Finance" and "Journal of Financial Economics". In contrast, the blue clusters, including "Sustainability," "Journal of Cleaner Production", and "Energy Economics", focused on the utilization of AI in managing the economic and financial status of environmental concerns. These interconnected clusters highlight the interdisciplinary journals comprising high research work in AI, Financial process, and finance.

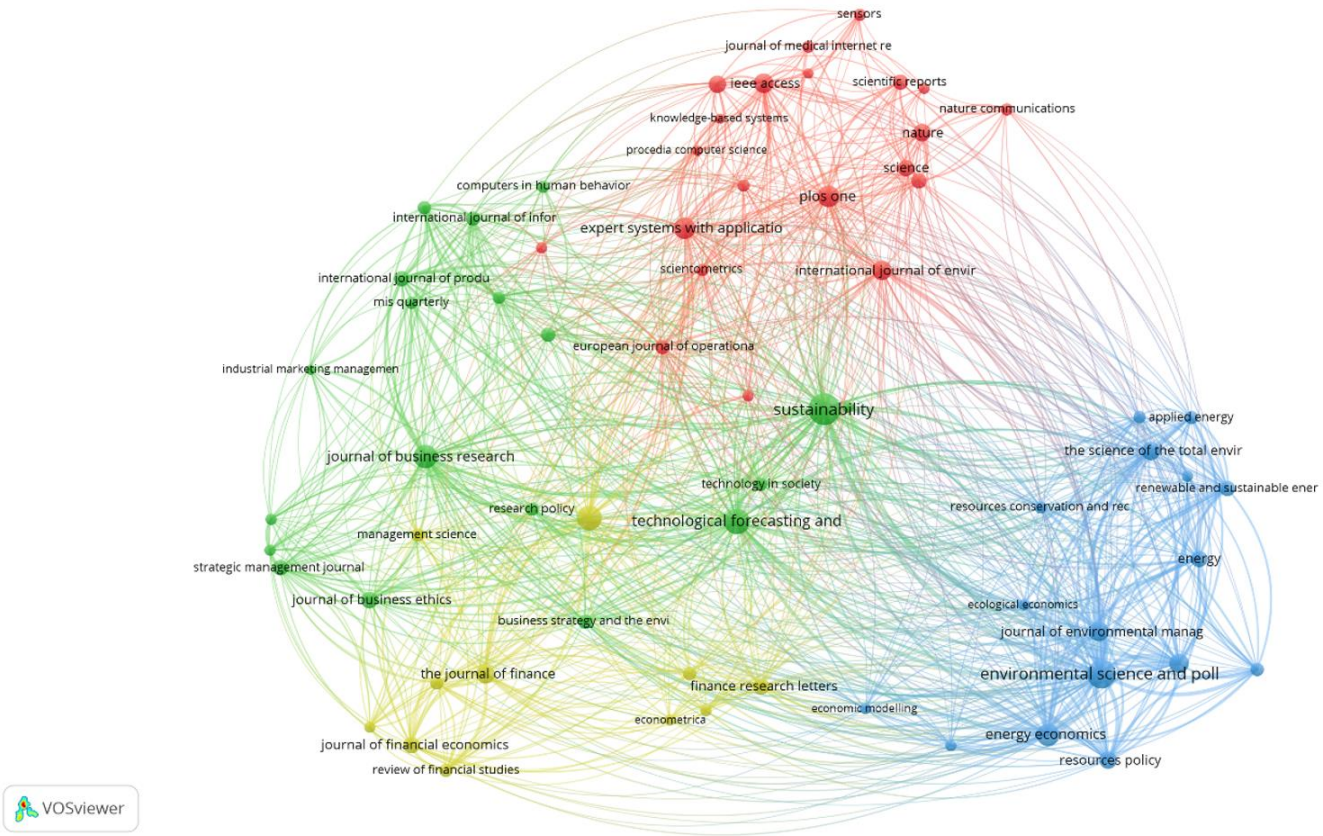

Figure 10.
Analysis of Sources.

3.5. Top Journals Analysis

The results of the top journals analysis in Figure 10 highlighted a diverse range of publication contributing to the integration of technology, AI, and financial process and finance. Journals focused on environmental research, such as the International Journal of Environmental Research and Public Health and Environmental Science and Pollution Research, are well-represented, reflecting the increasing relevance of sustainable finance. Additionally, significant contributions were observed from journals in management information systems, financial innovation, and business research, indicating the broad interdisciplinary nature of the field. This distribution highlighted the wide-ranging interest in AI applications across various domains, from environmental impacts to financial services and technological innovation, highlighting the synergy between these areas in the digital era.

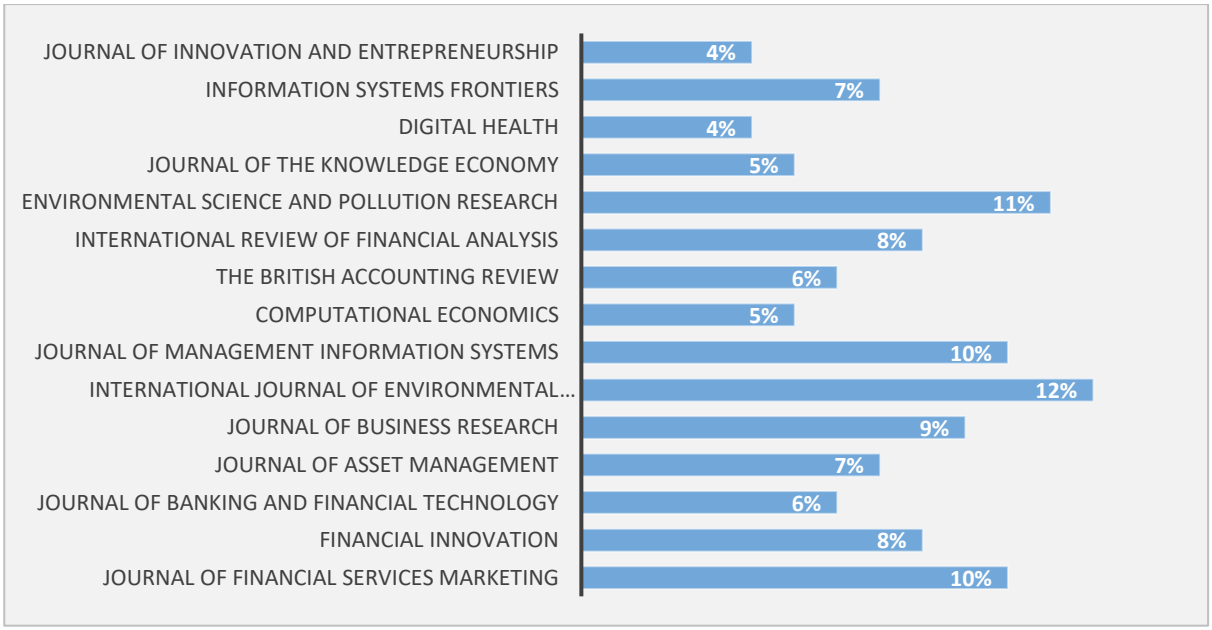

Figure 11.
Top Journals Analysis.

3.6. Country Analysis

The analysis of AI research in financial process and finance revealed significant global disparities in contributions, with China, the United States, and the United Kingdom emerging as dominant players. China, with 731 publications, leads the field, closely followed by the United States (491) and the United Kingdom (280) (Figure 11). These countries form dense collaborative networks, as depicted in the co-authorship visualization in Figure 12, indicating strong research partnerships, especially between China and the US. European countries such as France, Germany, and Italy also contribute, though to a lesser extent, while emerging economies like India and Brazil showed growing involvement. The global distribution map in Figure 13 further highlighted China and the US as the primary hubs of research activity. These findings suggest that AI's application in financial process and finance was primarily driven by advanced economies, with the potential for increased collaboration and contribution from developing nations.

131 Australia	32 Austria	13 Bangladesh	27 Belgium	58 Brazil
91 Canada	731 China	25 Czech Republic	28 Denmark	13 Egypt
22 Finland	94 France	137 Germany	61 Greece	51 Hong Kong
161 India	14 Indonesia	44 Iran	30 Ireland	25 Israel
142 Italy	29 Japan	15 Jordan	35 Korea, Republic of	55 Malaysia
12 Mexico	71 Netherlands	13 New Zealand	20 Nigeria	20 Norway
27 Pakistan	52 Poland	34 Portugal	23 Romania	128 Russia
47 Saudi Arabia	35 Singapore	12 Slovenia	30 South Africa	133 Spain
39 Sweden	55 Switzerland	69 Taiwan	13 Tunisia	62 Turkey
23 Ukraine	20 United Arab Emirates	280 United Kingdom	491 United States	14 Viet Nam

Figure 12.
Country Analysis for Publications.

