Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

JOURNAL OF INFORMATION SYSTEM AND TECHNOLOGY MANAGEMENT (JISTM)
www.jistm.com

A BIBLIOMETRIC ANALYSIS OF RESEARCH TRENDS IN ARTIFICIAL INTELLIGENCE (AI) AND FINANCE (2015-2025)

Nabilah Wafa' Mohd Najib[1*], Siti Khalilah Basarud-din[2], Siti Fadhilah Ghazali[3], Naimah Abu Kasim[4], Nurul Khofifah Abdullah[5], Wan Azani Wan Mustafa[6]

[1] Faculty of Muamalat & Islamic Finance, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, 02000 Kuala Perlis, Malaysia
Email: nabilahwafa@unisiraj.edu.my
[2] Faculty of Muamalat & Islamic Finance, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, 02000 Kuala Perlis, Malaysia
Email: khalilah@unisiraj.edu.my
[3] Faculty of Muamalat & Islamic Finance, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, 02000 Kuala Perlis, Malaysia
Email: fadhilahghazali@unisiraj.edu.my
[4] Faculty of Muamalat & Islamic Finance, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, 02000 Kuala Perlis, Malaysia
Email: naimah.abukasim@unisiraj.edu.my
[5] Faculty of Muamalat & Islamic Finance, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, 02000 Kuala Perlis, Malaysia
Email: nurulkhofifah@unisiraj.edu.my
[6] Faculty of Electrical Engineering Technology, Kampus Sg. Chuchuh, Universiti Malaysia Perlis, 02100 Padang Besar, Perlis, Malaysia
Email: wanazani@unimap.edu.my
[*] Corresponding Author

Article Info:

Article history:
Received date: 26.06.2025
Revised date: 14.07.2025
Accepted date: 18.08.2025
Published date: 01.09.2025

To cite this document:

Najib, N. W. M., Basarud-din, S. K., Ghazali, S. F., Abu Kasim, N., Abdullah, N. K., & Mustafa, W. A. W. (2025). A Bibliometric Analysis Of Research Trends In Artificial

Abstract:

This study explores the research trends in the field of Artificial Intelligence (AI) and Finance through a detailed bibliometric analysis of relevant literature published between 2015 and 2025. In recent years, AI-driven innovations such as blockchain technology, digital platforms, and intelligent financial systems have transformed the financial sector, prompting a surge in academic interest. Despite this growing body of research, a systematic understanding of its structure, development, and key contributors remains limited. To address this gap, the study applies a bibliometric methodology, using the Scopus database to extract scholarly publications with the keywords "AI," "digital," "technology," and "finance" in the title. The dataset was refined using OpenRefine to ensure consistency and data cleanliness and analyzed using Scopus Analyzer and VOSviewer software to uncover key patterns in publication volume, subject areas, influential authors and countries, popular

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Intelligence (AI) And Finance (2015-2025). *Journal of Information System and Technology Management, 10* (40), 88-103.

DOI: 10.35631/JISTM.1040007

This work is licensed under CC BY 4.0

keywords, and collaborative networks. The final dataset comprises 1,388 English-language journal articles. The findings reveal a significant growth in scholarly output beginning in 2020, with strong growth observed in 2023 and 2024, reflecting increasing global interest in the digital transformation of financial services. China emerged as the dominant contributor, followed by the United States, the United Kingdom, and Malaysia. Keyword co-occurrence mapping highlights prominent themes such as digital finance, fintech, digital inclusive finance, and blockchain. Highly cited works focus on the role of digital finance in sustainability and the impact of AI on financial systems and policy. The analysis also shows increasing collaboration among authors and institutions across regions. In summary, this bibliometric study maps the development of research in AI and finance, identifies emerging themes and guiding future research directions in this interdisciplinary field.

Keywords:

Artificial Intelligence, AI, Digital, Technology, Finance

Introduction

Artificial Intelligence (AI) has become a crucial development in the financial sector, bringing big changes in areas such as decision-making, risk control, and the way financial services are delivered. The application of advanced algorithms, big data, and machine learning has helped improve financial forecasting, fraud detection, and investment strategies (Yepes et al., 2025; Walker et al., 2022). These technologies have made financial services more efficient and accessible worldwide. However, they also raise some concerns related to ethics and legal issues that still need attention (Yepes et al., 2025). The increasing number of studies in this area shows that there is growing interest and investment in using AI for finance, especially as the industry moves towards more data-driven and automated processes (Go et al., 2020; Mukthar et al., 2025).

Recent findings show that there has been a sharp increase in academic publications on AI in finance (Yepes et al., 2025; Mukthar et al., 2025). Researchers are focusing on how AI can help in forecasting, managing risks, detecting fraud, and improving customer service (Walker et al., 2022; Sharma & Manhas, 2023). For example, techniques like neural networks and fuzzy logic are widely used in financial prediction and support better decision-making (Janková, 2021). AI is also being applied in areas such as automated lending, managing investment portfolios, and high-frequency trading, all of which help make financial systems more precise and efficient (Walker et al., 2022). A bibliometric review of research from 2016 to 2023 shows a clear growth in studies related to AI and fintech, highlighting key contributors and new research trends (Mukthar et al., 2025).

