

Artificial Intelligence in Forensic Accounting: A Bibliometric Analysis of Global Research Trends and Future Directions

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Abstract: Artificial Intelligence (AI) has significantly transformed forensic accounting practices, particularly in supporting fraud detection and financial investigations. As the number of publications in this field continues to grow, a comprehensive mapping of the literature is needed to understand the global evolution of research. This study aims to examine the development of research on AI in forensic accounting using a bibliometric approach. Bibliographic data were retrieved from the Scopus database following the PRISMA framework. After the screening process, 399 articles published between January 2015 and July 2026 were analyzed using Biblioshiny (Bibliometrix) in RStudio. The findings reveal a consistent increase in research output, with an annual growth rate of 42.84%, particularly since 2022. China emerged as the leading contributor in terms of both publications and citations, while Knowledge-Based Systems and Decision Support Systems were identified as the most productive journals in this research area. Keyword analysis indicates that machine learning, fraud detection, artificial intelligence, deep learning, and financial fraud remain the dominant research themes, reflecting an increasing emphasis on advanced AI technologies. Furthermore, Lotka's Law suggests that this research field is still in its growth stage, whereas Bradford's Law indicates that publications are concentrated within a relatively small number of core journals. This study provides a comprehensive overview of the evolution of AI research in forensic accounting and identifies several promising directions for future research, including Explainable AI, Responsible AI, Large Language Models, and AI governance.

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) has fundamentally transformed information management and decision-making processes across various sectors, including auditing and forensic accounting. Technologies such as machine learning, deep learning, natural language processing (NLP), large language models (LLMs), and generative artificial intelligence have enabled faster and more accurate anomaly detection, fraud identification, large-scale transaction analysis, and digital evidence investigation than conventional approaches (Kokina & Davenport, 2017; Sutton et al., 2023). Globally, the growing complexity of financial crimes, cyber fraud, money laundering, and financial statement manipulation has driven organizations to integrate AI into data-driven auditing and forensic investigation processes. In Indonesia, the digital transformation of the financial sector supported by the rapid expansion of digital financial services, electronic payment systems, and technology-based transactions has also been accompanied by increasingly sophisticated fraud risks. According to the Association of Certified Fraud Examiners (ACFE) Report to the Nations 2024, organizations worldwide lose approximately 5% of their annual revenue to fraud, while technology-enabled fraud schemes continue to increase, highlighting the need for more adaptive and AI-driven investigative approaches (Association of Certified Fraud Examiners, 2024). These developments demonstrate that AI has become a central area of innovation in forensic accounting. However, the scientific knowledge in this field has yet to be comprehensively mapped to provide a clear understanding of its global research evolution.

The growing adoption of AI has also raised a number of strategic issues that attract considerable attention from both academics and practitioners. Beyond improving the effectiveness of fraud detection, AI implementation raises important concerns regarding algorithmic transparency, accountability in automated decision-making, data security, privacy protection, and the ethical use of AI in auditing and forensic investigations. Furthermore, the emergence of Generative Artificial Intelligence, including applications such as ChatGPT and Large Language Models, has expanded AI's capabilities in document analysis, transaction pattern recognition, and the preparation of investigative reports. At the same time, these technologies can also be exploited to generate synthetic documents, digital evidence, and financial transactions that are increasingly difficult to distinguish from authentic data, thereby increasing the complexity of forensic investigations and audit procedures (Dwivedi et al., 2023). Consequently, the rapid evolution of AI not only creates significant opportunities for innovation but also introduces new challenges that require more comprehensive scientific investigation.

Despite the rapid adoption of AI in forensic accounting, the development of the associated scientific literature has not yet been systematically examined. Existing studies have primarily focused on developing AI-based fraud detection models, evaluating classification algorithms, or assessing predictive performance. In contrast, relatively limited attention has been given to understanding the evolution of the field's intellectual structure, scientific collaboration networks, research themes, and overall research trajectory. As a result, there remains a lack of comprehensive knowledge regarding how AI research in forensic accounting has evolved over time, which authors, institutions, and countries have made the most influential contributions, how scientific collaboration networks have developed, and which research themes have emerged or gradually declined. Such information is essential for guiding future research priorities, identifying opportunities for international collaboration, and supporting evidence-based decision-making in

the advancement of auditing and forensic accounting research.

The growth of international publications on AI has increased exponentially in recent years, driven by rapid advancements in Generative AI and Large Language Models (LLMs). This development highlights the need for an up-to-date mapping of the current research landscape (Dwivedi et al., 2023). Without a comprehensive bibliometric analysis, researchers may face difficulties in identifying dominant themes, emerging topics, international collaboration patterns, and future research opportunities that can contribute to the advancement of auditing and forensic accounting knowledge. Therefore, a systematic study is required to comprehensively map the evolution of AI research in forensic accounting through a bibliometric approach.

Previous studies have examined the application of AI in auditing and accounting. (Kokina & Davenport (2017) explained that AI has the potential to transform audit practices through automated data analysis and improved decision-making quality. Similarly, Sutton et al. (2023) demonstrated that the development of generative AI provides new opportunities for the accounting profession by enhancing the efficiency of document analysis and text-based investigations. Meanwhile, several bibliometric studies have explored AI in general and AI applications in accounting, such as (Moll & Yigitbasioglu (2019), who reviewed the development of digital technologies in accounting, and Fedyk et al. (2022), who examined the implications of AI adoption for the accounting profession.

Bibliometric methods have been widely applied to map the development of scientific knowledge across various disciplines because they provide an objective overview of research productivity, citation impact, collaboration networks, and thematic evolution. According to (Aria & Cuccurullo (2017), bibliometric analysis not only evaluates publication performance but also enables researchers to identify the intellectual structure of a scientific field. Donthu et al. (2021) further emphasized that bibliometric analysis is an effective approach for identifying research trends, influential authors, productive institutions, and future directions of scientific development. Consequently, bibliometric approaches have increasingly become an important foundation for establishing future research agendas across disciplines. However, previous studies have not specifically mapped the development of Artificial Intelligence in forensic accounting through an integrated bibliometric approach that combines publication productivity analysis, collaboration networks, thematic evolution, and the identification of future research directions. Furthermore, limited studies have examined emerging topics such as Generative AI, Large Language Models, Explainable Artificial Intelligence (XAI), and Responsible AI within the context of forensic accounting. This limitation indicates a research gap and provides an opportunity for the present study to develop a more comprehensive knowledge map of AI development in forensic accounting.

This study extends previous research by integrating multiple bibliometric analyses, including publication productivity, scientific collaboration networks, co-citation analysis, keyword co-occurrence analysis, thematic evolution, and the identification of future research agendas. This approach is expected to provide a more comprehensive understanding of the development of Artificial Intelligence (AI) in forensic accounting compared with previous studies (Aria & Cuccurullo, 2017; Donthu et al., 2021). The importance of this research is further reinforced by the rapid advancement of AI, which has transformed various aspects of accounting, auditing, and fraud investigation through the utilization of machine learning, deep learning, and

large-scale data analytics (Dwivedi et al., 2023; Fedyk et al., 2022). Nevertheless, studies that systematically map the scientific development of AI in forensic accounting remain relatively limited. This condition may lead to fragmented research development, duplication of research topics, and missed opportunities to identify potential collaborations and emerging themes relevant to auditing and forensic accounting practices in the digital era (Donthu et al., 2021; Zupic & Čater, 2015).

Based on these phenomena and research gaps, this study is important because it provides a comprehensive overview of the evolution of research on Artificial Intelligence in Forensic Accounting through a systematic bibliometric approach. Specifically, this study aims to analyze global publication trends, identify influential authors, institutions, countries, and journals, map scientific collaboration networks, examine research theme development through keyword analysis, and formulate future research directions. From an academic perspective, this study is expected to contribute to the literature on the integration of AI, auditing, and forensic accounting by providing a knowledge map that can serve as a foundation for future research (Aria & Cuccurullo, 2017; Donthu et al., 2021). From a practical perspective, the findings are expected to provide valuable insights for academics, auditors, forensic accountants, regulators, and policymakers in understanding AI developments relevant to improving fraud detection effectiveness, financial investigations, governance mechanisms, and internal control systems in the era of digital transformation (Association of Certified Fraud Examiners, 2024; Dwivedi et al., 2023; Rezaee & Wang, 2019).

LITERATURE REVIEW

Artificial Intelligence in Forensic Accounting

The advancement of information technology has transformed forensic accounting practices from traditional manual approaches toward the adoption of digital technologies for fraud detection and investigation. Forensic accounting is a multidisciplinary field that integrates accounting knowledge, auditing, legal expertise, and investigative techniques to identify, analyze, and present evidence related to financial fraud (Crumbley et al., 2017). As business transactions become increasingly complex and financial systems continue to undergo digital transformation, conventional approaches have become less effective in addressing massive data volumes and increasingly sophisticated fraud patterns.