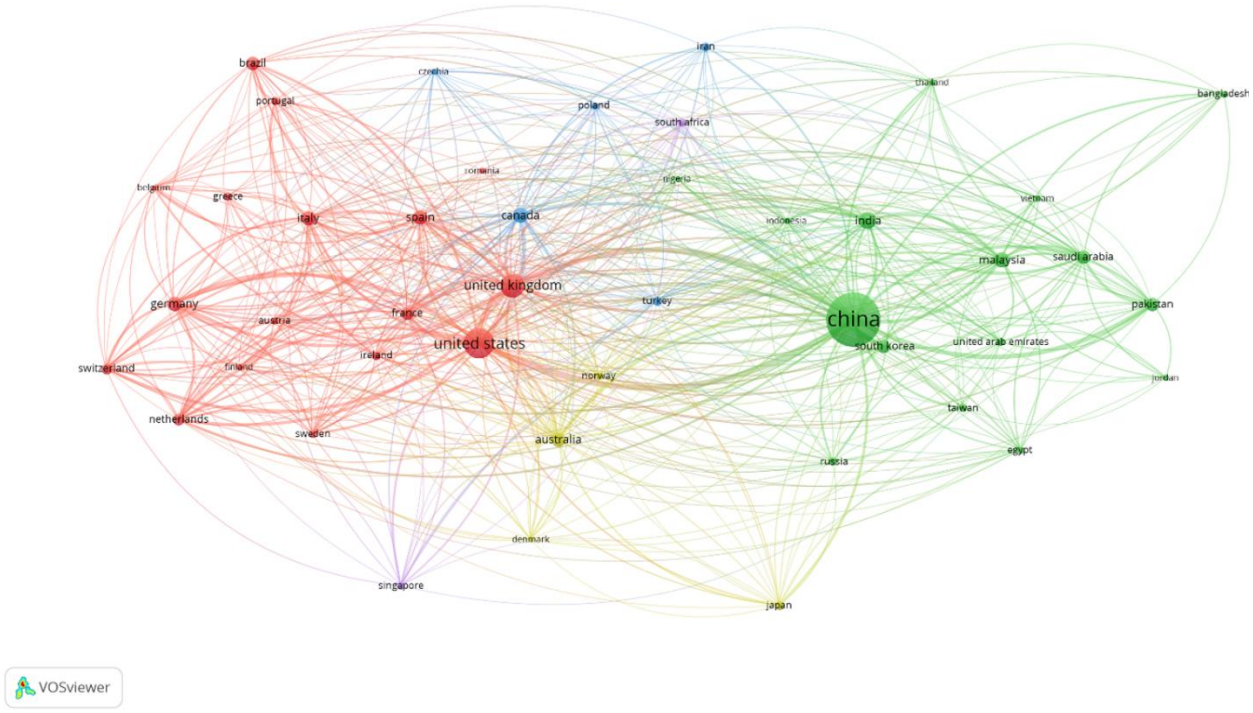

Figure 13.
Country Analysis by VOS Viewer.

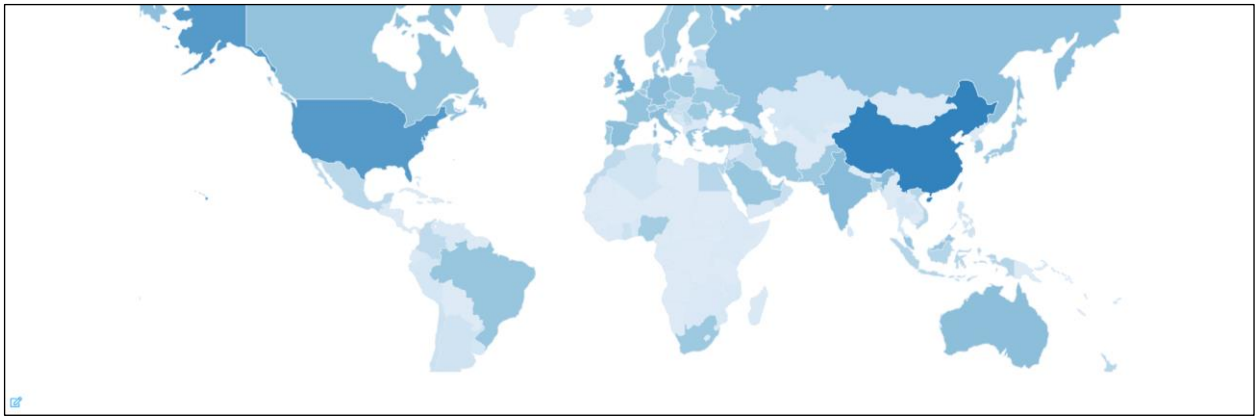

Figure 14.
Country Map Analysis.

3.7. Top Universities Analysis

The analysis of top universities in Figure 14 contributing to AI research in financial process and finance revealed a density of publications from Chinese institutions. The Chinese Academy of Sciences leads with 40 publications, followed closely by Southwestern University of Finance and Economics, which also has 40. Russia's Russian Academy of Sciences ranks highly with 39 publications, demonstrating significant regional contribution. Other notable universities include Peking University (25) and Renmin University of China (17), reflecting China's dominance in the field. International institutions like Columbia University, Harvard University, and the University of Oxford contribute at comparatively lower levels. This suggested that while AI research in financial process and finance is globally distributed, Chinese institutions are at the forefront of driving academic output in this domain.

13 Aristotle University of Thessaloniki	17 Beihang University	11 Beijing Institute of Technology	16 Beijing Normal University	10 Central University of Finance and Economics
17 Centre national de la recherche scientifique	10 Charles University in Prague	40 Chinese Academy of Sciences	10 Chongqing University	13 City University of Hong Kong
10 Columbia University	11 Complutense University of Madrid	10 Cornell University	10 Dongbei University of Finance and Economics	20 ETH Zurich
13 Fudan University	25 Harvard University	23 Hong Kong Polytechnic University	11 Hong Kong University of Science and Technology	17 ING Direct
12 Islamic Azad University	11 Jiangsu University	17 Jiangxi University of Finance and Economics	14 Jilin University	11 Massachusetts Institute of Technology
18 Nanjing University	17 Nanjing University of Finance and Economics	13 National University of Singapore	14 New York University	16 Peking University
59 Russian Academy of Sciences	14 Rutgers University	14 Sapienza University of Rome	16 Shandong University of Finance and Economics	13 Shanghai Jiao Tong University
32 Shanghai Lixin University of Commerce	15 Shanghai University	11 Shenzhen University	12 Sichuan Normal University	40 Southwestern University of Finance and Economics
20 Tsinghua University	24 University College London	14 University of Amsterdam	13 University of Birmingham	11 University of Edinburgh
17 University of Granada	11 University of Hong Kong	14 University of London	13 University of Oxford	15 University of Toronto

Figure 15.
Top Universities Analysis.

3.8. Keyword Analysis

RQ2. What are the most prominent themes and topics discussed in the existing literature on AI and technological advancements in financial process and Finance?

For the third research question, the keyword analysis of the dataset in Figure 15 showed that the word 'artificial intelligence' dominates financial process and finance research, being the most frequently used term in the dataset. Surrounding this core, key terms such as "machine learning," "blockchain," "big data," and "deep learning" form interconnected clusters, indicating prominent themes in the literature. The red cluster emphasizes technological aspects like "automation" and "innovation," while the green cluster focuses on applications like "financial performance" and "risk management." This dense network of keywords suggests a multidisciplinary approach, where AI technologies are applied to core financial processes, enhancing efficiency and decision-making. The widespread connections between keywords highlight the convergence of AI with traditional financial practices in this digital era.