Despite this increasing body of literature, there remains a lack of comprehensive analysis regarding the structure, evolution, and thematic trends of research at the intersection of AI and finance (Roy et al., 2025). While several studies focus on the application and technical aspects of AI in finance, there are just a few studies have mapped the broader research landscape using bibliometric approaches. This leaves a gap in understanding the key contributors, collaboration patterns, and emerging trends in this area of study. Bibliometric analysis offers a powerful tool to map and quantify these research developments. This approach helps develop a thorough understanding of the subject area's development and trajectory by systematically analysing publication patterns, key contributors, subject areas, and keyword co-occurrences.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Therefore, to address the rising interest for a systematic understanding of this expanding research area, this study applies a bibliometric analysis using data extracted from the Scopus database. A total of 1,388 peer-reviewed journal articles published between 2015 and 2025 were analysed. The study aims to explore the evolution of research trends, identify influential authors, institutions, and countries, examine keyword patterns, and map international collaboration networks in the field of AI and finance. The research questions guiding this study are as follows:

1. What is the trend of research in AI and Finance by years?
2. Which subject areas are most productive in publishing research on this topic?
3. Which ten countries contribute the most to the volume of research publications?
4. What are the top 10 most cited articles?
5. Which are the popular keywords associated with the study?
6. What are the co-authorship patterns based on collaboration by countries?

Methodology

Bibliometrics involves gathering, organising, and analysing bibliographic data from scientific publications (Alves et al., 2021; Assyakur & Rosa, 2022; Verbeek et al., 2002). Beyond basic statistics, such as identifying publishing journals, publication years, and leading authors (Wu & Wu, 2017), bibliometrics analysis encompasses techniques such as document co-citation analysis. Conducting an effective literature review invloves a careful and iterative process that includes selecting appropriate keywords, systematically searching the literature, and carrying out thorough analysis. This method supports the development of a comprehensive bibliography and contributes to generating robust and reliable findings. (Fahimnia et al., 2015). With this in mind, the study prioritised on high-impact publications to gain deeper insights into the theoretical frameworks that shape the research field. To ensure data accuracy, SCOPUS served as the primary source for data collection (Al-Khoury et al., 2022; di Stefano et al., 2010; Khiste & Paithankar, 2017). Additionally, to maintain quality, the study only considered articles published in peer-reviewed academic journals, deliberately excluding books and lecture notes (Gu et al., 2019). Using Elsevier's Scopus, known for its broad coverage, publications from 2015 to 2025 were collected for further analysis.

Data Analysis

VOSviewer is a powerful and user-friendly bibliometric analysis tool created by Nees Jan van Eck and Ludo Waltman at Leiden University, Netherlands (van Eck & Waltman, 2010, 2017). It is widely used for visualising and analysing scientific literature, offering features like intuitive network visualisations, clustering of related items, and the creation of density maps. VOSviewer allows researchers to explore co-authorship, co-citation, and keyword co-occurrence networks, helping them to grasp the structure and trends of specific research fields. Its interactive interface and ongoing software updates enhance usability, while its ability to calculate metrics and generate customised visualisations makes it a valuable resource for scholars analysing complex research environments.

One of the main advantages of VOSviewer is its ability to transform complex bibliometric data into clear and interpretable visual maps. With an emphasis on network-based representations, it enables users to identify keyword patterns, cluster related terms, and produce density-based visuals with ease. The platform is accessible to both novice and experienced researchers due to its intuitive design. VOSviewer continues to evolve through regular updates, supporting a range

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

of bibliometric analyses including co-authorship and citation networks. Its flexibility and compatibility with various data types solidify its role as a crucial tool in gaining deeper insights into research landscapes.

In this study, datasets were extracted from the Scopus database in PlainText format, including details such as publication year, title, author, journal, citations, and keywords, covering the period from 2015 to 2025. These datasets were analysed using VOSviewer version 1.6.20. The use of VOS clustering and mapping techniques allowed for the creation of visual maps that uncover underlying patterns and associations among the data. Unlike traditional Multidimensional Scaling (MDS), which relies on similarity metrics such as cosine and Jaccard indices, VOSviewer positions items in low-dimensional spaces based on their strength of association (Appio et al., 2014). Unlike MDS (Multidimensional Scaling), which mainly focuses on calculating similarity measures such as the cosine and Jaccard indices, VOS (Visualisation of Similarities) applies a more appropriate technique for normalising co-occurrence data. One such technique is the association strength (AS_{ij}), which is calculated as:

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

In this formula, C_{ij} represents the number of times items i and j appear together, while w_i and w_j are the total occurrences of items i and j, respectively. This measure reflects how often items i and j co-occur relative to the frequency that would be expected if there were no statistical association between them (Van Eck & Waltman, 2007).

Data Search Strategy

The data collection strategy for this bibliometric analysis employed a precise and structured approach using the Scopus database, targeting literature that integrates aspects of artificial intelligence (AI), digital technologies, and finance. The advanced search string TITLE (AI OR digital OR technology) AND finance) was designed to capture documents explicitly focusing on these themes within their titles, ensuring a high level of relevance. The publication timeline was limited to 2015 until 2025 to reflect recent and emerging trends, while the language was restricted to English to ensure consistency and enhance the accessibility of the analysis. Additionally, only peer-reviewed journal articles were included, with conference papers, books, and review articles excluded to ensure the analysis focused on primary research findings.

From this rigorous screening process, a final dataset of 1,388 documents was compiled. The inclusion criteria emphasised high-quality, finalised research by selecting only articles at the "final" publication stage, excluding in-press works that might lack complete metadata or finalised citations. This careful selection process enhances the reliability and validity of the bibliometric outcomes, providing a robust foundation to explore publication trends, authorship networks, keyword evolution, and subject area distributions within the AI and finance research landscape.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Table 1: The Search String

Scopus	TITLE((AI OR digital OR technology) AND finance) AND PUBYEAR > 2014 AND PUBYEAR < 2026 AND (LIMIT-TO (DOCTYPE,"ar")) AND (LIMIT-TO (LANGUAGE,"English"))

Source: Scopus

Criterion	**Inclusion**	**Exclusion**
Language	English	Non-English
Timeline	2015 - 2025	< 2015
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

Table 2: Selection Criteria and Search Strategy

Source: Scopus

Results and Discussion

What Is The Trend Of Research In AI And Finance By Years?