In recent years, emerging technologies such as Big Data Analytics, Machine Learning, and Artificial Intelligence (AI) have been increasingly integrated into forensic accounting processes. These technologies enable the rapid analysis of large-scale datasets, allowing forensic auditors to identify abnormal transactions and complex fraud patterns that may be difficult to detect through conventional audit procedures (Rezaee & Wang, 2019). Consequently, the role of forensic accounting has evolved beyond a reactive approach toward a more proactive function that supports fraud prevention through continuous data analysis. This development indicates that digital transformation has reshaped the scope of forensic accounting research and contributed to the increasing number of scientific publications examining the application of digital technologies, particularly AI, in supporting fraud investigation and detection processes (Sharon et al., 2025).

Developments in Artificial Intelligence Research in Forensic Accounting

The increasing adoption of Artificial Intelligence (AI) in forensic accounting has been

accompanied by substantial growth in academic publications addressing this emerging field. Previous studies have not only focused on the application of machine learning for fraud detection but have also expanded toward the utilization of big data analytics, blockchain technology, continuous auditing, and explainable AI (XAI) to support financial investigation processes (Cerón et al., 2026; Kokina & Davenport, 2017; Rezaee & Wang, 2019). This shift demonstrates that research attention has gradually moved from viewing technology merely as an operational support tool toward recognizing AI as an integral component of decision-making systems in auditing and forensic investigations (Sutton et al., 2023).

Despite these developments, research on AI in forensic accounting remains fragmented across various topics and has not yet provided a comprehensive understanding of the overall evolution of this field. Most existing studies employ empirical approaches or systematic literature reviews, whereas research that maps the intellectual structure, scientific collaboration networks, and thematic evolution through bibliometric analysis remains relatively limited (Cerón et al., 2026; Zakaria et al., 2025). Several bibliometric studies have investigated AI development in accounting and auditing; however, only a limited number have specifically focused on AI applications within forensic accounting (Lario & Rohman, 2025). As a result, comprehensive insights regarding publication trends, influential authors and journals, collaboration patterns, and emerging research themes remain insufficiently explored. Furthermore, many previous studies have concentrated on specific topics, such as fraud detection or AI adoption in auditing, and therefore have not fully captured the intellectual and conceptual structures underlying AI research in forensic accounting (Donthu et al., 2021). Addressing this research gap, the present study applies a bibliometric approach to analyze the global development of AI research in forensic accounting. This analysis is expected to provide a comprehensive overview of publication trends, intellectual structure, conceptual structure, collaboration networks, thematic evolution, and future research directions. Consequently, the findings may serve as a valuable reference for both researchers and practitioners in advancing knowledge and practice in the field of AI-driven forensic accounting (Aria & Cuccurullo, 2017; Donthu et al., 2021).

METHOD

Data collection in this study was conducted using the Scopus database, which was selected because it is one of the largest scientific databases with extensive coverage of international publications and high indexing standards. The use of Scopus enables the acquisition of consistent, reliable, and high-quality bibliographic data that are compatible with various bibliometric analysis tools, such as VOSviewer and Bibliometrix. Therefore, Scopus has been widely adopted in contemporary bibliometric research (Aria & Cuccurullo, 2017; Donthu et al., 2021).

The search strategy was systematically developed by combining keywords related to artificial intelligence and forensic accounting, including "artificial intelligence" OR "machine learning" OR "deep learning" OR "neural network" OR "expert system" OR "generative AI" OR ChatGPT, combined with "forensic accounting" OR "forensic accountant" OR "forensic audit" OR "fraud detection" OR "financial fraud". These keywords were applied to the title, abstract, and author keywords fields in the Scopus database to retrieve publications relevant to the research topic. This structured search strategy was designed to maximize literature coverage while maintaining search accuracy (precision), thereby minimizing potential bias during the

document identification process (Aria & Cuccurullo, 2017; Zupic & Čater, 2015).

The identification and selection of literature in this study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency, consistency, and rigor throughout the article selection process (Page et al., 2021). Although PRISMA was initially developed for systematic literature reviews, this framework has increasingly been adopted in bibliometric studies to systematically document each stage of data screening, thereby improving research transparency, reproducibility, and reducing potential selection bias (Donthu et al., 2021; Page et al., 2021).

As presented in Figure 1, the identification stage generated 8,449 documents retrieved from the Scopus database based on the predetermined search strategy. Subsequently, the screening process was conducted by applying the established inclusion and exclusion criteria. At this stage, 8,050 documents were excluded from the dataset, consisting of 5,851 documents with publication types other than articles, 322 documents published outside the 2015-2026 period, 1,871 documents classified outside the research areas of Economics, Econometrics and Finance as well as Business, Management and Accounting, and 6 documents not published in English. This screening process was conducted to ensure that all analyzed documents were methodologically and substantively aligned with the research objectives, thereby enhancing the validity and reliability of the bibliometric analysis results (Donthu et al., 2021; Zupic & Čater, 2015).

Following the completion of the screening process, the inclusion stage resulted in 399 articles that met all predefined inclusion criteria and were considered eligible for further analysis. The final dataset was exported from Scopus in BibTeX format and analyzed using Biblioshiny, a web-based interface of the Bibliometrix package operated through RStudio (Aria & Cuccurullo, 2017). Biblioshiny was selected because it provides comprehensive bibliometric analysis functions through a user-friendly graphical interface without requiring direct programming. This software enables the examination of various bibliometric indicators, including publication productivity, source analysis, most productive authors, author affiliations and countries, citation analysis, co-citation analysis, bibliographic coupling, keyword co-occurrence analysis, as well as thematic mapping, thematic evolution, and conceptual structure analysis. These analytical features allow researchers to identify the development, relationships, and intellectual structure of a research field (Aria & Cuccurullo, 2017; Donthu et al., 2021). Furthermore, the network visualizations generated by Biblioshiny facilitate a more systematic interpretation of collaboration patterns, research trends, and topic evolution, thereby improving the robustness and quality of bibliometric analysis interpretation.

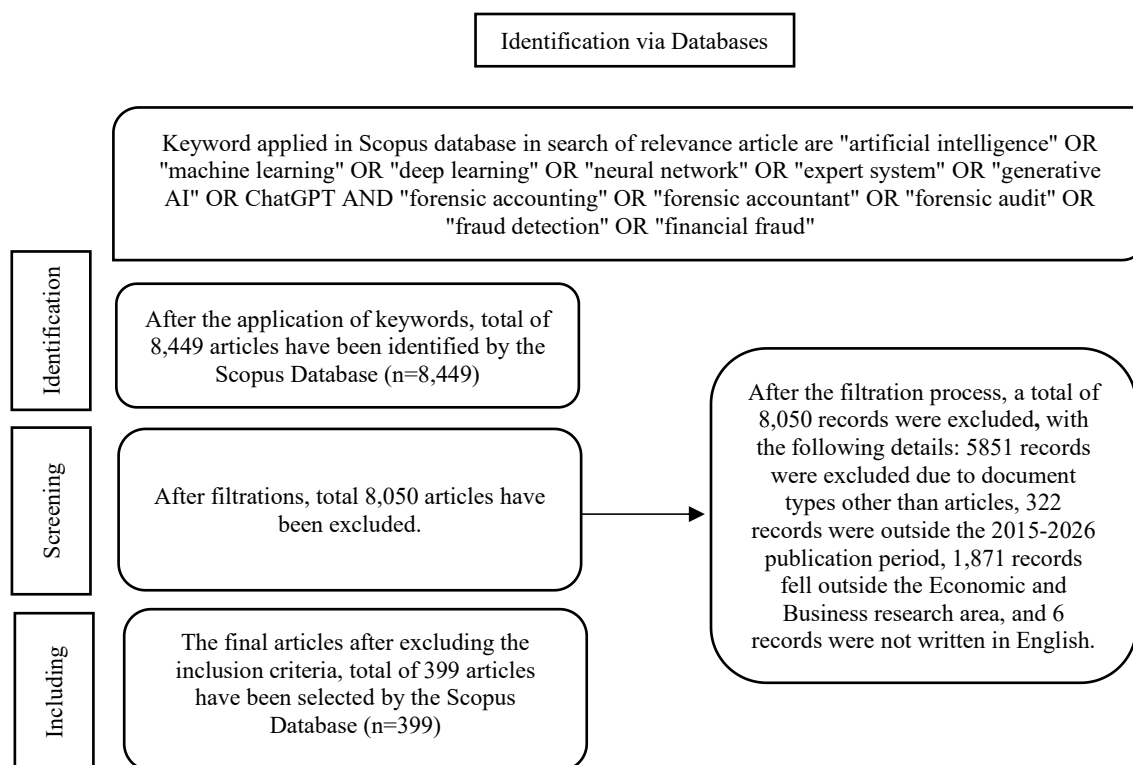


Figure 1. PRISMA Framework

Table 1. Summary of Searching Details

Criteria	Description
Source website	Scopus Database
Years	January 2015 - Juli 2026
Searching terms	"artificial intelligence" OR "machine learning" OR "deep learning" OR "neural network" OR "expert system" OR "generative AI" OR ChatGPT AND "forensic accounting" OR "forensic accountant" OR "forensic audit" OR "fraud detection" OR "financial fraud"
Language	English
Subject areas	Business, Management and Accounting; Economics, Econometrics and Finance
Inclusion criteria	Articles
Exclusion criteria	Book chapters, Conference paper, Review, Book