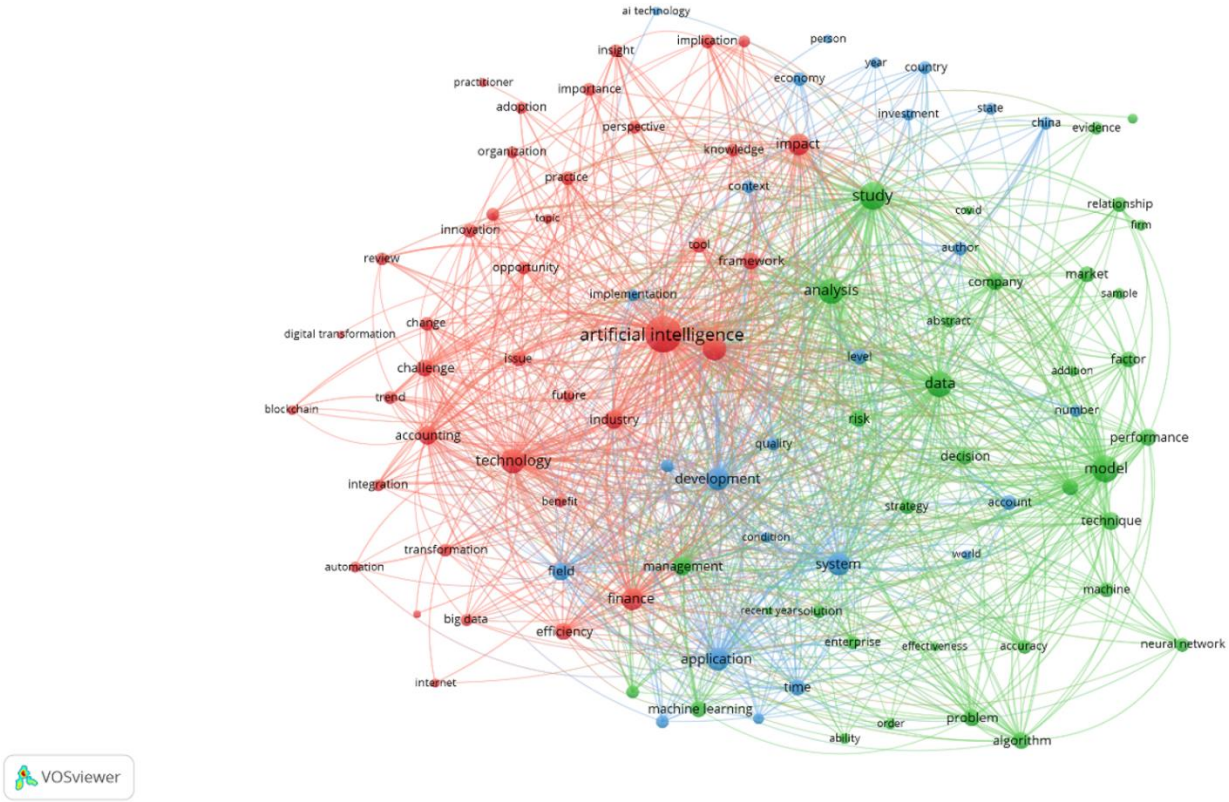

Figure 16.
Keyword Analysis.

This analysis comprised a range of studies on AI and its application across different fields in financial process and finance. These papers demonstrate that AI is revolutionizing financial processes across all domains, from increasing effectiveness and accuracy to tackling new financial reporting and management issues. For example, Das [24] emphasize how AI can enhance the transparency of business reporting and minimize costs linked with financial process mistakes. Further, the development of predictive models, as identified by Zhang [9] demonstrates the contribution of AI in enhancing audit operations and predicting financial distress, which is central to its significance in enhancing decision-making and organizational performance.

However, it was also acknowledged that applying AI in Financial process and finance comes with several considerations. According to Singh, et al. [41] the need for financial professionals to learn new skills and respond to issues regarding data protection, ethics, and algorithms' biases is evident. Norzelan, et al. [91] mention that AI technologies are also accepted and implemented with different acceptance and implementation issues. Therefore, although AI delivers possible improvements in strengthening financial frameworks and decisions, it is vital to practice moderation in promoting and applying such advances, coupled with education, policy, and proper ethical thought processes to unlock the technology's advantages while overcoming threats.

4. Discussion

The bibliometric analysis revealed a significant increase in research output related to AI in Financial process and finance since 2010, with a significant increase in publications during 2019 and 2020. This reflects a growing recognition of AI's potential to revolutionize financial processes, driven by technological advancements and the increasing complexity of financial data. The findings suggested that researchers increasingly focus on ML, blockchain, and digital transformation, shifting from traditional financial process practices towards more innovative and technology-driven approaches.

According to the previous literature analysis, various industries have employed AI integration for financial reporting and financial process accuracy. The literature analysis of a few organizations is represented in Table 1.

Table 1.
Literature Analysis of Few Organizations.

Industry Application	Description	Algorithms Used	Reference
Fraud Detection	Companies like PayPal and MasterCard use AI to analyze transaction patterns and detect anomalies.	Decision Trees, Neural Networks	Cho [81] and Ghimire, et al. [92]
Automated Bookkeeping	Firms like Intuit's QuickBooks leverage AI to automate data entry and reconciliation tasks.	Machine Learning, Optical Character Recognition (OCR)	Virtanen [93]
Credit Scoring	Lenders like ZestFinance utilize AI algorithms to assess creditworthiness using non-traditional data sources.	Gradient Boosting Machines (GBM), Logistic Regression	Liuska [94]
Algorithmic Trading	Investment firms like Renaissance Technologies employ AI for high-frequency trading strategies.	Reinforcement Learning, LSTM (Long Short-Term Memory)	Angulo, et al. [18] and Leitão, et al. [95]
Risk Management	Banks such as JPMorgan Chase use AI to predict and mitigate portfolio risks.	Support Vector Machines (SVM), Random Forests	Swankie and Broby [96]
Financial Forecasting	Companies like IBM use AI to enhance predictive analytics for financial performance forecasting.	Time Series Analysis, ARIMA (AutoRegressive Integrated Moving Average)	Chowdhury [97]
Customer Service Automation	Chatbots powered by AI, like those from Bank of America (Erica), assist customers with queries.	Natural Language Processing (NLP), Transformers	Subudhi [98]
Tax Compliance and Planning	Firms like H&R Block utilize AI to optimize tax preparation and compliance processes.	Rule-Based Systems, Machine Learning	Çetin Gerger [99]
Expense Management	Applications like Expensify use AI to automate expense reporting through receipt scanning.	Image Recognition, Deep Learning	Ooi, et al. [100]
Auditing Processes	Companies like Deloitte use AI tools to analyze large datasets for audit purposes.	Anomaly Detection Algorithms, Neural Networks	Ucoglu [101]

Additionally, in the past few years, PwC has developed AI-powered audit tools that analyze large datasets to identify anomalies and patterns in financial transactions, increasing accuracy and reducing manual review time [102] KPMG has implemented blockchain technology to enhance the integrity and transparency of financial reporting, reducing fraud risk and enhancing stakeholder trust [103] IBM Watson for Financial Reporting uses natural language processing (NLP) to generate comprehensive financial reports [104] while Xero automates bookkeeping tasks, allowing accountants to focus on strategic tasks [105]. Moreover, BlackLine's Financial Close Management uses AI to streamline the financial close process by automating reconciliations and ensuring compliance with Financial process standards [106] and Oracle's Adaptive Intelligent Apps integrate AI into cloud-based finance applications, enabling real-time analytics and reporting [107]. Additionally, SAP's Intelligent Robotic Process Automation (RPA) automates repetitive tasks in financial reporting, improving efficiency and freeing finance professionals to focus on analysis [108].

The bibliometric analysis presented in this study highlighted the transformative impact of AI on the fields of financial process and finance. The significant increase in research output since 2010, particularly during the years influenced by the COVID-19 pandemic, reflected a growing recognition of AI's potential to enhance operational efficiency and decision-making within these sectors. Key trends identified through co-authorship and citation analyses demonstrated a collaborative effort among researchers across various institutions, particularly in leading countries such as China and the United States. This collaboration has fostered a rich intellectual environment essential for driving innovation and addressing the challenges posed by the rapid evolution of technology in financial practices.

RQ4. *What are the key theoretical frameworks and technical approaches utilized in this field, and how do they influence current research trends?*

The existing literature on AI applications in financial process and finance utilized a variety of theoretical frameworks and technical approaches to examine the integration of these technologies within the field. The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) are prominent frameworks used to understand the factors influencing the adoption of AI-driven tools and systems by Financial process and finance professionals, as discussed by Azimah and Ria [109]; Sohn and Kwon [110]; Vărzaru [111] and Ferri, et al. [112]. The Resource-Based View (RBV) has also been applied to understand how AI can provide a competitive advantage to organizations in these domains [113-115].

Regarding technical approaches, Vo Van, et al. [115] described that ML algorithms have been extensively utilized for tasks like fraud detection, risk assessment, and financial forecasting [115]. NLP is used to analyze and extract insights from

unstructured financial data, while deep learning models have been applied to credit risk modelling, stock price prediction, and anomaly detection in financial transactions [116, 117]. However, the adoption of these frameworks and approaches has influenced current research trends by driving research towards understanding the factors that facilitate AI adoption and enabling more sophisticated analyses of financial data

The bibliometric analysis findings significantly challenged existing theoretical frameworks for financial process and reporting. In the past, corporate transparency and financial disclosure were based on conventional reporting standards and Financial process methods [118, 119]. However, AI challenges traditional batch processing and static data handling paradigms, enabling organizations to use complex algorithms for enhanced accuracy and efficiency in fraud detection and automated accounts [120, 121]. Furthermore, the changes in emerging technologies like ML and blockchain reflect a paradigm shift from traditional techniques, which made scholars and practitioners question the existing theories on accountability and trust in business reporting [122-124]. This evolution highlighted the need for frameworks that incorporate the fluidity and complexity introduced by AI-driven financial processes.