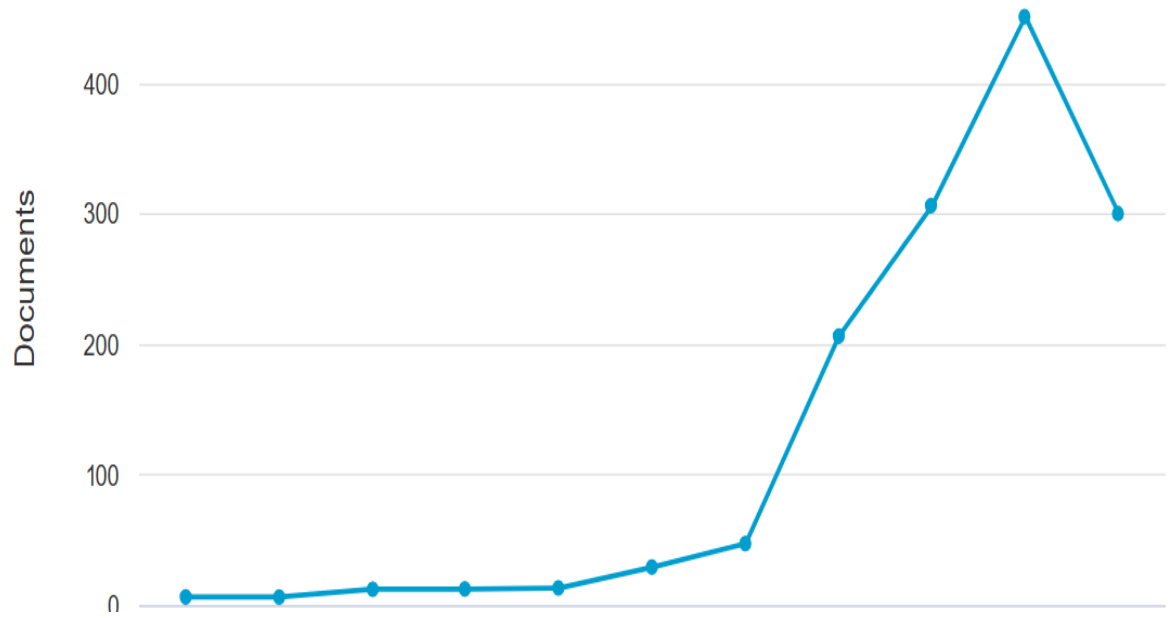

Figure 1: Trend of Research in AI and Finance by Years

Source: Scopus

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Table 3: Trend of research in AI and Finance by years

Year	Total of Publication
2025	300
2024	451
2023	306
2022	206
2021	47
2020	29
2019	13
2018	12
2017	12
2016	6
2015	6

Source: Scopus

The research trend of publications on AI and Finance from 2015 to 2025 demonstrates a significant upward trajectory, particularly from 2020 onwards. In the earlier years (2015 - 2019), publication volume was minimal, with fewer than 15 documents annually, indicating limited academic attention to the intersection of AI and Finance during this period. However, starting in 2020, there is a noticeable growth in interest, with publications increasing steadily from 29 in 2020 to 206 in 2022. This rise likely reflects the broader AI technologies adoption in the financial sector and increased global digital transformation efforts, particularly accelerated by the COVID-19 pandemic.

The years 2023 and 2024 marked peak activity, with 306 and 451 publications respectively, suggesting that AI and Finance has become a well-established and intensifying research area. Although there appears to be a slight dip in 2025 (300 publications), this number still significantly exceeds pre-2022 figures and may be attributed to incomplete indexing for the year. Overall, the trend illustrates growing academic and institutional interest in leveraging AI for financial applications such as risk modelling, fraud detection, algorithmic trading, and sustainable finance. The data underscores AI and Finance as an emerging interdisciplinary field with robust future research potential.

Journal of Information System and Technology Management
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Which Subject Areas Are Most Productive In Publishing Research On This Topic?