Table 1 summarizes the bibliographic search strategy applied in this study. The

bibliographic data were obtained from the Scopus database through a structured search protocol to ensure the systematic identification of relevant publications. The search was limited to studies published between January 2015 and July 2026. To achieve a comprehensive coverage of the research domain, the search strategy combined keywords related to artificial intelligence, including "artificial intelligence", "machine learning", "deep learning", "neural network", "expert system", "generative AI", and "ChatGPT", with keywords related to forensic accounting, namely "forensic accounting", "forensic accountant", "forensic audit", "fraud detection", and "financial fraud". The search was restricted to English-language publications indexed within the fields of Business, Management and Accounting, and Economics, Econometrics and Finance to maintain thematic relevance and disciplinary consistency (Aria & Cuccurullo, 2017; Donthu et al., 2021).

Following the identification stage, the retrieved documents were screened based on predefined inclusion and exclusion criteria to obtain a dataset aligned with the research objectives. Only journal articles were included in the final analysis, while book chapters, conference papers, reviews, and books were excluded to ensure consistency in document types and improve the comparability of bibliometric indicators (Zupic & Čater, 2015). The screening process resulted in a final dataset of 399 articles that met all eligibility criteria. Among these publications, 304 articles were classified under Business, Management and Accounting, while 185 articles were categorized within Economics, Econometrics and Finance. The difference between the number of publications across subject areas and the final number of documents is attributed to Scopus' multiple subject classification system, which allows a single article to be assigned to more than one research field. The validated dataset was subsequently exported from Scopus in BibTeX format and imported into Biblioshiny, a web-based interface of the Bibliometrix package operated through RStudio, to conduct performance analysis, science mapping, and thematic visualization (Aria & Cuccurullo, 2017).

RESULT AND DISCUSSION

Table 2 summarizes the bibliographic dataset retrieved from the Scopus. The table presents the principal descriptive features of the corpus, including authorship profiles, patterns of scholarly collaboration, document classifications, and the core content characteristics of the publications.

Table 2. Main Information About Data

MAIN INFORMATION ABOUT DATA	
Timespan	2015:2026
Sources (Journals, Books, etc)	203
Documents	399
Annual Growth Rate %	42.84
Document Average Age	2.15
Average citations per doc	20.97
References	0
DOCUMENT CONTENTS	

Keywords Plus (ID)	878
Author's Keywords (DE)	1284
AUTHORS	
Authors	1152
Authors of single-authored docs	58
AUTHORS COLLABORATION	
Single-authored docs	59
Co-Authors per Doc	3.16
International co-authorships %	25.06
DOCUMENT TYPES	
article	399

Source: Data processed using Biblioshiny, 2026

The Annual Scientific Production and the Annual Scientific Production are presented and discussed in the following section, as illustrated in the figure below.

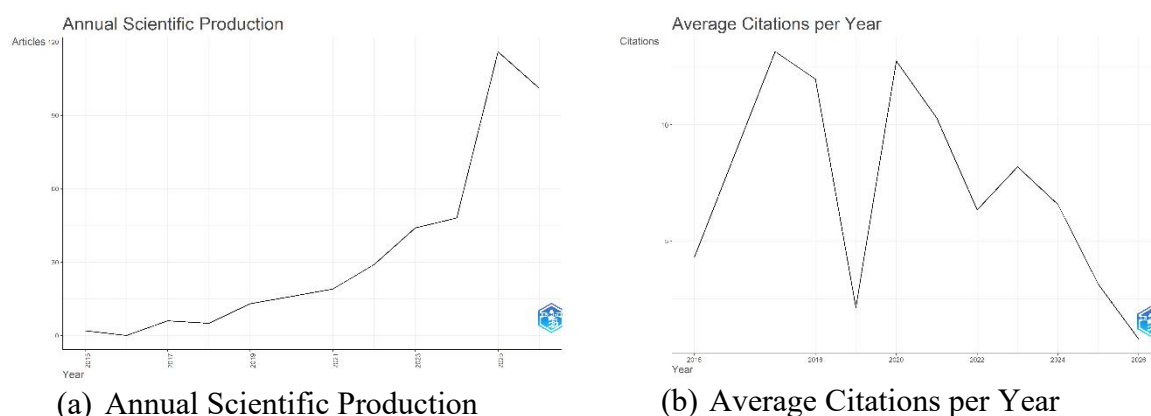


Figure 2. Annual Scientific Production and Average Citations Per Year

Annual Scientific Production

Figure 2a presents the annual scientific production on artificial intelligence (AI) in forensic accounting between 2015 and 2026. Overall, the number of publications shows a clear upward trend, although the pace of growth differs across the observed period. In the early years, research activity was still limited, with only two publications in 2015 and no indexed publications in 2016. The number of studies gradually increased to six in 2017 and five in 2018, before continuing to rise to 13 publications in 2019. Publication output continued to grow during 2020 and 2021, reaching 16 and 19 articles, respectively, suggesting that scholarly attention to this topic had begun to strengthen.

The growth became more evident after 2021. Annual publications increased from 29 in 2022 to 44 in 2023 and 48 in 2024, indicating that AI applications in forensic accounting were receiving broader attention from the research community. The sharpest increase occurred in 2025, when the number of publications reached 116 articles, making it the most productive year in the dataset. Although 2026 records 101 publications, this value represents only publications indexed

up to July 2026. Therefore, the total output for 2026 is likely to increase as additional publications are indexed later in the year.

The overall trend suggests that research on AI in forensic accounting has expanded considerably over the past decade. This development is consistent with the increasing adoption of AI-based techniques for fraud detection, forensic investigation, and financial data analysis, as well as the growing need for more effective analytical tools to address increasingly sophisticated financial crimes.

Average Citations Per Year

Figure 2b presents the average citation impact of publications on artificial intelligence (AI) in forensic accounting based on the year of publication. As expected, older publications generally receive more citations because they have had a longer period to accumulate scholarly attention. This pattern is reflected in the Citable Years column, where earlier publications have a longer citation window than more recent ones. The highest average citation per article was recorded in 2017, with 131.67 citations per publication, followed by 2018 (107.80) and 2020 (89.31). Although the number of articles published during these years was relatively modest, their citation performance indicates that several studies made substantial contributions to the development of the field. Publications from 2015 also show a relatively high citation impact, averaging 51.50 citations per article despite there being only two publications.

For articles published from 2021 onward, the average number of citations per article gradually declines. This should not be interpreted as a decrease in research quality, but rather as a consequence of the shorter time available for recently published studies to accumulate citations. The same trend is evident in the average citations per year, which remain relatively high for influential publication years such as 2017 and 2020 but decline for publications issued in 2025 and 2026. In particular, the low citation values observed in 2026 reflect the fact that these articles have been citable for only one year. Overall, the citation pattern suggests that several earlier publications have played a foundational role in shaping subsequent research on AI in forensic accounting, while the rapid increase in publication output during recent years has not yet been fully reflected in citation counts because many of these studies are still in the early stages of their citation life cycle.

The information about Three Field Plot are presented and discussed in the following section, as illustrated in the figure below.