AI technologies in financial reporting simplify reporting processes by automating data processing in real-time, reducing time and effort for tasks like data verification and outlier detection [125-127]. Additionally, this shift demands that the practitioner cultivates a learning and training culture, as Regulators should also be responsible for updating the rules to incorporate the specifics of digital disclosure [128, 129]. This could include inventing adaptable frameworks to foster creativity while promoting corporate governance measures and accountability in the financial reporting process. Moreover, the current relationship between industry stakeholders and regulators presents an opportunity to develop a structure for financial reporting that can adapt to users' expectations in the digital environment while simultaneously strengthening the public's confidence in financial reporting [130-132].

4.1. Future Research Implications

RQ5. *What are the potential theoretical and practical implications for future research in AI, technology, and their applications in financial process and finance?*

The study revealed that AI has significant theoretical implications in financial reporting, with 50% of cases requiring further research. This highlighted the need for a deeper analysis of AI's role in Financial Process, auditing, and accountability. 35% of sources emphasize practical implications, suggesting how AI can improve corporate reporting processes [133]. 15% of studies addressed potential policy implications, particularly the need for regulatory adjustments to accommodate AI's growing influence in financial reporting [134]. Theoretical demands include exploring new financial process models integrating AI, such as management financial process and predictive analytics. The shift from double-entry models to AI-assisted financial forecasting is also worth exploring. AI's accountability and transparency capabilities are also crucial, enabling real-time reporting and potentially reshaping financial disclosure frameworks [135, 136]. Table 2 highlights the future research question.

Table 2.
Future Research Questions.

Research Area	Future Research Questions
Financial process	(1) How will AI reshape traditional financial process theories, similar to the impact of blockchain on management financial process?
	(2) Will AI-driven predictive analytics replace conventional financial forecasting models in corporate financial process?
	(3) How will AI facilitate the management of diverse stakeholder expectations in corporate reporting?
	(4) How will AI redefine the accountant's role and their business model activities?
Auditing	(1) How do the characteristics of AI integrate with auditing processes?
	(2) How can AI audit platforms govern multiple actors involved in financial transactions?
	(3) How will AI evolve the auditor's role, similar to the evolution prompted by blockchain?
Accountability	(1) How does AI increase transparency and accountability in financial reporting?
	(2) Can AI scale the concept of transparency and accountability beyond what blockchain has achieved?
	(3) How will AI's immutability of financial records impact stakeholders' accountability management?

Moreover, practical implications include AI's potential to enhance financial visibility and enable faster decision-making, mirroring block chain's advantages in corporate reporting [137, 138]. As AI takes over more operational activities, accountants and auditors must adjust their focus towards oversight and strategic analysis [22, 139]. Therefore, the policy calls for regulatory frameworks reflecting AI's technological advances in financial process and auditing and clarifying how AI-driven financial reporting systems align with taxation, compliance, and public transparency.

5. Limitations and Future Research

The study on AI in financial process and finance has several limitations, including its focus on peer-reviewed articles from 2010 to 2024, which may overlook other publications like books, conference papers etc., and its search terms not covering all relevant literature. Additionally, the analysis was based on selected academic databases, which may not fully

cover the range of research activities in this rapidly evolving field. Future research should expand the scope to include a wider range of publication types and sources, employ a more comprehensive set of keywords, and conduct longitudinal studies to track developments over time. This will provide deeper insights into the evolving relationship between AI and corporate reporting practices in real-world scenarios.

5.1. Future Empirical Direction

Further avenues for AI incorporation and specifications into ACC and FIN should be as follows to improve knowledge and application in the area: In the first place, there is a need for qualitative and quantitative long-run research to examine the effects of these technological innovations on historical accountancy and present and future choices. This entails evaluating the impact that AI introduces to the process through the examination of the temporal trends in accuracy and efficiency of financial reporting, the overall implications of AI on stakeholder trust, the impact of AI on Corporate Governance, and other related issues. Second, empirical research should assess the adaptive capability of concrete AI algorithms in various financial settings. Relative analyses can show which machine learning algorithms or natural language processing approaches give optimum outcomes in technologies consisting of fraud detection, credit score, and prediction. This will assist the organizations to arrive at the most effective tools to deploy in correspondents to each need. Also, future studies should focus on how organizational culture and employee training can support the integration of AI. It is possible to gain insights about how various organizational dynamics impact the uptake and application of AI tools based on the findings in this study, which can be useful to practitioners leading or sponsoring AI initiatives. However, there is knowledge that nevertheless could be produced from combining behavioral finance, information systems, and organizational theory, which we believe might provide a more complete view of the effects of AI. It could research into aspects such as the acceptance of AI-based tools by the users together with the ethical aspect of using artificial intelligence in decision making in the finance industry. Finally, analyzing how the diffusion of AI varies across nations and how these impacts financial activities can yield an extended worldwide perspective of this quickly progressing subject area. This paper argues that by engaging with these empirical directions, researchers can enrich the financial process and finance discourse, helping practitioners and policymakers advance in their attempts to navigate the AI revolution.

5.2. Future theoretical directions

Future research on AI in Financial process and finance can build financial process theories and introduce new AI models, as well as analyses the relationships between AI and regulations, use behavioral theories to explain users' AI acceptance, and use an interdisciplinary methodology to address ethical issues. These directions are meant to help widen appreciation and use of the role of AI in these disciplines to facilitate future research and practice in this quite vivid field. Thus, by following these theoretical streams, researchers can advance a view of how AI might be more broadly applied in financial process and finance.

5.3. Future Methodological Directions

New research avenues in utilizing financial process and standard setting for the future will need to lean more into computational technologies including artificial intelligence, machine learning and Blockchain. To this end, research will focus on advancing architectures that support real-time analysis methods while increasing reporting transparency. Also, the methodologies will require aspects of ethical approaches and biases that are firmly rooted in automation. Standard setting bodies or organizations should look at partnership options on how to incorporate the use of crowdsourced feedback and international view as a way of providing future proof standard that meets the overall stakeholder assessment. Also, focusing on sustainability measures will increase the use of nonfinancial information in integrated reporting reconciling a company's financial performance and its social responsibility.

5.4. Future Geographical Directions

Financial process and standard-setting in terms of geography for the future will include more of the world integration policy due to challenges in international operations. This paper establishes that as companies go global, the practice and adoption of financial process standards are likely to increase and gain an international dimension in a bid to improve the level of comparability. Well, the definitions of such standards may be the result of the development of frameworks and in this process emerging markets may be especially engaged in playing the part of integrating sustainability metrics and adopting digital technologies. Also, regulatory bodies will continuously integrate their standards at the international level so that they capture different economic realities and interests of the various stakeholders. This global approach will improve the comparability and quality of financial information disclosed in the global arena.

6. Conclusion

Integrating Artificial Intelligence (AI) in financial process and finance has shown significant potential in improving operational efficiency and decision-making. A bibliometric analysis revealed a significant increase in research output since 2010, particularly during the COVID-19 pandemic. AI technologies like ML and blockchain are reshaping traditional practices, fostering innovation, and addressing challenges such as data protection and ethical considerations [2]. The analysis highlighted collaborative efforts among researchers, primarily from China and the United States, driving advancements in this field. Additionally, keyword analysis showed that terms like "artificial intelligence" and "big data" are central to current research. These insights underscore the need for ongoing exploration of AI's role in corporate reporting

and its implications for financial practices, emphasizing the importance of addressing ethical considerations and skill development among professionals in the field.

References

[1] K. S. Kaswan, J. S. Dhatterwal, N. Kumar, and S. Lal, "Artificial intelligence for financial services," in Contemporary Studies of Risks in Emerging Technology, Part A: Emerald Publishing Limited, 2023, pp. 71-92.

[2] M. Al-Okaily, "The influence of e-satisfaction on users' e-loyalty toward e-wallet payment apps: A mediated-moderated model," *International Journal of Emerging Markets,* 2023. https://doi.org/10.1108/IJOEM-08-2022-1313

[3] D. Al-Fraihat, M. M. Al-Debei, and A. Al-Okaily, "Factors influencing the decision to utilize eTax systems during the COVID-19 pandemic: the moderating role of anxiety of COVID-19 infection," *International Journal of Electronic Government Research,* vol. 18, no. 1, pp. 1-24, 2022.