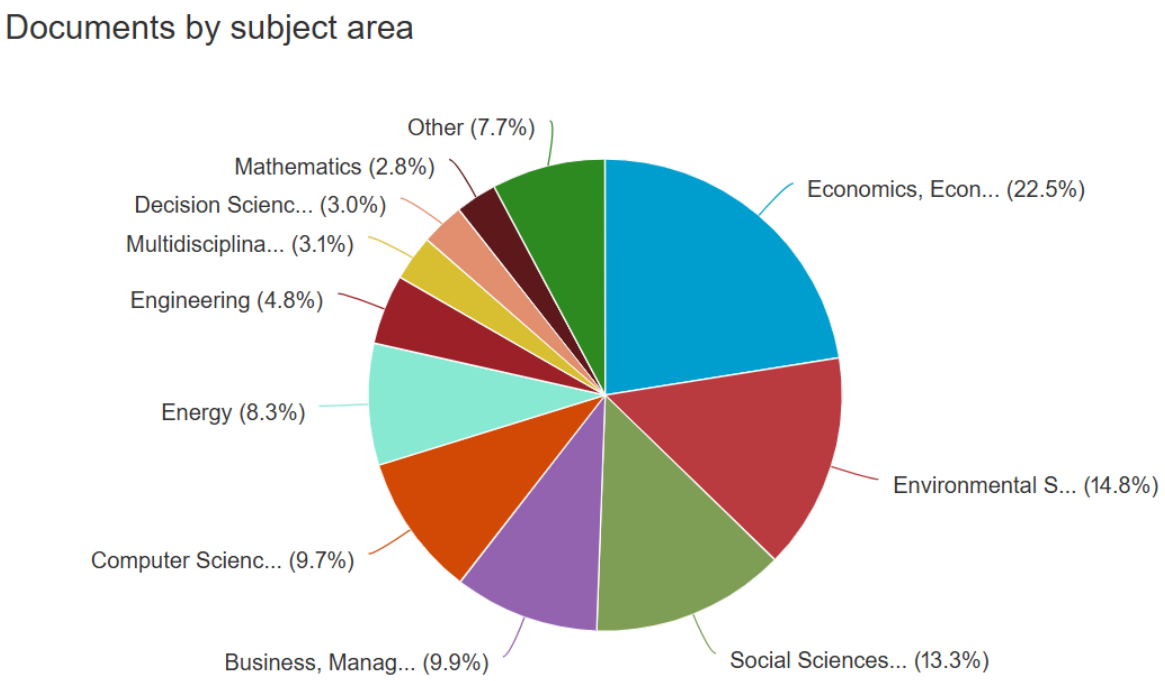

Figure 2: Subject Area Productivity of the Topic

Source: Scopus

Table 4: Subject Area Productivity of the Topic

Subject Area	Number of Publication	Percentage (%)
Economics, Econometrics and Finance	577	22.5%
Environmental Science	381	14.8%
Social Sciences	341	13.3%
Business, Management and Accounting	254	9.9%
Computer Science Energy	250	9.7%
Energy	214	8.3%
Engineering	123	4.8%
Multidisciplinary	80	3.1%
Decision Sciences	76	3.0%
Mathematics	73	2.8%
Others	199	7.7%

Source: Scopus

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

The distribution of publications from 2015 to 2025 indicates that research on AI and finance is distinctly interdisciplinary, with the highest concentration found in Economics, Econometrics, and Finance (22.5%). This dominance underscores the central role of AI in transforming traditional financial practices such as algorithmic trading, risk assessment, credit scoring, and forecasting. The significant representation of Environmental Science (14.8%) suggests a growing emphasis on sustainable finance, particularly in the application of AI to support ESG (Environmental, Social, and Governance) frameworks, climate-related financial disclosures, and carbon risk modelling. Additionally, Social Sciences (13.3%) and Business, Management and Accounting (9.9%) reflect how AI intersects with behavioural finance, management strategies, and organisational decision-making.

In parallel, the notable presence of Computer Science and Energy (9.7%), Energy (8.3%), and Engineering (4.8%) highlights the technological underpinnings of AI-driven financial innovation. These subject areas significantly contribute to the advancement of sophisticated algorithmic models, smart energy trading platforms, and computational infrastructures that support real-time data processing in finance. The inclusion of Multidisciplinary studies (3.1%), Decision Sciences (3.0%), and Mathematics (2.8%) further demonstrates a convergence of analytical, strategic, and quantitative perspectives, reinforcing the holistic nature of AI-finance research. Finally, the Others category (7.7%) points to emerging areas such as psychology, arts, medicine, materials science, biochemistry, and healthcare professions underscoring the expanding scope and future potential of AI applications within the financial domain.

Which Ten Countries Contribute The Most To The Volume Of Research Publications?

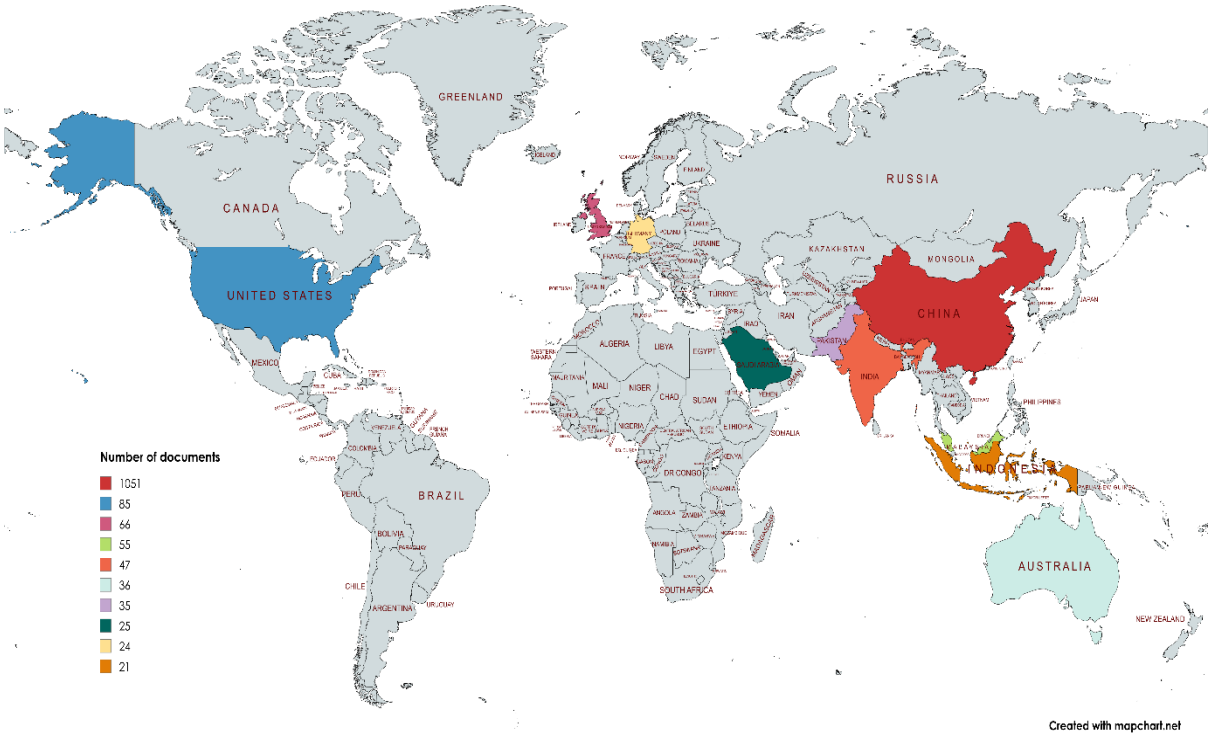

Figure 3: Top 10 Countries by Volume of Publication

Source: Author's own

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Table 5: Top 10 Countries by Volume of Publication