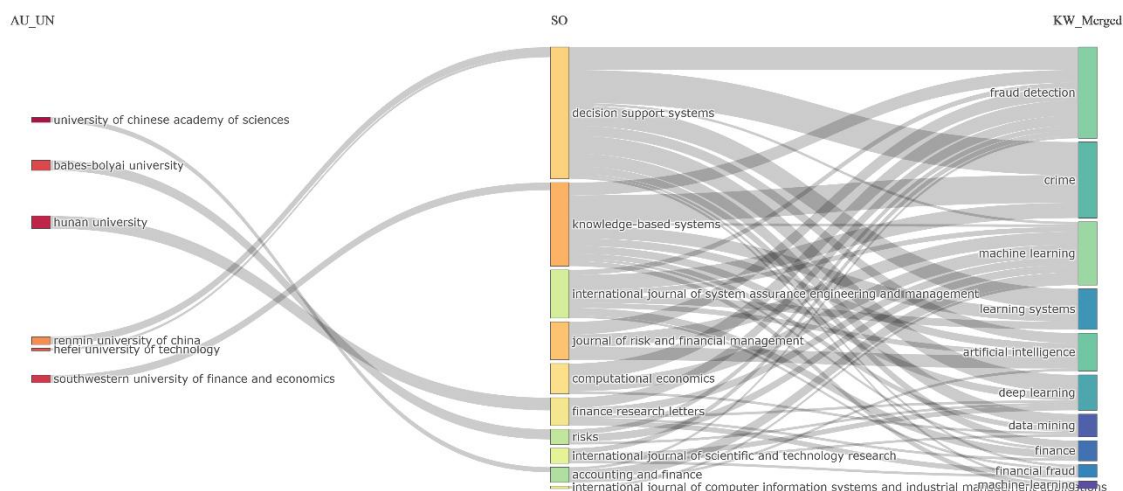


Figure 3. Three Field Plot

Figure 3 presents a Three-Field Plot depicting the relationships among author affiliations (AU_UN), publication sources (SO), and author keywords (KW_Merged) in forensic accounting research. The visualization shows that institutions from China, including the University of Chinese Academy of Sciences, Hunan University, Renmin University of China, Hefei University of Technology, Southwestern University of Finance and Economics, and Babes-Bolyai University, contribute substantially to the literature published in journals such as Decision Support Systems, Knowledge-Based Systems, International Journal of System Assurance Engineering and Management, Journal of Risk and Financial Management, and Computational Economics. These publication outlets are strongly associated with research themes centered on fraud detection, crime, machine learning, artificial intelligence, deep learning, learning systems, data mining, financial fraud, and finance. Among these topics, fraud detection appears as the most prominent keyword, reflecting the growing emphasis on intelligent computational approaches for identifying fraudulent activities. The dense connections between research institutions, journals, and keywords suggest that recent studies increasingly integrate advanced artificial intelligence and machine learning techniques into fraud detection and financial crime analysis. Overall, the Three-Field Plot indicates a well-established research network in which Chinese academic institutions play a leading role in advancing data-driven forensic accounting research through interdisciplinary collaborations across information systems, finance, and artificial intelligence.

Most Relevant Author, Affiliations, Sources, and Words

Figure 4 presents an overview of the most influential authors, affiliations, publication sources, and keywords in research on the application of artificial intelligence in forensic accounting. The author dimension identifies the researchers with the highest publication productivity, highlighting the individuals who have made the most significant contributions to this emerging field. The affiliation dimension illustrates the universities and research institutions that are most actively engaged in advancing AI-driven forensic accounting studies. The source dimension identifies the journals that serve as the primary publication outlets for this research, reflecting the interdisciplinary integration of accounting, finance, information systems, and artificial intelligence. Finally, the keyword dimension summarizes the most frequently used terms in the literature, revealing the dominant research themes, particularly the application of machine

learning, fraud detection, artificial intelligence, deep learning, and data mining in detecting financial fraud, supporting forensic investigations, and enhancing decision-making processes.

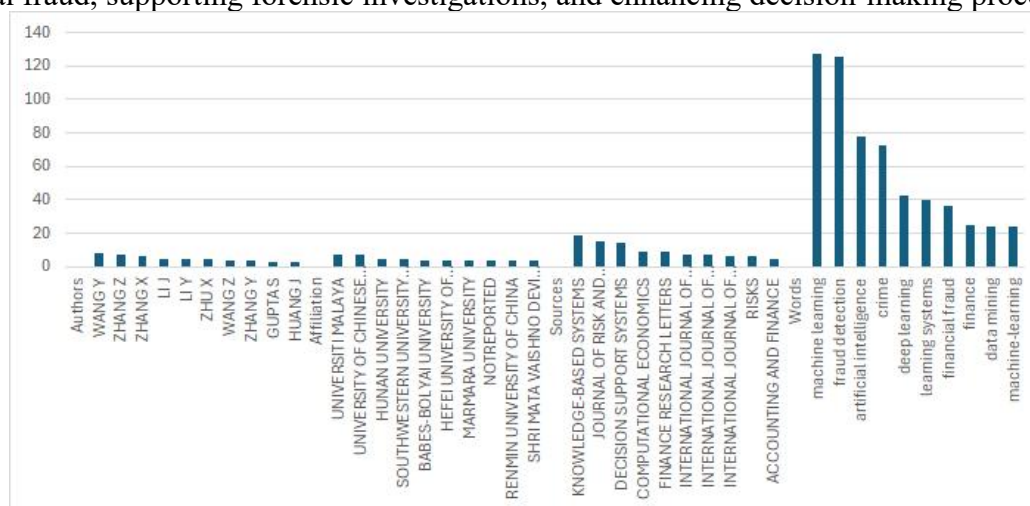


Figure 4. Most Relevant Author, Affiliations, Sources, and Word

Most Relevant Author

The listed authors represent the most influential contributors to research on the application of artificial intelligence in forensic accounting. Wang Y. emerges as the most productive author with 8 publications, indicating a leading role in advancing this research area. Zhang Z. follows with 7 articles, demonstrating consistent scholarly contributions, while Zhang X. ranks third with 6 publications. Li J., Li Y., and Zhu X., each with 5 publications, also exhibit sustained research activity, contributing to the development of AI-based approaches for fraud detection and financial crime analysis. Other active scholars, including Wang Z. and Zhang Y. (4 publications each), together with Gupta S. and Huang J. (3 publications each), further enrich the literature through their contributions across machine learning, financial fraud detection, and intelligent decision-support applications.

Most Relevant Affiliations

The listed affiliations represent the leading institutional contributors to research on artificial intelligence in forensic accounting. Universiti Malaya and the University of Chinese Academy of Sciences rank as the most productive institutions, each contributing 7 publications, reflecting their strong research engagement in this interdisciplinary field. They are followed by Hunan University and the Southwestern University of Finance and Economics, each with 5 publications, demonstrating continued institutional commitment to AI-driven financial fraud research. A second group of active institutions includes Babes-Bolyai University, Hefei University of Technology, Marmara University, Renmin University of China, and Shri Mata Vaishno Devi University, each contributing 4 publications. Collectively, these affiliations highlight the prominent role of Asian universities, particularly those in China and Malaysia, in shaping the development of artificial intelligence applications for forensic accounting and fraud detection.

Most Relevant Source

In terms of publication outlets, the literature is concentrated in journals that emphasize artificial intelligence, decision support, financial analytics, and computational methods. Knowledge-Based Systems emerges as the most relevant publication source with 19 articles,

confirming its central role in disseminating research on intelligent systems and AI applications. It is followed by the Journal of Risk and Financial Management with 15 publications and Decision Support Systems with 14 publications, illustrating the growing integration of artificial intelligence with financial risk management and forensic decision-making. Other important journals include Computational Economics and Finance Research Letters, each publishing 9 articles, while the International Journal of Computer Information Systems and Industrial Management Applications and the International Journal of Scientific and Technology Research each contribute 7 publications. Additional contributions from the International Journal of System Assurance Engineering and Management, Risks, and Accounting and Finance further demonstrate the interdisciplinary nature of this research domain, spanning accounting, finance, computer science, and intelligent information systems.

Most Relevant Words

The keyword frequency distribution reveals the conceptual landscape of artificial intelligence research in forensic accounting. Machine learning appears as the most frequently occurring keyword with 127 occurrences, closely followed by fraud detection with 126 occurrences, highlighting the central role of predictive analytics in detecting financial misconduct. Other highly recurrent terms include artificial intelligence (78 occurrences) and crime (73 occurrences), indicating that the literature increasingly focuses on applying intelligent computational techniques to financial crime investigation. Related concepts such as deep learning (43 occurrences) and learning systems (40 occurrences) reflect the adoption of advanced AI methodologies, while financial fraud (36 occurrences) reinforces the field's emphasis on fraud prevention and investigation. The presence of finance (25 occurrences), data mining (24 occurrences), and machine-learning (24 occurrences) further demonstrates that recent studies increasingly combine data-driven analytical techniques with forensic accounting practices to improve fraud detection accuracy, automate investigative processes, and support financial decision-making. Collectively, these keywords characterize a research domain that is rapidly evolving toward intelligent, data-centric, and technology-enabled forensic accounting.

Most Productive Journals

Table 3 presents the most productive journals publishing research on artificial intelligence in forensic accounting. In addition to publication outlets, the table reports each journal's H-index, the most cited article, total citations, citations per year, and publisher. These bibliometric indicators provide a broader perspective on the scientific influence and academic reputation of the journals that have played a central role in disseminating knowledge on AI-driven fraud detection, financial crime analysis, and forensic accounting. Collectively, this information helps identify the leading publication venues that shape the intellectual development of this rapidly evolving research domain.