[4] D. W. Arner, R. P. Buckley, D. A. Zetzsche, and R. Veidt, "Sustainability, FinTech and financial inclusion," *European Business Organization Law Review,* vol. 21, pp. 7-35, 2020.

[5] M. Palmié, J. Wincent, V. Parida, and U. Caglar, "The evolution of the financial technology ecosystem: An introduction and agenda for future research on disruptive innovations in ecosystems," *Technological forecasting and social change,* vol. 151, p. 119779, 2020.

[6] H. M. Al-Hattami, A. A. A. H. Abdullah, J. D. Kabra, M. A. Alsoufi, M. M. Gaber, and A. M. Shuraim, "Effect of AIS on planning process effectiveness: A case of SMEs in a less developed nation," *The Bottom Line,* vol. 35, no. 2/3, pp. 33-52, 2022.

[7] G.-G. S. Fletcher and M. M. Le, "The future of AI accountability in the financial markets," *Vanderbilt Journal of Entertainment & Technology Law,* vol. 24, pp. 289-310, 2021.

[8] M. Javaid, A. Haleem, R. P. Singh, and R. Suman, "Artificial intelligence applications for industry 4.0: A literature-based study," *Journal of Industrial Integration and Management,* vol. 7, no. 01, pp. 83-111, 2022.

[9] C. Zhang, "Intelligent process automation in audit," *Journal of Emerging Technologies in Accounting,* vol. 16, no. 2, pp. 69-88, 2019.

[10] T. T. Tawfiq, H. Tawaha, A. Tahtamouni, and N. A. Almasria, "The influence of environmental, social, and governance disclosure on capital structure: An investigation of leverage and WACC," *Journal of Risk and Financial Management,* vol. 17, no. 12, p. 570, 2024. https://doi.org/10.3390/jrfm17120570

[11] A. P. Teoh, M. Al-Okaily, M. Iranmanesh, and M. A. Al-Betar, "The efficiency measurement of business intelligence systems in the big data-driven economy: A multidimensional model," *Information Discovery and Delivery,* vol. 51 no. 4, pp. 404-416, 2023. https://doi.org/10.1108/IDD-01-2022-0008

[12] M. Hassan, L. A.-R. Aziz, and Y. Andriansyah, "The role artificial intelligence in modern banking: an exploration of AI-driven approaches for enhanced fraud prevention, risk management, and regulatory compliance," *Reviews of Contemporary Business Analytics,* vol. 6, no. 1, pp. 110-132, 2023.

[13] L. P. Le Guyader, "Artificial intelligence in accounting: GAAP's “FAS133”," *Journal of Corporate Accounting & Finance,* vol. 31, no. 3, pp. 185-189, 2020.

[14] O. Berdiyeva, M. U. Islam, and M. Saeedi, "Artificial intelligence in accounting and finance: Meta-analysis," *International Business Review,* vol. 3, no. 1, pp. 56-79, 2021.

[15] S. Secinaro, F. Dal Mas, V. Brescia, and D. Calandra, "Blockchain in the accounting, auditing and accountability fields: A bibliometric and coding analysis," *Accounting, Auditing & Accountability Journal,* vol. 35, no. 9, pp. 168-203, 2021. https://doi.org/10.1108/AAAJ-12-2020-4634

[16] L. C. Odoh, S. C. Echefu, U. B. Ugwuanyi, and N. V. Chukwuani, "Effect of artificial intelligence on the performance of accounting operations among accounting firms in South East Nigeria," *Asian Journal of Economics, Business and Accounting,* vol. 7, no. 2, pp. 1-11, 2018.

[17] V. McKinlay and J. A. Smith, "The impact of advancing technologies on the requirement for a human workforce in accounting," in Research Handbook on Accounting and Information Systems: Edward Elgar Publishing, 2024, pp. 288-308.

[18] C. Angulo, A. Chacón, and P. Ponsa, *Cognitive assistant supported human-robot collaboration*. Netherlands: Elsevier, 2024.

[19] T. Jia, C. Wang, Z. Tian, B. Wang, and F. Tian, "Design of digital and intelligent financial decision support system based on artificial intelligence," *Computational Intelligence and Neuroscience,* vol. 2022, no. 1, p. 1962937, 2022. https://doi.org/10.1155/2022/1962937

[20] H. Chen, "Prediction and analysis of financial default loan behavior based on machine learning model," *Computational Intelligence and Neuroscience,* vol. 2022, no. 1, p. 7907210, 2022. https://doi.org/10.1155/2022/7907210

[21] R. Saxena, "A conceptual framework for assessing the application of artificial intelligence for financial reporting," *Universal Journal of Accounting and Finance,* vol. 10, no. 5, pp. 897-911, 2022. https://doi.org/10.13189/ujaf.2022.100504

[22] A. R. Hasan, "Artificial intelligence (AI) in accounting & auditing: A Literature review," *Open Journal of Business and Management,* vol. 10, no. 1, pp. 440-465, 2021.

[23] S. J. Mohammad, A. K. Hamad, H. Borgi, P. A. Thu, M. S. Sial, and A. A. Alhadidi, "How artificial intelligence changes the future of accounting industry," *International Journal of Economics and Business Administration,* vol. 8, no. 3, pp. 478-488, 2020.

[24] P. K. Das, "Impact of artificial intelligence on accounting," *Sumerianz Journal of Economics and Finance,* vol. 4, no. 1, pp. 17-24, 2021.

[25] H. M. Al-Hattami, A. A. H. Abdullah, and A. A. A. Khamis, "Determinants of intention to continue using internet banking: Indian context," *Innovative Marketing,* vol. 17, no. 1, pp. 40-48, 2021.

[26] A. M. E. Mohamed, N. H. A. Alnor, O. A. A. Mohammed, E. M. Al-Matari, A. Alhebri, and A. Ahmed, "The impact of information technology governance according to the COBIT on performance," *IJAAS International Journal of Advanced and Applied Sciences,* vol. 11, no. 3, pp. 127-136, 2024.

[27] Б. Хашимов and Д. Хайдарова, "Using and development of artificial intelligence on the process of accounting," *Новый Узбекистан: успешный международный опыт внедрения международных стандартов финансовой отчетности,* vol. 1, no. 5, pp. 219-223, 2022.