Country	Volume of Publication
China	1051
United States	85
United Kingdom	66
Malaysia	55
India	47
Australia	36
Pakistan	35
Saudi Arabia	25
Germany	24
Indonesia	21

Source: Scopus

The bibliometric analysis of AI and Finance research from 2015 to 2025 reveals that China is the dominant contributor with a total of 1,051 publications, an output that far surpasses other countries and underscores China's strong investment and leadership in this field. The United States ranks second with 85 publications, followed closely by the United Kingdom with 66. These figures indicate that while Western countries are active in AI-finance research, their output is considerably lower than China's, reflecting perhaps different research priorities or funding structures. Notably, Malaysia ranks fourth with 55 publications, which is a significant contribution considering its smaller research base compared to leading economies. This highlights Malaysia's growing emphasis on digital finance and technological integration in its economic agenda.

Countries like India (47), Australia (36), Pakistan (35), and Saudi Arabia (25) also show meaningful engagement in the field, pointing to a diversified global interest in AI applications in finance. Germany and Indonesia complete the top ten with 24 and 21 publications respectively, suggesting increasing involvement from both developed and emerging economies. The inclusion of several Asian nations among the leading contributors emphasises the region's growing influence and interest in financial technology innovation. Overall, the data suggests that AI and Finance is a globally relevant research domain, with China clearly leading the trend and other countries showing varying levels of strategic engagement.

What Are The Top 10 Most Cited Articles?

Table 6: Top 10 Most Cited Articles

Number of Citation	Author	Title of Articles	Year
435	Treleaven P.; Brown R.G.; Yang D.	Blockchain Technology in Finance	2017
377	Lin B.; Ma R.	How does digital finance influence green technology innovation in China? Evidence from the financing constraints perspective	2022

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

287	Yue P.; Korkmaz A.G.; Yin Z.; Zhou H.	The rise of digital finance: Financial inclusion or debt trap?	2022
1019	Ozili P.K.	Impact of digital finance on financial inclusion and stability	2018
571	Li J.; Wu Y.; Xiao J.J.	The impact of digital finance on household consumption: Evidence from China	2020
536	Cao S.; Nie L.; Sun H.; Sun W.; Taghizadeh-Hesary F.	Digital finance, green technological innovation and energy-environmental performance: Evidence from China's regional economies	2021
318	Mhlanga D.	Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion	2020
910	Gomber P.; Koch J.-A.; Siering M.	Digital Finance and FinTech: current research and future research directions	2017
504	Feng S.; Zhang R.; Li G.	Environmental decentralization, digital finance and green technology innovation	2022
303	Zhang M.; Liu Y.	Influence of digital finance and green technology innovation on China's carbon emission efficiency: Empirical analysis based on spatial metrology	2022

Source: Scopus

The most cited articles in the AI and Finance research domain highlight key themes shaping the academic discourse from 2017 to 2022. Notably, Treleaven et al. (2017) leads with 435 citations, showcasing early attention to blockchain's potential in transforming financial systems. Ozili's (2018) article, with 1,019 citations, stands out as the most influential work, emphasising digital finance's role in promoting financial inclusion and stability. Similarly, Gomber et al. (2017), with 910 citations, contributes significantly by outlining the current landscape and future directions of digital finance and FinTech research. These high citation counts reflect foundational studies that have guided subsequent investigations in both academic and policy-making spheres.

A strong concentration of recent, highly cited publications from 2020 onward such as those by Lin and Ma (2022), Yue et al. (2022), and Cao et al. (2021), indicates a rising research focus in the intersection of digital finance, green technology innovation, and environmental sustainability, particularly within the Chinese context. This trend underscores a shift toward addressing pressing global challenges through digital financial tools. Several articles also explore the social implications of digital finance, including household consumption, carbon emission efficiency, and financial inclusion through AI, suggesting a multidisciplinary expansion of the field. The clustering of impactful studies in recent years demonstrates that AI and finance is an evolving research area with increasing relevance to economic development, technological progress, and environmental policy.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Which Are The Popular Keywords Associated With The Study?