Table 3. Most Productive Journals

Journal	H-Index	The Most Cited Article	Total Citations	TC per Year	Publisher
International Journal of Financial Studies	43	Industry 4.0 in Finance: The Impact of Artificial Intelligence (AI) on Digital Financial Inclusion	445	63,6	MDPI

Knowledge-Based Systems	206	A review of deep learning with special emphasis on architectures, applications and recent trends	398	56,9	Elsevier B.V
Strategic Change	52	Artificial intelligence and fintech: An overview of opportunities and risks for banking, investments, and microfinance	298	49,7	John Wiley & Sons Inc
Knowledge-Based Systems	206	Mining corporate annual reports for intelligent detection of financial statement fraud – A comparative study of machine learning methods	293	29,3	Elsevier B.V.
Decision Support Systems	203	Leveraging deep learning with LDA-based text analytics to detect automobile insurance fraud	293	32,6	Elsevier B.V.
Accounting and Finance	77	Predicting accounting fraud using imbalanced ensemble learning classifiers – evidence from China	238	59,5	John Wiley and Sons Inc
Business Horizons	141	Designing, developing, and deploying artificial intelligence systems: Lessons from and for the public sector	236	33,7	Elsevier Ltd
Decision Support Systems	203	Deep learning for detecting financial statement fraud	229	32,7	Elsevier B.V.
Decision Support Systems	203	A data mining based system for credit-card fraud detection in e-tail	222	22,2	Elsevier B.V.
Journal of Management Information Systems	189	Leveraging Financial Social Media Data for Corporate Fraud Detection	207	23	Routledge

Table 3 summarizes the most productive and influential journals publishing research on artificial intelligence (AI) in forensic accounting, as reflected by the citation performance of the most cited articles in each journal. Overall, journals published by Elsevier dominate the list, particularly Knowledge-Based Systems and Decision Support Systems, both of which have high H-index values (206 and 203, respectively) and multiple highly cited articles. This indicates that these journals serve as major publication outlets for research at the intersection of AI, machine

learning, and financial fraud detection. The most cited article in the dataset was published in the International Journal of Financial Studies, entitled Industry 4.0 in Finance: The Impact of Artificial Intelligence (AI) on Digital Financial Inclusion, which has accumulated 445 citations with an average of 63.6 citations per year. Other highly influential contributions include review articles on deep learning, studies on financial statement fraud detection, insurance fraud detection, and accounting fraud prediction, many of which were published in high-impact journals such as Knowledge-Based Systems, Decision Support Systems, Accounting and Finance, and the Journal of Management Information Systems. The distribution of these journals suggests that research on AI in forensic accounting is inherently interdisciplinary, drawing not only from accounting and finance journals but also from information systems, decision sciences, and artificial intelligence outlets. This pattern reflects the increasingly important role of advanced analytical techniques in addressing complex fraud detection and forensic investigation challenges.

Countries Scientific Production

Figure 5 shows the results of a bibliometric analysis illustrating the scientific contributions of various countries worldwide based on the number of publications produced. This analysis aims to identify the most productive countries in terms of scientific output, reflecting the extent of their contribution to the global literature in this research field. China ranks first with 1,105 publications, followed by the United States in second place with 851 publications, indicating that both countries function as major global centers of research and development with a dominant role in shaping the scientific discourse. Germany occupies the third position with 438 publications, while the United Kingdom ranks fourth with 326 publications, highlighting their strong and consistent research capacity in this domain.

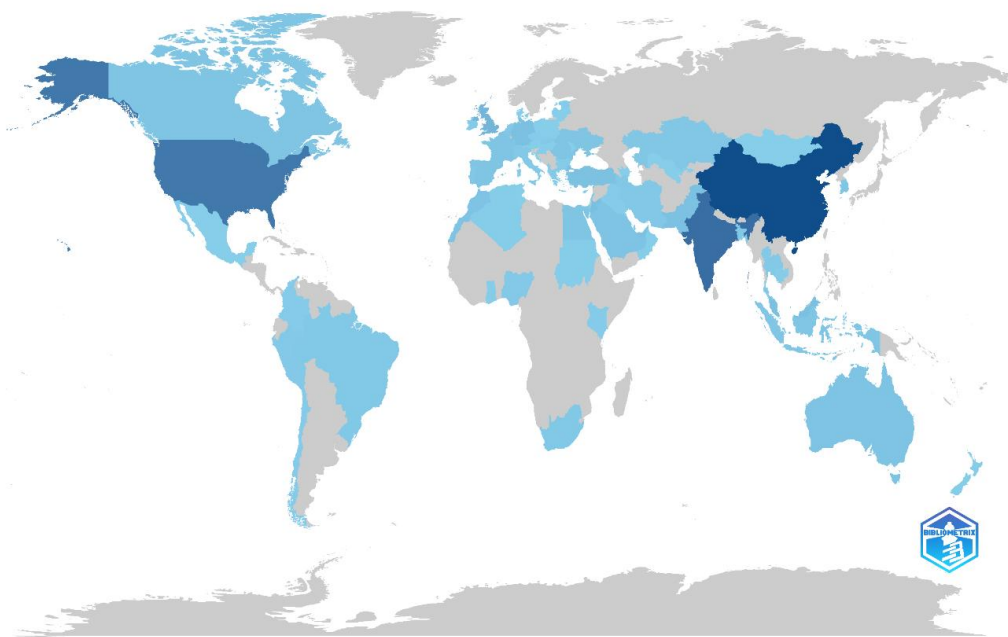


Figure 4. Countries Scientific Production

Figure 4. presents the geographical distribution of publications on artificial intelligence (AI) in forensic accounting, revealing that research activity is concentrated in a relatively small

number of countries. China ranks first with 179 publications, followed by India (132) and the United States (116). Together, these three countries account for a substantial share of the total scientific output, highlighting their leading role in advancing AI applications for fraud detection, forensic auditing, and financial analytics. Beyond these major contributors, research productivity declines considerably, with the United Kingdom (33), Jordan (20), Malaysia (19), Germany (18), Turkey (17), and the United Arab Emirates (17) forming a second tier of active contributors. The distribution also demonstrates growing participation from both developed and developing economies, including Indonesia, South Korea, Brazil, South Africa, Thailand, and several countries in the Middle East and Eastern Europe. Indonesia, with 11 publications, has begun to establish a presence in this research area, although its contribution remains modest compared with the leading countries. Overall, the broad geographical spread of publications indicates that AI in forensic accounting has attracted global academic interest. However, the uneven distribution of research output suggests that expertise and research capacity remain concentrated in countries with stronger investments in artificial intelligence, digital technologies, and research infrastructure, while many other countries are still in the early stages of developing this field.