[28] X. Liu, "Transformation from Financial Accounting to Management Accounting in the Age of Artificial Intelligence," in *2021 International Conference on Big Data Analytics for Cyber-Physical System in Smart City: Volume 1*, 2022: Springer, pp. 1185-1195.
[29] D. Hemanand *et al.*, "Applications of intelligent model to analyze the green finance for environmental development in the context of artificial intelligence," *Computational Intelligence and Neuroscience,* vol. 2022, no. 1, p. 2977824, 2022.
[30] M. S. Mihai and A. Duţescu, "Artificial intelligence solutions for Romanian accounting companies," in *Proceedings of the International Conference on Business Excellence*, 2022, vol. 16, no. 1, pp. 859-869.
[31] J. Liu and S. Fu, "Financial big data management and intelligence based on computer intelligent algorithm," *Scientific Reports,* vol. 14, no. 1, p. 9395, 2024. https://doi.org/10.1038/s41598-024-11778-3
[32] A. Al-Sartawi, A. Hannoon, and A. A. Khalid, "Information technology governance and online banking in Bahrain," presented at the Artificial Intelligence for Sustainable Finance and Sustainable Technology: Proceedings of ICGER 2021 1, Springer International Publishing. , 2022.
[33] A. Ibrahim, N. A. Almasria, Z. A. Alhatabat, D. J. A. Ershaid, and H. H. Aldboush, "Transforming financial services with artificial intelligence and machine learning: Insights into opportunities and emerging trends," *Utilizing AI and Machine Learning in Financial Analysis,* pp. 129-148, 2025.
[34] R. Al-Shabandar, G. Lightbody, F. Browne, J. Liu, H. Wang, and H. Zheng, "The application of artificial intelligence in financial compliance management," in *Proceedings of the 2019 International Conference on Artificial Intelligence and Advanced Manufacturing*, 2019, pp. 1-6.
[35] A. Balakrishnan, "Leveraging artificial intelligence for enhancing regulatory compliance in the financial sector," *International Journal of Computer Trends and Technology,* pp. 1-17, 2024.
[36] E. Malizia, E. J. Feser, H. Renski, and J. Drucker, *Understanding local economic development*. United Kingdom: Routledge, 2020.
[37] Z. Dai, "Exploring the synergies between digital finance and clean energy: A case study of green bond spillover effects," *Environmental Science and Pollution Research,* vol. 30, no. 44, pp. 100188-100202, 2023. https://doi.org/10.1007/s11356-023-25816-9
[38] H. M. Al-Hattami, "Impact of AIS success on decision-making effectiveness among SMEs in less developed countries," *Information Technology for Development,* vol. 30, no. 3, pp. 472-492, 2024.
[39] A. M. Musleh Al-Sartawi, K. Hussainey, and A. Razzaque, *The role of artificial intelligence in sustainable finance*. United Kingdom: Taylor & Francis, 2022.
[40] F. Alduais, N. Ali Almasria, A. Samara, and A. Masadeh, "Conciseness, financial disclosure, and market reaction: A textual analysis of annual reports in listed Chinese companies," *International Journal of Financial Studies,* vol. 10, no. 4, p. 104, 2022.
[41] R. Singh, R. Bansal, and M. Niranjanamurthy, "Use and application of artificial intelligence in accounting and finance: Benefits and challenges," *Data Wrangling: Concepts, Applications and Tools,* pp. 251-274, 2023.
[42] Z. Yi, X. Cao, Z. Chen, and S. Li, "Artificial intelligence in accounting and finance: Challenges and opportunities," *IEEE Access,* vol. 11, pp. 129100-129123, 2023. https://doi.org/10.1109/ACCESS.2023.3174563
[43] B. Odonkor, S. Kaggwa, P. U. Uwaoma, A. O. Hassan, and O. A. Farayola, "Integrating Artificial intelligence in accounting: A quantitative economic perspective for the future of US financial markets," *Finance & Accounting Research Journal,* vol. 6, no. 1, pp. 56-78, 2024.
[44] H. Arslanian and F. Fischer, *The future of finance: The impact of FinTech, AI, and crypto on financial services*. Germany: Springer, 2019.
[45] J. Bughin, E. Hazan, P. Sree Ramaswamy, W. DC, and M. Chu, *Artificial intelligence the next digital frontier*. United States: McKinsey Global Institute, 2017.
[46] I. Lestari *et al.*, "Traditional practices and potential of industrial revolution 4.0 in the construction projects," presented at the International Conference on Emerging Smart Cities, Springer, Singapore, 2024.
[47] A. F. Srouji, M. E. Hamdallah, R. Al-Hamadeen, M. Al-Okaily, and A. A. Elamer, "The impact of green innovation on sustainability and financial performance: Evidence from the Jordanian financial sector," *Business Strategy & Development,* vol. 6, no. 4, pp. 1037-1052, 2023.
[48] M. M. Alshater, I. Kampouris, H. Marashdeh, O. F. Atayah, and H. Banna, "Early warning system to predict energy prices: The role of artificial intelligence and machine learning," *Annals of Operations Research,* vol. 345, pp. 1297–1333, 2022. https://doi.org/10.1007/s10479-022-04908-9
[49] S. Sandeep, S. Ahamad, D. Saxena, K. Srivastava, S. Jaiswal, and A. Bora, "To understand the relationship between Machine learning and Artificial intelligence in large and diversified business organisations," *Materials Today: Proceedings,* vol. 56, pp. 2082-2086, 2022. https://doi.org/10.1016/j.matpr.2022.08.376
[50] A. O. Ajayi-Nifise, O. Odeyemi, N. Z. Mhlongo, C. V. Ibeh, O. A. Elufioye, and K. F. Awonuga, "The future of accounting: Predictions on automation and AI integration," *World Journal of Advanced Research and Reviews,* vol. 21, no. 2, pp. 399-407, 2024.
[51] M. M. Mariani, I. Machado, V. Magrelli, and Y. K. Dwivedi, "Artificial intelligence in innovation research: A systematic review, conceptual framework, and future research directions," *Technovation,* vol. 122, p. 102623, 2023. https://doi.org/10.1016/j.technovation.2022.102623
[52] B. Kumari, J. Kaur, and S. Swami, "Adoption of artificial intelligence in financial services: A policy framework," *Journal of Science and Technology Policy Management,* vol. 15, no. 2, pp. 396-417, 2024.
[53] M. Aloulou, R. Grati, A. A. Al-Qudah, and M. Al-Okaily, "Does FinTech adoption increase the diffusion rate of digital financial inclusion? A study of the banking industry sector," *Journal of Financial Reporting and Accounting,* vol. 22, no. 2, pp. 289-307, 2024.
[54] H. Alqudah, A. A. Al-Qudah, N. S. Al-Qadi, H. Elrehail, and A. Al-Okaily, "Does financial awareness increase the acceptance rate for financial inclusion? An empirical examination in the era of digital transformation," *Kybernetes,* vol. 52, no. 11, pp. 4876-4896, 2022.
[55] M. S. Y. Ali, "Impacts of service quality on future intentions of loan purchase under the mediating of borrowers' bank image and moderating fatwa and sharia supervisory board reputation," *International Journal of Advanced and Applied Sciences,* vol. 8, no. 4, pp. 29-43, 2021.

[56] M. Al-Kofahi, F. S. Shiyyab, and A. Al-Okaily, "Determinants of user satisfaction with financial information systems in the digital transformation era: insights from emerging markets," *Global Knowledge, Memory and Communication,* vol. 74, no. 3/4, pp. 1171–1190, 2023. https://doi.org/10.1108/GKMC-12-2022-0285

[57] A. F. Alkhwaldi, B. Alobidyeen, A. A. Abdulmuhsin, and M. Al-Okaily, "Investigating the antecedents of HRIS adoption in public sector organizations: Integration of UTAUT and TTF," *International Journal of Organizational Analysis,* vol. 31, no. 7, pp. 3251-3274, 2023.

[58] A. A. Alsmadi, N. Alrawashdeh, A. Al-Okaily, Y. Oroud, and A. S. Al-Gasaymeh, "The role of digital accounting transformation in the banking industry sector: An integrated model," *Journal of Financial Reporting and Accounting,* vol. 22, no. 2, pp. 308-326, 2023.

[59] N. J. v. Eck and L. Waltman, "How to normalize cooccurrence data? An analysis of some well-known similarity measures," *Journal of the American Society for Information Science and Technology,* vol. 60, no. 8, pp. 1635-1651, 2009. https://doi.org/10.1002/asi.21075

[60] S. Oviya, N. Sharadha, E. Bhuvaneswari, S. Vijayalakshmi, and K. Sushma, "The impact of automation and Ai in revolutionising traditional accounting methods," *Journal of Informatics Education and Research,* vol. 4, no. 2, pp. 45-58, 2024.

[61] N. Rane, S. Choudhary, and J. Rane, "Artificial intelligence-driven corporate finance: Enhancing efficiency and decision-making through machine learning, natural language processing, and robotic process automation in corporate governance and sustainability," presented at the Natural Language Processing, and Robotic Process Automation in Corporate Governance and Sustainability, Elsevier, 2024.

[62] B. O. Antwi, B. O. Adelakun, D. T. Fatogun, and O. P. Olaiya, "Enhancing audit accuracy: The role of AI in detecting financial anomalies and fraud," *Finance & Accounting Research Journal,* vol. 6, no. 6, pp. 1049-1068, 2024.

[63] O. A. Bello and K. Olufemi, "Artificial intelligence in fraud prevention: Exploring techniques and applications challenges and opportunities," *Computer Science & IT Research Journal,* vol. 5, no. 6, pp. 1505-1520, 2024.

[64] A. Gautam, "The evaluating the impact of artificial intelligence on risk management and fraud detection in the banking sector," *AI, IoT and the Fourth Industrial Revolution Review,* vol. 13, no. 11, pp. 9-18, 2023.

[65] A. Qasim and F. F. Kharbat, "Blockchain technology, business data analytics, and artificial intelligence: Use in the accounting profession and ideas for inclusion into the accounting curriculum," *Journal of Emerging Technologies in Accounting,* vol. 17, no. 1, pp. 107-117, 2020.

[66] N. Kroon, M. do Céu Alves, and I. Martins, "The impacts of emerging technologies on accountants' role and skills: Connecting to open innovation—a systematic literature review," *Journal of Open Innovation: Technology, Market, and Complexity,* vol. 7, no. 3, p. 163, 2021.

[67] M. M. Abu Afifa, T. H. Nguyen, M. T. T. Le, L. Nguyen, and T. T. H. Tran, "Accounting going digital: A Vietnamese experimental study on artificial intelligence in accounting," *VINE Journal of Information and Knowledge Management Systems,* vol. 54, no. 5, pp. 649–663, 2024. https://doi.org/10.1108/VJIKMS-10-2023-0266

[68] B. C. Cheong, "Transparency and accountability in AI systems: safeguarding wellbeing in the age of algorithmic decision-making," *Frontiers in Human Dynamics,* vol. 6, p. 1421273, 2024. https://doi.org/10.3389/fhumd.2024.1421273

[69] Z. Li, "Ethical frontiers in artificial intelligence: navigating the complexities of bias, privacy, and accountability," *International Journal of Engineering and Management Research,* vol. 14, no. 3, pp. 109-116, 2024. https://doi.org/10.31033/ijemr.14.3.09

[70] J. Babikian, "Navigating the legal landscape: Regulations for Artificial intelligence, Quantum computing, and Blockchain," *International Journal of Advanced Engineering Technologies and Innovations,* vol. 1, no. 1, pp. 1-16, 2017.