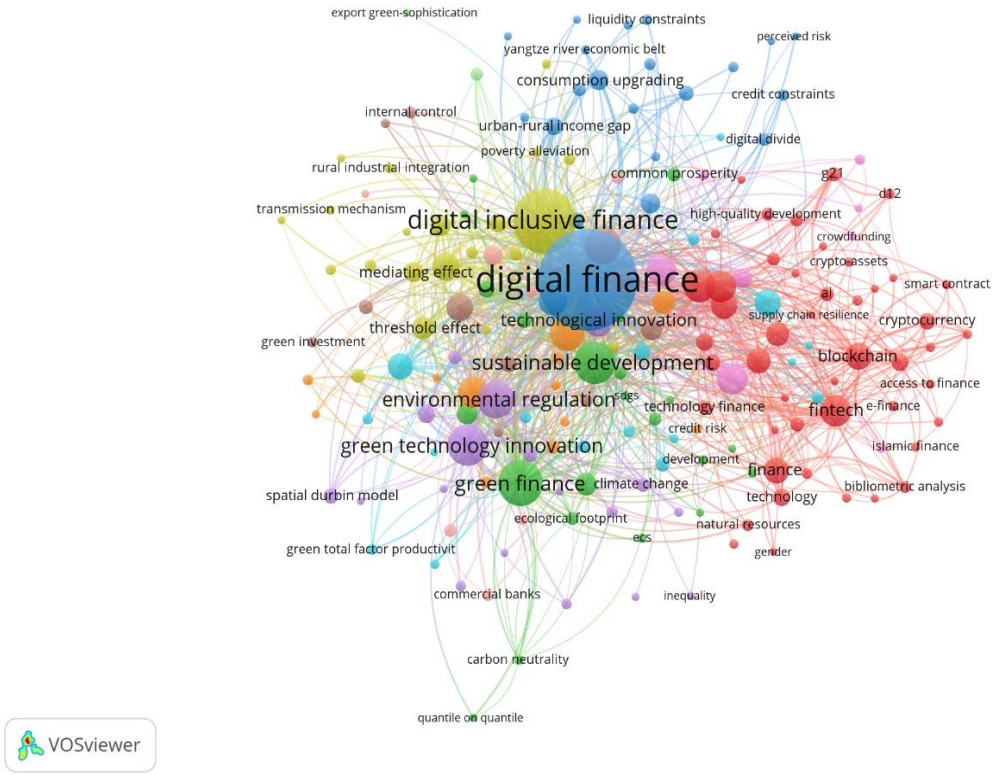

Figure 4: Co-Occurrence Network Map of Keywords

Source: Scopus

Keyword analysis reveals that digital finance and financial innovation are the most prominent themes within AI and finance research. Digital finance records the highest frequency of occurrences (589) and total link strength (1247), showing that it is a central topic in this area. Closely related keywords such as blockchain, fintech, financial technology, and digital inclusive finance further reflect strong academic interest in how digital tools, platforms, and infrastructures are changing the financial system. Additionally, the frequent appearance of terms like financial inclusion, internet finance, and digital transformation suggests that researchers are paying attention to the connection between technological advancement and broader social and economic goals, especially in improving access and efficiency in financial services.

Keywords directly related to Artificial Intelligence (AI) appear less frequently overall, but they still hold an important place in the network. For example, artificial intelligence (35 occurrences, 70 link strength), machine learning (16, 34), and AI (13, 35) show that researchers are increasingly focusing on AI applications in finance, such as prediction models, risk analysis, and automation. These AI-related terms are often connected with concepts like information asymmetry, financial performance, and investment efficiency, which suggests that AI is being used to support better financial decision-making and reduce inefficiencies. While AI is not yet the main focus, its presence alongside finance-specific terms points to a growing interdisciplinary interest in combining AI with financial research.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Another important finding is the rise of topics related to sustainable finance, which often appear together with digital and AI technologies. Keywords like green finance, sustainable development, carbon emissions, and renewable energy show that researchers are beginning to study how advanced technologies, especially AI can help achieve Environmental, Social, and Governance (ESG) goals and facilitate the shift toward a low-carbon economy. This is further supported by terms like green technology innovation and climate change. The connection between AI and sustainability highlights a new direction in research, where digital intelligence can improve financial systems while also supporting global sustainability efforts. Therefore, future research should continue to examine how artificial intelligence tools can simultaneously enhance both financial innovation and environmental responsibility.

What Are The Co-Authorship Patterns Based On Collaboration By Countries?

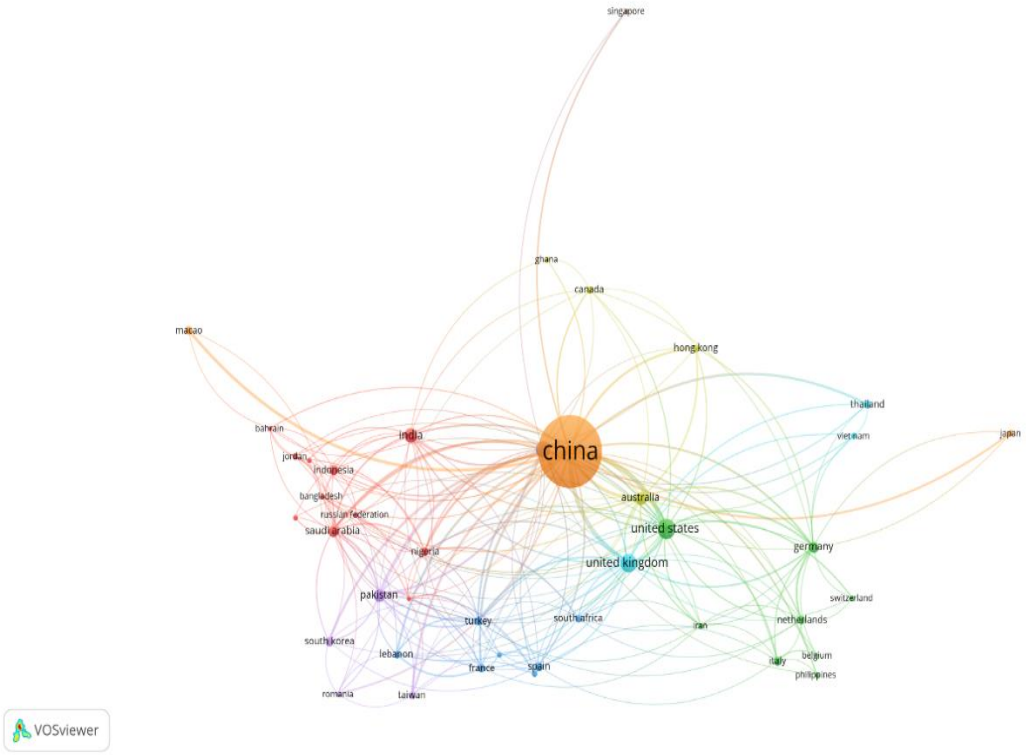

Figure 5: Co-Authorship Collaboration Network Map

Source: Scopus

The bibliometric analysis reveals that China is the dominant contributor to AI and finance research, with 1,051 documents and a total of 20,821 citations. Its total link strength (256) also indicates strong collaborative ties with other countries, positioning it as the central hub within global scholarly research. The United States and United Kingdom follow with significantly lower volume of publications 86 and 66 respectively but maintain high citation counts (3,159 and 3,020), suggesting that their contributions are particularly impactful. These Western countries exhibit strong total link strengths (93 and 86), highlighting their active engagement in international collaborations.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Emerging economies such as Malaysia, Pakistan, and India also show notable involvement, with Malaysia producing 55 documents and securing 1,143 citations, and Pakistan and India following closely in both metrics. Their relatively high total link strengths (67 for Malaysia and 61 for Pakistan) indicate increasing integration into global research networks. Interestingly, countries like Turkey, Germany, and Australia show moderate output but relatively high citation counts, which may suggest a focus on quality or niche areas within the AI-finance intersection.