Most Cited Countries

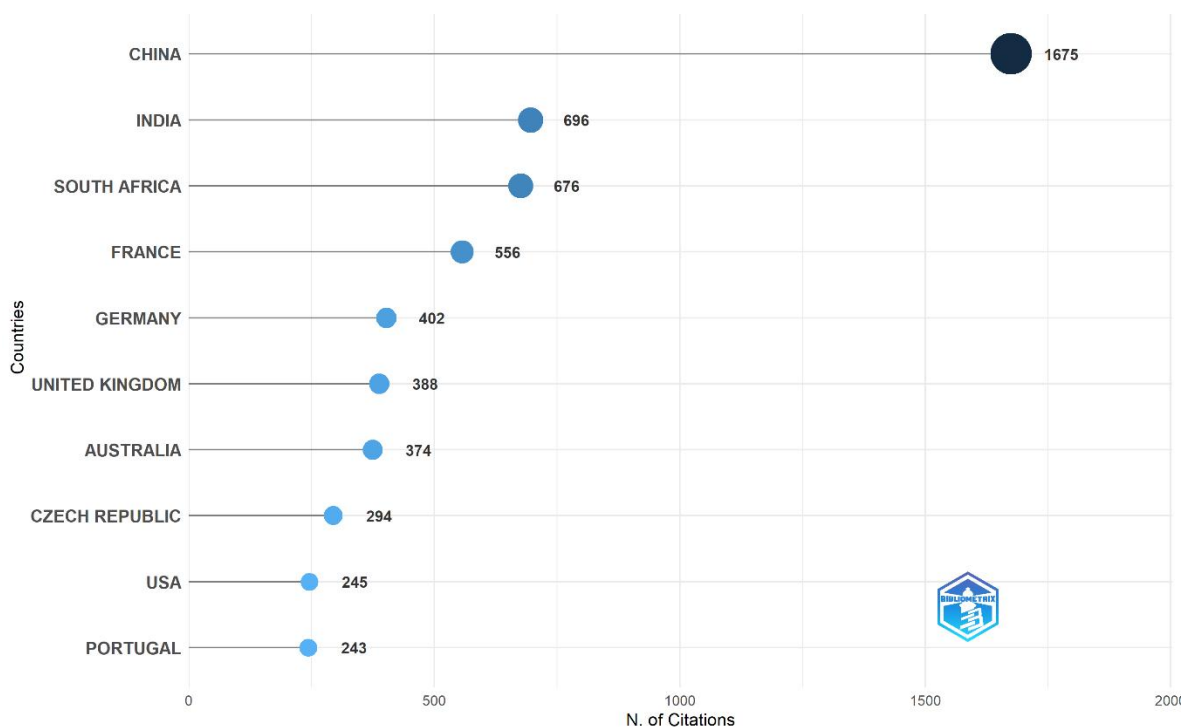


Figure 5. Most Cited Countries

Figure 5 presents the citation performance of the most influential countries in research on artificial intelligence (AI) in forensic accounting. In terms of total citations, China ranks first with 1,675 citations, confirming its prominent role in shaping the development of this research field. India follows with 696 citations, reflecting its growing contribution to AI-related studies in accounting and fraud detection. Although the United States is among the leading contributors in publication output, it records 245 total citations with an average of 8.4 citations per article,

suggesting that many of its publications are relatively recent and have not yet accumulated substantial citation impact.

A different pattern emerges when citation quality is assessed using the average number of citations per article. The Czech Republic records the highest average with 147 citations per article, followed by South Africa (135.2) and Portugal (81.0). Despite producing fewer publications than the leading countries, these nations have generated highly influential studies that have attracted considerable scholarly attention. France also demonstrates strong research visibility, with 556 total citations and an average of 79.4 citations per article, while Germany (402 total citations; 50.2 citations per article), Australia (374; 46.8), and the United Kingdom (388; 43.1) maintain consistently high citation performance, indicating both sustained research activity and strong academic influence.

Overall, the findings suggest that citation impact is not determined solely by publication volume. While China dominates in total citations because of its extensive research output, several countries with comparatively fewer publications, such as the Czech Republic, South Africa, and Portugal, achieve much higher average citation rates, indicating that their contributions have had a particularly strong influence on subsequent research. These results highlight the geographically diverse nature of impactful scholarship in AI and forensic accounting, where both research productivity and publication quality contribute to the advancement of the field.

Corresponding's Author Countries

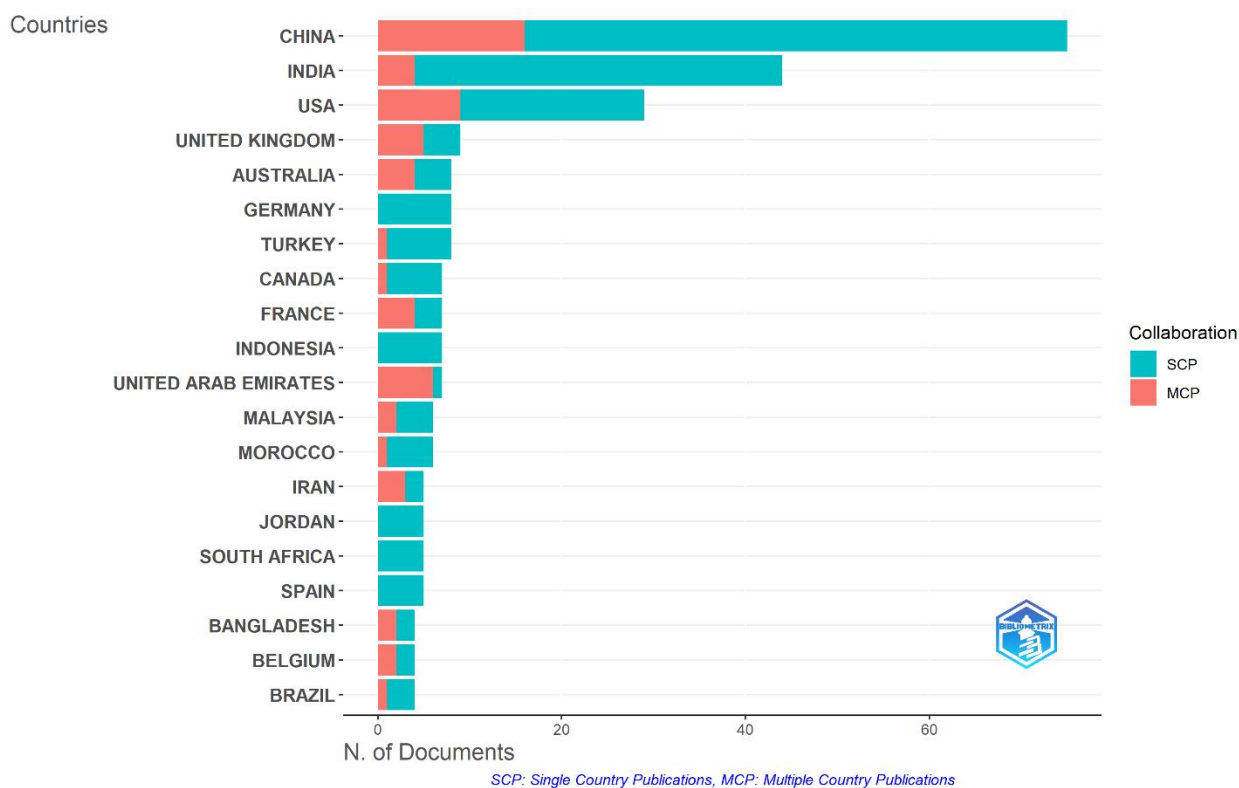


Figure 6. Corresponding's Author Countries

Figure 6 presents the distribution of publications based on the corresponding authors' countries, distinguishing between Single Country Publications (SCP) and Multiple Country Publications (MCP). This classification provides an overview of each country's research productivity as well as its level of international collaboration. China ranks first with 75 publications, accounting for 18.80% of the total output. Most of these publications were produced through domestic collaboration, as indicated by 59 SCPs, while 16 articles involved international co-authorship, resulting in an MCP share of 21.33%. India follows with 44 publications (11.03%), where research is also largely driven by domestic institutions, with 40 SCPs and only four MCPs. The United States ranks third with 29 publications (7.27%) and records a higher proportion of internationally collaborative research, with nine MCPs representing 31.03% of its total publications. These findings suggest that the leading contributors to AI in forensic accounting research possess strong national research capacity while simultaneously maintaining varying degrees of engagement with international partners.

A different collaboration pattern is observed among countries with relatively smaller publication outputs. The United Arab Emirates records the highest level of international collaboration, with six of its seven publications involving co-authors from multiple countries, corresponding to an MCP rate of 85.71%. France (57.14%), Iran (60.00%), the United Kingdom (55.56%), Australia (50.00%), Bangladesh (50.00%), and Belgium (50.00%) also demonstrate a strong reliance on international partnerships, indicating that cross-border collaboration plays an important role in their research activities. In contrast, Germany, Indonesia, Jordan, South Africa, and Spain produced all of their publications as SCPs, reflecting a predominantly domestic research orientation during the study period. Overall, these results reveal two complementary approaches to knowledge production in AI and forensic accounting: some countries rely primarily on well-established national research ecosystems, while others strengthen their scientific contribution through extensive international collaboration, thereby enhancing the exchange of expertise and broadening the global reach of their research.

Word TreeMap and Trending Research Topics

Figure 7 presents the most frequently occurring author keywords in publications on artificial intelligence (AI) in forensic accounting. Author keywords provide a concise representation of the main concepts addressed in the literature and are widely used in bibliometric studies to identify dominant research themes and emerging areas of interest. By examining keyword occurrence, it is possible to understand how the field has evolved, which topics have received the greatest scholarly attention, and the extent to which AI technologies have been applied to address challenges in forensic accounting and fraud investigation.