[71] D. N. Dillenberger *et al.*, "Blockchain analytics and artificial intelligence," *IBM Journal of Research and Development,* vol. 63, no. 2/3, pp. 1-5, 2019.

[72] O. Odeyemi, C. C. Okoye, O. C. Ofodile, O. B. Adeoye, W. A. Addy, and A. O. Ajayi-Nifise, "Integrating AI with blockchain for enhanced financial services security," *Finance & Accounting Research Journal,* vol. 6, no. 3, pp. 271-287, 2024.

[73] M. Swan, "Blockchain for business: Next-generation enterprise artificial intelligence systems, advances in computers," vol. 111. Netherlands: Elsevier, 2018, pp. 121-162.

[74] H. A. Javaid, "The future of financial Services: Integrating AI for smarter, more efficient operations," *MZ Journal of Artificial Intelligence,* vol. 1, no. 2, pp. 1-10, 2024.

[75] A. D. Ganesh and P. Kalpana, "Future of artificial intelligence and its influence on supply chain risk management–A systematic review," *Computers & Industrial Engineering,* vol. 169, p. 108206, 2022. https://doi.org/10.1016/j.cie.2022.108206

[76] M. Sharma, S. Luthra, S. Joshi, and A. Kumar, "Implementing challenges of artificial intelligence: Evidence from public manufacturing sector of an emerging economy," *Government Information Quarterly,* vol. 39, no. 4, p. 101624, 2022. https://doi.org/10.1016/j.giq.2022.101624

[77] A. Campion, M. Gasco-Hernandez, S. Jankin Mikhaylov, and M. Esteve, "Overcoming the challenges of collaboratively adopting artificial intelligence in the public sector," *Social Science Computer Review,* vol. 40, no. 2, pp. 462-477, 2022.

[78] M. A. Agustí and M. Orta-Pérez, "Big data and artificial intelligence in the fields of accounting and auditing: A bibliometric analysis," *Spanish Journal of Finance and Accounting,* vol. 52, no. 3, pp. 412-438, 2023.

[79] Z. Janková, "A bibliometric analysis of artificial intelligence technique in financial market," *Scientific Papers of the University of Pardubice. Series D, Faculty of Economics & Administration,* vol. 29, no. 3, pp. 1-10, 2021.

[80] P. Agarwal, S. Swami, and S. K. Malhotra, "Artificial intelligence adoption in the post COVID-19 new-normal and role of smart technologies in transforming business: A review," *Journal of Science and Technology Policy Management,* vol. 15, no. 3, pp. 506-529, 2024.

[81] O.-h. Cho, "Analysis of the impact of artificial intelligence applications on the development of accounting industry," *Nanotechnology Perceptions,* pp. 74-83, 2024.

[82] S. Kumar, "A comprehensive description of artificial intelligence techniques in the financial market," presented at the Proceedings of the 5th International Conference on Contemporary Computing and Informatics, 2022.

[83] A. Swargiary, N. Kaur, and P. Gupta, "A comparative study on analyzing and resolving a use case on utilizing unused landscape availability in Tamil Nadu suitable for agriculture using clustering techniques," *Journal of Positive School Psychology,* vol. 6, no. 2, pp. 1234–1245, 2022.

[84] J. Boudoukh, M. Jacob, M. Goudjil, and W. Ahmed, "Collaborative advancements in artificial intelligence and technology integration," *Journal of Emerging Technologies and Innovation,* vol. 12, no. 3, pp. 145–160, 2023.

[85] V. Sharma, P. Mungla, and V. Kumar, "Exploring the role of artificial intelligence in transforming financial systems: A comprehensive review," *International Journal of Financial Technology and Innovation,* vol. 6, no. 1, pp. 45-61, 2023.
[86] M. Mohamed and S. F. Wamba, "The role of artificial intelligence in enhancing supply chain performance," *Journal of Supply Chain Management,* vol. 45, no. 3, pp. 115–130, 2024.
[87] S. F. Wamba, A. Gunasekaran, S. Akter, S. J. F. Ren, R. Dubey, and S. J. Childe, "Big data analytics and firm performance: Effects of dynamic capabilities," *Journal of Business Research,* vol. 70, pp. 356–365, 2017. https://doi.org/10.1016/j.jbusres.2016.08.009
[88] K. V. Lins, H. Servaes, and A. Tamayo, "Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis," *Journal of Finance,* vol. 72, no. 4, pp. 1785–1824, 2017. https://doi.org/10.1111/jofi.12505
[89] A. Sarkar and H. Latan, "The impact of digital transformation on organizational performance in emerging markets," *Journal of Business Research,* vol. 58, no. 7, pp. 401-416, 2023.
[90] M. Mohamed and S. F. Wamba, "The role of artificial intelligence in enhancing supply chain performance," *Journal of Supply Chain Management,* vol. 45, no. 3, pp. 115-130, 2024. https://doi.org/10.1108/JSCM-02-2024-0085
[91] N. A. Norzelan, I. S. Mohamed, and M. Mohamad, "Technology acceptance of artificial intelligence (AI) among heads of finance and accounting units in the shared service industry," *Technological Forecasting and Social Change,* vol. 198, p. 123022, 2024.
[92] A. Ghimire, S. Thapa, A. K. Jha, S. Adhikari, and A. Kumar, "Accelerating business growth with big data and artificial intelligence," presented at the 2020 Fourth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud)(I-SMAC), IEEE, 2020.
[93] V. Virtanen, "Effects of intelligent process automation implementation on used time and manual work in finnish accounting software," Master's Thesis, Lappeenranta-Lahti University of Technology LUT, 2021.
[94] J. Liuska, "The opportunities and challenges of utilizing alternative data in the assessment of creditworthiness in the Finnish consumer finance," *Journal of Financial Data Science,* vol. 3, no. 1, pp. 45-58, 2021.
[95] M. E. Leitão, M. Amaral, and A. Carvalho, "Reconceptualizing socio-tech entrepreneurship: A systematic literature review and research agenda," *Technovation,* vol. 134, p. 103018, 2024. https://doi.org/10.1016/j.technovation.2024.103018
[96] G. D. B. Swankie and D. Broby, "Examining the impact of artificial intelligence on the evaluation of banking risk," 2019.
[97] R. H. Chowdhury, "AI-driven business analytics for operational efficiency," *World Journal of Advanced Engineering Technology and Sciences,* vol. 12, no. 2, pp. 535-543, 2024.
[98] S. Subudhi, "Banking on artificial intelligence: Opportunities & challenges for banks in India," *International Journal of Research in Commerce, Economics & Management,* vol. 9, no. 7, pp. 45-52, 2019.
[99] G. Çetin Gerger, "Tax services and tax service providers' changing role in the IoT and AmI environment," *Guide to Ambient Intelligence in the IoT Environment: Principles, Technologies and Applications,* pp. 203-216, 2019.
[100] M. Y. Ooi, J. A. John, and N. A. Muton, "Digitizing Receipts with OCR," *International Journal of Computing and Digital Systems,* vol. 14, no. 1, pp. 1-1, 2023.
[101] D. Ucoglu, "Current machine learning applications in accounting and auditing," *PressAcademia Procedia,* vol. 12, no. 1, pp. 1-7, 2020.
[102] O. Odeyemi, K. F. Awonuga, N. Z. Mhlongo, N. L. Ndubuisi, F. O. Olatoye, and A. I. Daraojimb, "The role of AI in transforming auditing practices: A global perspective review," *World Journal of Advanced Research and Reviews,* vol. 21, no. 2, pp. 359-370, 2024.
[103] M. R. Kabir, A. Farid, F. Sobhani, and N. Mohamed, "Impact of integrity and internal audit transparency on audit fraud risk mitigation: Moderating Role of blockchain technology," *Academy of Strategic Management Journal,* vol. 20, no. 6, pp. 1-19, 2021.
[104] R. Gao, Z. Zhang, Z. Shi, D. Xu, W. Zhang, and D. Zhu, "A review of natural language processing for financial technology," in *International Symposium on Artificial Intelligence and Robotics 2021*, 2021, vol. 11884: SPIE, pp. 262-277.
[105] D. Stevcevska Srbinoska and S. Donovska, "Automation of accounting processes: The impact of Artificial intelligence and ERP systems on accounting," *Zbornik Ekonomskog fakulteta u Zagrebu,* vol. 21, no. 2, pp. 83-103, 2023.
[106] M. Boyle, "The real costs of manual accounting," *Strategic Finance,* vol. 102, no. 3, pp. 47-53, 2020.
[107] B. Ş. Alkan, "How Blockchain and Artificial Intelligence Will Effect the Cloud-Based Accounting Information Systems?," in The Impact of Artificial Intelligence on Governance, Economics and Finance, Volume 2: Springer, 2022, pp. 107-119.
[108] A.-I. Bostan and O.-A. Dragomirescu, "Revolutionizing Finance: Insights on the impact of automation," in *Proceedings of the International Conference on Business Excellence*, 2024, vol. 18, no. 1, pp. 3374-3386.
[109] A. Azimah and R. Ria, "The role of technology acceptance model for exploring application of accounting information system based on artificial intelligence," *Kurdish Studies,* vol. 12, no. 2, pp. 5571-5581, 2024.
[110] K. Sohn and O. Kwon, "Technology acceptance theories and factors influencing artificial Intelligence-based intelligent products," *Telematics and Informatics,* vol. 47, p. 101324, 2020.
[111] A. A. Vărzaru, "Assessing artificial intelligence technology acceptance in managerial accounting," *Electronics,* vol. 11, no. 14, p. 2256, 2022. https://doi.org/10.3390/electronics11142256
[112] L. Ferri, R. Spanò, G. Ginesti, and G. Theodosopoulos, "Ascertaining auditors' intentions to use blockchain technology: evidence from the Big 4 accountancy firms in Italy," *Meditari Accountancy Research,* vol. 29, no. 5, pp. 1063-1087, 2021. https://doi.org/10.1108/MEDAR-07-2020-0965
[113] S. Krakowski, J. Luger, and S. Raisch, "Artificial intelligence and the changing sources of competitive advantage," *Strategic Management Journal,* vol. 44, no. 6, pp. 1425-1452, 2023.
[114] O. Yigitbasioglu, P. Green, and M.-Y. D. Cheung, "A resource-based view of digital transformation of professional services: Implications for Accountants' skills," in *Accounting and Finance Association of Australia and New Zealand (AFAANZ) Conference*, 2019.
[115] H. Vo Van, M. Abu Afifa, and I. Saleh, "Accounting information systems and organizational performance in the cloud computing era: Evidence from SMEs," *Sustainability Accounting, Management and Policy Journal,* 2024. https://doi.org/10.1108/SAMPJ-01-2024-0044