Smaller players such as Lebanon, South Africa, and Taiwan also demonstrate research activity with moderate citation numbers, reflecting growing interest from developing regions. However, a long tail of countries such as Ghana, Qatar, and Singapore shows lower publication and citation counts alongside weaker collaboration metrics. This highlights the disparity in research capacity and international integration, suggesting a need for broader cooperation and investment in global South–North knowledge exchange to balance contributions and benefits in the evolving AI-finance domain.

Conclusion

This bibliometric analysis set out to investigate the evolution, structure, and key contributors in the subject area of AI and Finance, highlighting on publications from 2015 to 2025. The primary objective was to examine research output trends, influential publications, key subject areas, prominent countries, frequently used keywords, and international collaboration patterns.

The findings show that there has been a noticeable rise in research activity since 2020, reaching its highest point in 2023 and 2024. The results show that AI's application in finance has attracted increasing scholarly attention, with China had the most publications, followed by the United States and the United Kingdom. Keyword analysis reveals that digital finance, financial innovation, and blockchain dominate current research themes, with growing interest in green finance and sustainability-related topics. The subject area distribution further confirms the interdisciplinary nature of the field, with strong links to economics, business, computer science, and environmental studies.

This analysis provides several contributions to the area of study. It offers a comprehensive overview of current research dynamics, highlights dominant themes and regions, and identifies areas where AI is increasingly integrated with financial systems. This research provides insights into the ways digital technologies influence financial innovation and sustainability, and it establishes a foundation for mapping future academic directions.

The study's practical implications suggest that institutions, scholars, and policymakers should take note of the emerging synergy between AI and financial systems, especially in areas such as inclusive finance, risk modelling, and environmentally responsible investment. Recognising the vital role of digital transformation can support informed policy formulation, innovation strategy development, and enhanced financial services delivery.

Nevertheless, this study has certain limitations. The analysis was restricted to publications in English and indexed by Scopus, which may have excluded relevant research in other languages or sources. Additionally, while bibliometric tools offer valuable insights into publication trends and collaboration networks, they do not assess the qualitative depth of the research content.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007

Future studies could extend this analysis by incorporating content-based techniques, examining policy impact, or exploring regional disparities in research engagement.

In summary, this bibliometric study underscores the growing importance of AI in reshaping the financial domain. It demonstrates how bibliometric methods can uncover evolving research priorities, guide scholarly efforts, and support strategic decision-making. As AI technologies continue to advance, ongoing analysis will be essential to understanding their role in shaping a more efficient, inclusive, and sustainable financial ecosystem.

Acknowledgements
The authors express sincere gratitude to the Universiti Islam Antarabangsa Tuanku Syed Sirajuddin (UniSIRAJ) and colleagues who provided valuable insights and encouragement throughout this study. Appreciation is also extended to the administrative and technical teams involved in data management and analysis. The completion of this work reflects a shared commitment to academic inquiry and the betterment of student mental health in higher education. Heartfelt thanks are extended to all the cited authors for their valuable contributions and the knowledge they have shared through their work. Sincere gratitude also directed to Global Academic Excellence (M) Sdn Bhd for their support in enabling the publication of this article.

References

Al-Khoury, A., Hussein, S. A., Abdulwhab, M., Aljuboori, Z. M., Haddad, H., Ali, M. A., Abed, I. A., & Flayyih, H. H. (2022). Intellectual Capital History and Trends: A Bibliometric Analysis Using Scopus Database. *Sustainability (Switzerland)*, *14*(18). https://doi.org/10.3390/su141811615.

Alves, J. L., Borges, I. B., & De Nadae, J. (2021). Sustainability in complex projects of civil construction: Bibliometric and bibliographic review. *Gestao e Producao*, *28*(4). https://doi.org/10.1590/1806-9649-2020v28e5389.

Appio, F. P., Cesaroni, F., & Di Minin, A. (2014). Visualizing the structure and bridges of the intellectual property management and strategy literature: a document co-citation analysis. *Scientometrics*, *101*(1), 623–661. https://doi.org/10.1007/s11192-014-1329-0.

Assyakur, D. S., & Rosa, E. M. (2022). Spiritual Leadership in Healthcare: A Bibliometric Analysis. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, *7*(2). https://doi.org/10.30604/jika.v7i2.914.

Cao, S., Nie, L., Sun, H., Sun, W., & Taghizadeh-Hesary, F. (2021). Digital Finance, Green Technological Innovation and Energy-environmental performance: Evidence from China's regional economies. *Journal of Cleaner Production*, *327*, 129458. https://doi.org/10.1016/j.jclepro.2021.129458.

di Stefano, G., Peteraf, M., & Veronay, G. (2010). Dynamic capabilities deconstructed: A bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and Corporate Change*, *19*(4), 1187–1204. https://doi.org/10.1093/icc/dtq027.

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. In *International Journal of Production Economics* (Vol. 162, pp. 101–114). https://doi.org/10.1016/j.ijpe.2015.01.003.