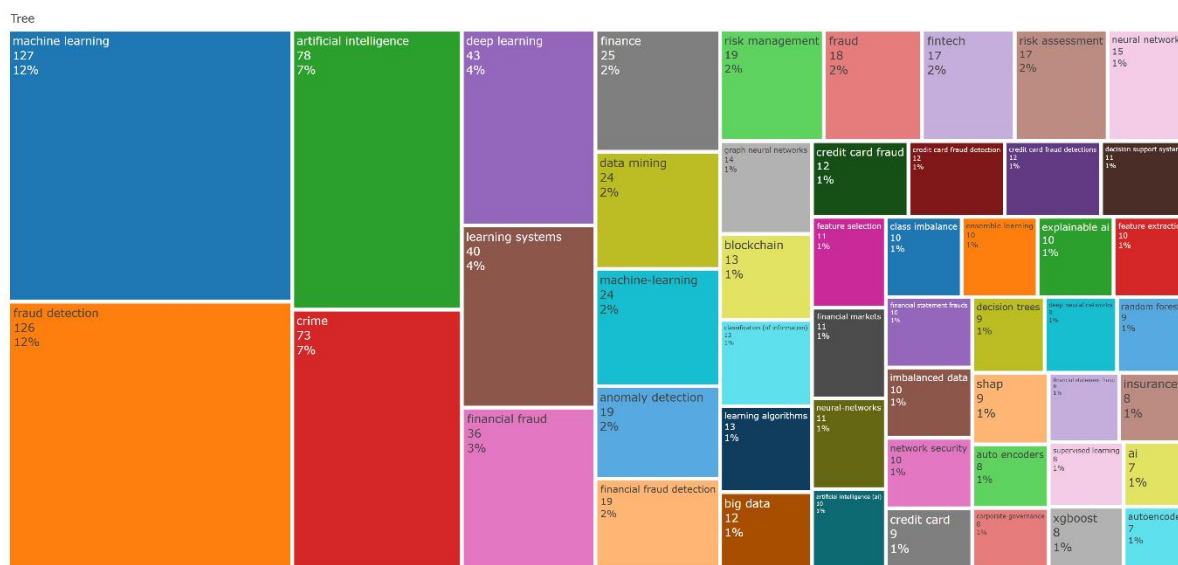


Figure 7. Word TreeMap

The results show that machine learning (127 occurrences) and fraud detection (126 occurrences) are the most frequently used keywords, indicating that the current literature is primarily focused on developing intelligent models for detecting fraudulent financial activities. The keyword artificial intelligence ranks third with 78 occurrences, followed by crime (73), suggesting that AI applications in forensic accounting extend beyond conventional auditing to broader issues related to financial crime investigation. Other frequently occurring terms, such as deep learning (43), learning systems (40), financial fraud (36), and data mining (24), further highlight the growing adoption of advanced computational techniques for analysing large and complex financial datasets. At the same time, the presence of keywords including anomaly detection, risk management, risk assessment, graph neural networks, blockchain, big data, and credit card fraud detection reflects the diversification of research topics and the integration of emerging technologies into forensic accounting practices. Collectively, these findings suggest that the field has evolved from traditional fraud detection approaches toward more sophisticated, data-driven analytical frameworks, with increasing emphasis on predictive modelling, intelligent decision support, and technology-enabled financial crime prevention.

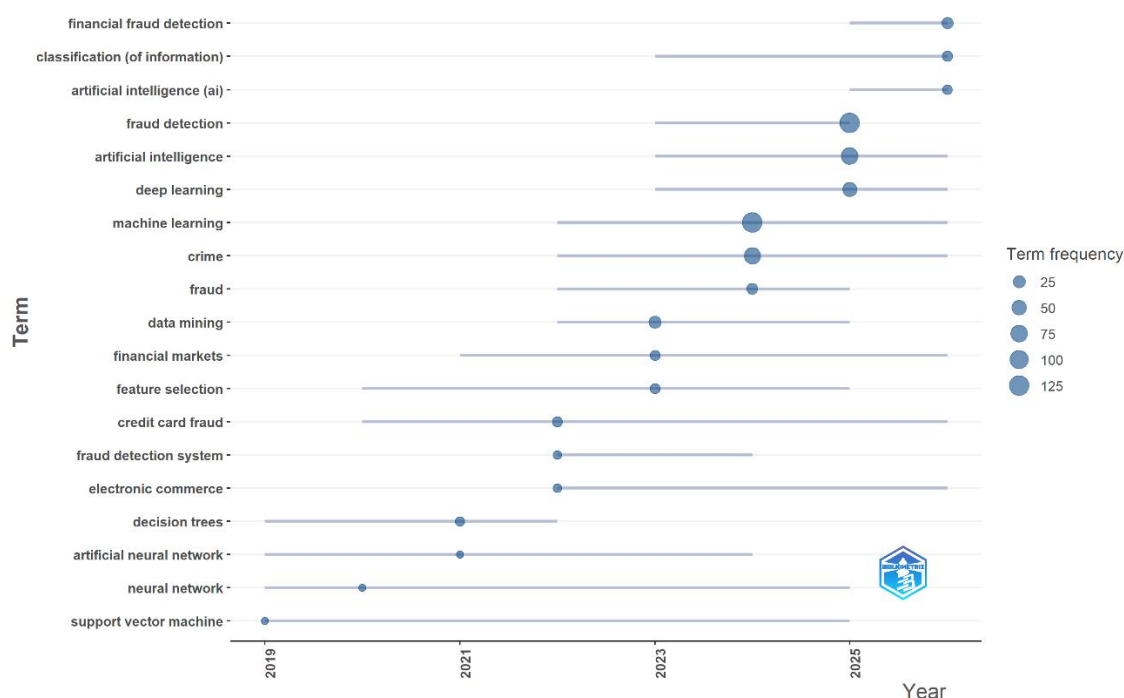


Figure 8. Trending Research Topics

Figure 8 illustrates the temporal evolution of the most frequently used keywords in research on artificial intelligence (AI) in forensic accounting by presenting the first quartile (Q1), median, and third quartile (Q3) publication years for each term. The results reveal a clear shift in research priorities over time. During the earlier stages of the field, studies were largely centred on established machine learning techniques, including support vector machine, neural network, artificial neural network, and decision trees, whose median publication years fall between 2019 and 2021. These methods formed the methodological foundation for developing predictive models aimed at fraud detection and financial data classification. At the same time, application-oriented topics such as credit card fraud, fraud detection system, and electronic commerce began to emerge, reflecting growing interest in addressing practical fraud-related problems through data-driven approaches.

From 2022 onward, the thematic focus became noticeably broader and more technology-oriented. Keywords such as machine learning, artificial intelligence, deep learning, fraud detection, and crime show median publication years in 2024-2025, indicating that these topics have become the dominant focus of recent studies. Emerging terms including financial fraud detection, artificial intelligence (AI), and classification (of information) are concentrated in 2025-2026, suggesting that the field is increasingly moving toward more advanced AI applications and intelligent classification techniques for financial crime investigation. The continued prominence of data mining, feature selection, and financial markets further demonstrates that researchers are not only improving predictive performance but also exploring richer data sources and more sophisticated analytical methods. Overall, the temporal distribution of keywords suggests that research on AI in forensic accounting has evolved from testing individual machine learning algorithms to developing integrated AI-based solutions capable of supporting fraud detection, risk assessment, and forensic decision-making in increasingly complex financial environments.

Author Productivity Based on Lotka's Law

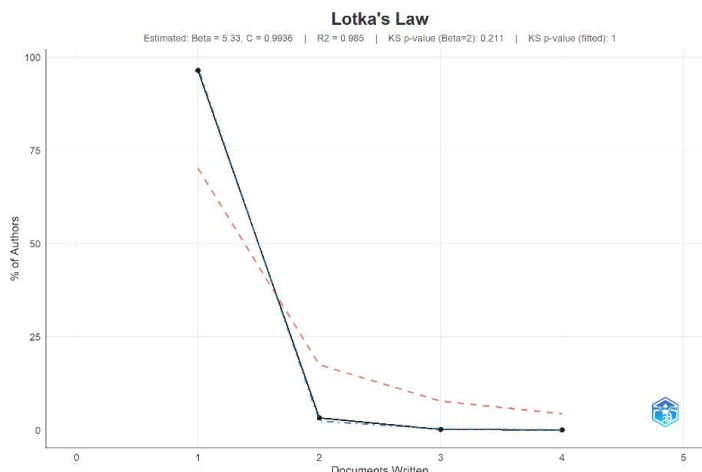


Figure 9. Lotka's Law

Table 4. Lotka's Inverse Power Law Model

$f(n) = C / n^\beta$	
Estimated β (slope)	5.3282
Theoretical β	2.0000
Constant (C)	0.9936
R^2	0.985

Author productivity was analyzed using Lotka's Inverse Power Law to examine whether the distribution of author productivity in artificial intelligence in forensic accounting research follows the pattern proposed by Lotka. The results show that the author productivity distribution fits the model $f(n)=C/n^\beta$, with an empirical β value of 5.3282, a constant (C) of 0.9936, and a coefficient of determination (R^2) of 0.985. The high R^2 value indicates that the estimated model provides a strong representation of the observed author productivity distribution, explaining approximately 98.5% of the variation in the empirical data.