[116] B. Dash, *Information extraction from unstructured big data: A case study of deep natural language processing in Fintech*. United States: University of the Cumberlands, 2022.
[117] M. N. Ashtiani and B. Raahemi, "Intelligent fraud detection in financial statements using machine learning and data mining: A systematic literature review," *IEEE Access,* vol. 10, pp. 72504-72525, 2021. https://doi.org/10.1109/ACCESS.2021.3083614
[118] A. Christofi, P. Christofi, and S. Sisaye, "Corporate sustainability: historical development and reporting practices," *Management Research Review,* vol. 35, no. 2, pp. 157-172, 2012. https://doi.org/10.1108/01409171211200120
[119] P. Milanes Montero, E. Pérez Calderón, and A. I. Lourenco Dias, "Transparency of financial reporting on greenhouse gas emission allowances: The influence of regulation," *International Journal of Environmental Research and Public Health,* vol. 17, no. 3, p. 893, 2020. https://doi.org/10.3390/ijerph17030893
[120] P. O. Shoetan and B. T. Familoni, "Transforming fintech fraud detection with advanced artificial intelligence algorithms," *Finance & Accounting Research Journal,* vol. 6, no. 4, pp. 602-625, 2024.
[121] I. H. Sarker, "AI-based modeling: Techniques, applications and research issues towards automation, intelligent and smart systems," *SN Computer Science,* vol. 3, no. 2, p. 158, 2022. https://doi.org/10.1007/s42979-022-00753-w
[122] R. Agrifoglio and D. de Gennaro, "New ways of working through emerging technologies: A meta-synthesis of the adoption of blockchain in the accountancy domain," *Journal of Theoretical and Applied Electronic Commerce Research,* vol. 17, no. 2, pp. 836-850, 2022.
[123] A. Faccia, V. Pandey, and C. Banga, "Is permissioned blockchain the key to support the external audit shift to entirely open innovation paradigm?," *Journal of Open Innovation: Technology, Market, and Complexity,* vol. 8, no. 2, p. 85, 2022. https://doi.org/10.3390/joitmc8020085
[124] H. Han, "The impact of Artificial Intelligence (AI) and blockchain adoption in corporate governance: ethical perspectives," Brunel University London, 2022.
[125] P. Thakur, N. S. Talwandi, S. Khare, and K. Sarawagi, "Chapter-2 Machine Learning and Data Ethics: A Design of Integrated Framework towards Intelligent Decision Making," *ADVANCES IN,* vol. 119, p. 29, 2024.
[126] O. A. Bello, A. Ogundipe, D. Mohammed, F. Adebola, and O. A. Alonge, "AI-driven approaches for real-time fraud detection in US financial transactions: Challenges and opportunities," *European Journal of Computer Science and Information Technology,* vol. 11, no. 6, pp. 84-102, 2023.
[127] S. K. Jagatheesaperumal, M. Rahouti, K. Ahmad, A. Al-Fuqaha, and M. Guizani, "The duo of artificial intelligence and big data for industry 4.0: Applications, techniques, challenges, and future research directions," *IEEE Internet of Things Journal,* vol. 9, no. 15, pp. 12861-12885, 2021.
[128] I. Brown and C. T. Marsden, *Regulating code: Good governance and better regulation in the information age*. United States: MIT Press, 2023.
[129] K. Elliott *et al.*, "Towards an equitable digital society: Artificial intelligence (AI) and corporate digital responsibility (CDR)," *Society,* vol. 58, no. 3, pp. 179-188, 2021. https://doi.org/10.1007/s12115-021-00543-3
[130] S. S. Smith, "Digitization and financial reporting–how technology innovation may drive the shift toward continuous accounting," *Accounting and Finance Research,* vol. 7, no. 3, pp. 240-250, 2018.
[131] A. A. Austin, T. D. Carpenter, M. H. Christ, and C. S. Nielson, "The data analytics journey: Interactions among auditors, managers, regulation, and technology," *Contemporary Accounting Research,* vol. 38, no. 3, pp. 1888-1924, 2021. https://doi.org/10.1111/1911-3846.12659
[132] W. A. Wan Ismail, M. Madah Marzuki, and N. A. Lode, "Financial reporting quality, industrial revolution 4.0 and social well-being among Malaysian public companies," *Asian Journal of Accounting Research,* vol. 9, no. 4, pp. 294-308, 2024.
[133] N. Rane, S. Choudhary, and J. Rane, "Artificial Intelligence-driven corporate finance: enhancing efficiency and decision-making through machine learning, natural language processing, and robotic process automation in corporate governance and sustainability," *Natural Language Processing, and Robotic Process Automation in Corporate Governance and Sustainability (February 8, 2024),* 2024.
[134] C. Estep, E. E. Griffith, and N. L. MacKenzie, "How do financial executives respond to the use of artificial intelligence in financial reporting and auditing?," *Review of Accounting Studies,* vol. 29, no. 3, pp. 2798-2831, 2024. https://doi.org/10.1007/s11142-024-09745-6
[135] B. O. Antwi, B. O. Adelakun, and A. O. Eziefule, "Transforming Financial Reporting with AI: Enhancing Accuracy and Timeliness," *International Journal of Advanced Economics,* vol. 6, no. 6, pp. 205-223, 2024.
[136] A. Lambert and W. Ahmed, "The future of regulatory reporting: Advancements in AI/ML technologies," EasyChair Preprint No. 12648, 2024.
[137] Z. Wang, M. Li, J. Lu, and X. Cheng, "Business Innovation based on artificial intelligence and Blockchain technology," *Information Processing & Management,* vol. 59, no. 1, p. 102759, 2022. https://doi.org/10.1016/j.ipm.2021.102759
[138] V. Kanaparthi, "Exploring the Impact of Blockchain, AI, and ML on Financial Accounting Efficiency and Transformation," in *International Conference on Multi-Strategy Learning Environment*, 2024: Springer, pp. 353-370.
[139] T. Jauhiainen and O. M. Lehner, "Good governance of AI and big data processes in accounting and auditing," in Artificial Intelligence in Accounting: Routledge, 2022, pp. 119-181.