Feng, S., Zhang, R., & Li, G. (2022). Environmental decentralization, Digital Finance and Green Technology Innovation. *Structural Change and Economic Dynamics*, *61*, 70–83. https://doi.org/10.1016/j.strueco.2022.02.008.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007
Go, E. J., Moon, J., & Kim, J. (2020). Analysis of the current and future of the artificial intelligence in financial industry with big data techniques. *Global Business and Finance Review*, *25*(1), 102–117. https://doi.org/10.17549/gbfr.2020.25.1.102.

Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital Finance and Fintech: Current research and future research directions. *Journal of Business Economics*, *87*(5), 537–580. https://doi.org/10.1007/s11573-017-0852-x.

Gu, D., Li, T., Wang, X., Yang, X., & Yu, Z. (2019). Visualizing the intellectual structure and evolution of electronic health and telemedicine research. *International Journal of Medical Informatics*, *130*. https://doi.org/10.1016/j.ijmedinf.2019.08.007.

Janková, Z. (2021). A bibliometric analysis of artificial intelligence technique in financial market. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, *29*(3). https://doi.org/10.46585/sp29031268.

Khiste, G. P., & Paithankar, R. R. (2017). Analysis of Bibliometric term in Scopus. *International Research Journal*, *01*(32), 78–83.

Li, J., Wu, Y., & Xiao, J. J. (2020). The impact of digital finance on household consumption: Evidence from China. *Economic Modelling*, *86*, 317–326. https://doi.org/10.1016/j.econmod.2019.09.027.

Lin, B., & Ma, R. (2022b). How does Digital Finance Influence Green Technology Innovation in China? evidence from the financing constraints perspective. *Journal of Environmental Management*, *320*, 115833. https://doi.org/10.1016/j.jenvman.2022.115833.

Mhlanga, D. (2020). Industry 4.0 in finance: The impact of artificial intelligence (AI) on Digital Financial Inclusion. *International Journal of Financial Studies*, *8*(3), 45. https://doi.org/10.3390/ijfs8030045.

Mukthar, K. P. J., Chauhan, N., Al-Absy, M. S. M., Kumar, R., Gupta, N. R., & Gokilavani, S. (2025). Research dynamics in AI and fintech: a bibliometric investigation using R. *Discover Internet of Things*, *5*(1). https://doi.org/10.1007/s43926-025-00111-x.

Ozili, P. K. (2018). Impact of digital finance on Financial Inclusion and stability. *Borsa Istanbul Review*, *18*(4), 329–340. https://doi.org/10.1016/j.bir.2017.12.003.

Roy, P., Ghose, B., Singh, P. K., Tyagi, P. K., & Vasudevan, A. (2025). Artificial Intelligence and Finance: A bibliometric review on the trends, influences, and Research Directions. *F1000Research*, *14*, 122. https://doi.org/10.12688/f1000research.160959.1.

Sharma, P., & Manhas, S. (2023). The future of finance: Revolutionizing the industry with artificial intelligence. In *Leveraging AI and Emotional Intelligence in Contemporary Business Organizations* (pp. 187–210). IGI Global. https://doi.org/10.4018/979-8-3693-1902-4.ch011.

Treleaven, P., Gendal Brown, R., & Yang, D. (2017). *Blockchain Technology in Finance. Computer, 50(9), 14–17.* doi:10.1109/mc.2017.3571047.

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3.

van Eck, N. J., & Waltman, L. (2017). Citation-based clustering of publications using CitNetExplorer and VOSviewer. *Scientometrics*, *111*(2), 1053–1070. https://doi.org/10.1007/s11192-017-2300-7.

Van Eck, N. J., & Waltman, L. (2007). Bibliometric mapping of the computational intelligence field. *International Journal of Uncertainty, Fuzziness and Knowldege-Based Systems*, *15*(5), 625–645. https://doi.org/10.1142/S0218488507004911.

Journal of Information System and Technology Management
JISTM
EISSN: 0128-1666
Volume 10 Issue 40 (September 2025) PP. 88-103
DOI: 10.35631/JISTM.1040007
Verbeek, A., Debackere, K., Luwel, M., & Zimmermann, E. (2002). Measuring progress and evolution in science and technology - I: The multiple uses of bibliometric indicators. *International Journal of Management Reviews*, *4*(2), 179–211. https://doi.org/10.1111/1468-2370.00083.

Walker, T., Davis, F., & Schwartz, T. (2022). Big Data in Finance: An Overview. In *Big Data in Finance: Opportunities and Challenges of Financial Digitalization* (pp. 3–9). Springer International Publishing. https://doi.org/10.1007/978-3-031-12240-8_1.

Wu, Y. C. J., & Wu, T. (2017). A decade of entrepreneurship education in the Asia Pacific for future directions in theory and practice. In *Management Decision* (Vol. 55, Issue 7, pp. 1333–1350). https://doi.org/10.1108/MD-05-2017-0518.

Yepes, I., Arevalo, O., Martínez Garcés, J., Polo Carrillo, E. M., Rodríguez-Villamizar, M. Y., & Roa, J. (2025). The Impact of Artificial Intelligence in the World of Finance: A Bibliometric Study. In S. C., A. M., N. S., & S. G. (Eds.), *Communications in Computer and Information Science: Vol. 2320 CCIS* (pp. 305–313). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-78531-3_33.

Yue, P., Korkmaz, A. G., Yin, Z., & Zhou, H. (2022). The Rise of Digital Finance: Financial Inclusion or debt trap? *Finance Research Letters*, *47*, 102604. https://doi.org/10.1016/j.frl.2021.102604.

Zhang, M., & Liu, Y. (2022). Influence of Digital Finance and Green Technology Innovation on China's carbon emission efficiency: Empirical analysis based on spatial metrology. *Science of The Total Environment*, *838*, 156463. https://doi.org/10.1016/j.scitotenv.2022.156463.