The empirical β value (5.33) is considerably higher than Lotka's theoretical value ($\beta = 2$), indicating that author productivity in this research field declines more sharply than predicted by the classical Lotka model. In other words, most researchers contribute to only one or a small number of publications, while only a limited group of authors consistently produce a substantial number of articles. This pattern suggests that research on AI in forensic accounting is still dominated by authors with relatively low publication productivity, with only a small number of core contributors driving the development of knowledge in this emerging field.

Table 5. Kolmogorov-Smirnov Goodness-of-Fit Tests

Test 1: Empirical vs Theoretical ($\beta = 2$)	
KS Statistic (D)	0.75
p-value	0.211
Test 2: Empirical vs Fitted ($\beta = 5.33$)	
KS Statistic (D)	0.25
p-value	1

The goodness of fit between the empirical distribution and Lotka's Law was further examined using the Kolmogorov Smirnov (K-S) Goodness-of-Fit Test. The test using Lotka's theoretical model ($\beta = 2$) produced a KS Statistic (D) value of 0.75 with a p-value of 0.211. Since the p-value is greater than 0.05, there is no statistically significant difference between the empirical distribution and the theoretical distribution. Therefore, author productivity in this field can be considered consistent with the general principles of Lotka's Law.

Furthermore, the test based on the estimated model ($\beta = 5.33$) resulted in a KS Statistic (D) value of 0.25 with a p-value of 1.000, indicating an excellent fit between the empirical model and the observed data. These findings suggest that although author productivity is more concentrated among researchers with a small number of publications compared with the classical Lotka model, the overall distribution pattern remains consistent with the characteristics of Lotka's Law.

Based on these findings, research on artificial intelligence in forensic accounting remains an emerging field involving many new researchers who generally contribute only one or two publications. Meanwhile, only a limited number of authors demonstrate high productivity and act as core contributors driving knowledge development in this area. This pattern indicates that AI research in forensic accounting is still relatively new and highly multidisciplinary, attracting scholars from various fields, including accounting, computer science, data science, and information systems. Consequently, single-contribution authors remain dominant compared with researchers who continuously publish studies within this specific research domain.

Core Journals Based on Bradford's Law

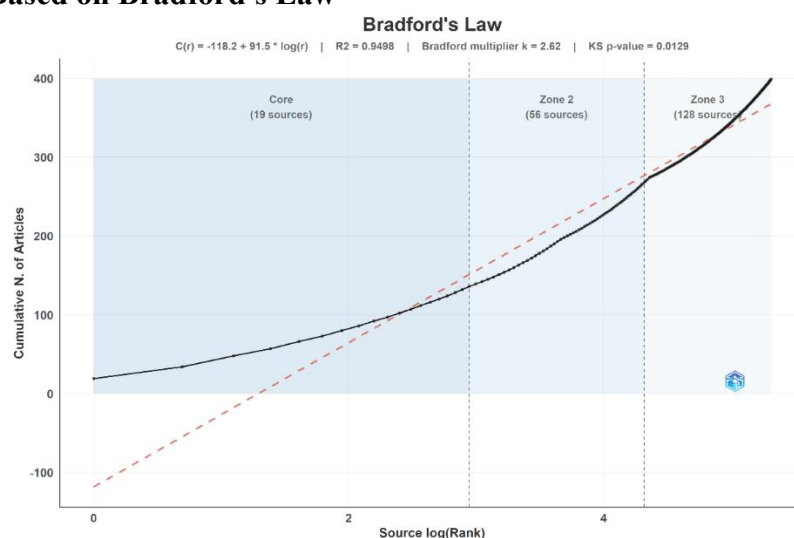


Figure 10. Bradford's Law

Table 6. Bradford Distribution Model

$C(r) = -118.2 + 91.45 \cdot \log(r)$	
Intercept (a)	-118.2004
Slope (b)	91.4543
R²	0.9498
Bradford Multiplier (k)	2.62

Table 7. Kolmogorov-Smirnov Goodness-of-Fit Tests

Test 1: Empirical vs Theoretical ($\beta = 2$)	
KS Statistic (D)	0.1576
p-value	0.0129

Table 8. Zone Summary

Zone	N. Sources	Sources	N. Articles	% Articles
Zone 1	19	9.4%	136	34.1%
Zone 2	56	27.6%	132	33.1%
Zone 3	128	63.1%	131	32.8%
Total	203	100%	399	100%

Bradford's Law analysis shows that the 399 publications were distributed across 203 journals and could be classified into three Bradford zones. The core zone consisted of 19 journals (9.4%), which accounted for 136 articles (34.1%), while the second zone included 56 journals (27.6%) contributing 132 articles (33.1%). The third zone comprised 128 journals (63.1%), which produced 131 articles (32.8%). This distribution indicates that approximately one-third of the publications were concentrated in a relatively small number of core journals, whereas most journals contributed only a limited number of articles, consistent with the principles of Bradford's Law.

The Bradford model demonstrated a strong goodness of fit with an R^2 value of 0.9498 and a Bradford multiplier of 2.62, indicating that the number of journals increased approximately 2.6 times in each zone to produce a relatively similar number of articles. However, the Kolmogorov-Smirnov test results ($D = 0.1576$; $p = 0.0129$) indicate that the empirical distribution differs significantly from the theoretical Bradford distribution. Therefore, although publication output is concentrated within core journals, the overall distribution does not fully conform to the ideal Bradford pattern. This deviation may be attributed to the increasing contribution of multidisciplinary and open-access journals in this rapidly expanding research field.

CONCLUSION

This study maps the global development of research on Artificial Intelligence (AI) in forensic accounting based on 399 Scopus-indexed articles published between 2015 and July 2026 using a bibliometric approach. The findings reveal rapid growth in this research field, with an annual growth rate of 42.84%, particularly since 2022, driven by the increasing adoption of AI for fraud detection, financial investigation, and data analytics. China emerged as the most productive and influential country in terms of publications and citations, while Knowledge-Based Systems and Decision Support Systems were identified as core journals contributing to the intellectual development of this field.

From a conceptual perspective, research on AI in forensic accounting is mainly centered on machine learning, fraud detection, artificial intelligence, and deep learning, with a growing shift toward advanced technologies such as generative AI and data-driven analytical systems. Lotka's Law analysis indicates that the field remains in a growth phase, characterized by a large number of authors with limited publications, while Bradford's Law highlights the concentration of publications within a small group of core journals. Overall, this study provides a knowledge map of AI development in forensic accounting and highlights future research opportunities in Explainable AI, Responsible AI, Large Language Models, AI governance, and emerging technologies to support more effective audit and financial investigation systems.

REFERENCES

- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975.
- Association of Certified Fraud Examiners. (2024). *Occupational Fraud 2024: A Report to the Nations*. Association of Certified Fraud Examiners.
- Cerón, J., Rodríguez, M., & López, J. (2026). Artificial intelligence applications in auditing and forensic accounting: Emerging trends and research opportunities. *Journal of Accounting Literature*.
- Crumbley, D. L., Heitger, L. E., & Smith, G. S. (2017). *Forensic and Investigative Accounting* (9th ed.). CCH.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296.
- Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koochang, A., Raghavan, V., & Ahuja, M. (2023). “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>
- Fedyk, A., Hodson, J., Khimich, N., & Fedyk, T. (2022). Is artificial intelligence improving the audit process? *Review of Accounting Studies*.
- Kokina, J., & Davenport, T. H. (2017). The emergence of artificial intelligence: How automation is changing auditing. *Journal of Emerging Technologies in Accounting*, 14(1), 115–122.
- Lario, C. S. E., & Rohman, A. (2025). Forensic Accounting and Fraud Detection in Two Decades: A Bibliometric Study. *Jurnal Akuntansi dan Perpajakan*.
- Moll, J., & Yigitbasioglu, O. (2019). The role of internet-related technologies in shaping the work of accountants: New directions for accounting research. *The British Accounting Review*, 51(6), 100833.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Rezaee, Z., & Wang, J. (2019). Relevance of big data to forensic accounting practice and education. *Managerial Auditing Journal*, 34(3), 268–288.
- Sharon, C., Lario, E., & Rohman, A. (2025). Forensic Accounting and Fraud Detection in Two Decades: A Bibliometric Study. *Jurnal Akuntansi dan Perpajakan*, 11(2), 151–162. <http://jurnal.unmer.ac.id/index.php/ap>
- Sutton, S. G., Holt, M., & Arnold, V. (2023). The reports of my death are greatly exaggerated: Artificial intelligence research in accounting. *International Journal of Accounting Information Systems*, 50, 100641.
- Zakaria, Z. N. Z., Hussain, N. H. C., Awang, Y., & Shuhidan, S. M. (2025). Smart Forensics: Tracing the Rise of Artificial Intelligence in Forensic Accounting, Fraud Detection and Risk Management. *Information Management and Business Review*.
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>