JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
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MAPPING RESEARCH ON FORENSIC ACCOUNTING: A BIBLIOMETRIC REVIEW

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ABSTRACT
The increasing complexity of financial transactions, corporate fraud, and digital financial crimes has strengthened the role of forensic accounting as an essential discipline in fraud prevention, detection, and investigation. This study aims to map the development of forensic accounting research from 1987 to 2024 using a bibliometric approach based on the Scopus database. Data were collected using the keyword "forensic accounting" and analyzed using VOSviewer to examine publication trends, research themes, citation patterns, and international collaboration networks.
The results indicate a substantial increase in forensic accounting publications, particularly after 2020, reflecting growing academic and professional interest in fraud prevention and financial crime investigation. Keyword co-occurrence analysis identifies forensic accounting, fraud, fraud detection, fraud prevention, auditing, and forensic accountant as the dominant research themes. The findings also reveal the emergence of technology-oriented topics, including digital forensics, big data analytics, computer crime, and data-driven fraud investigation, highlighting the ongoing digital transformation of the field. Citation analysis identifies Rezaee as one of the most influential authors, while the United States remains the leading contributor in terms of publication productivity and citation impact.
This study contributes to the literature by providing a comprehensive overview of the intellectual structure and thematic evolution of forensic accounting research. The findings offer valuable insights for researchers, educators, practitioners, and policymakers regarding current developments and emerging trends in the field. Future research is expected to focus on artificial intelligence, machine learning, blockchain technology, cybersecurity, and cryptocurrency investigations, which are likely to play an increasingly important role in addressing sophisticated financial crimes.

Keywords: *Forensic Accounting, Bibliometric Analysis, Fraud Detection, Scopus, Research Trends*

ABSTRAK
Meningkatnya kompleksitas transaksi keuangan, praktik kecurangan (fraud), dan kejahatan keuangan digital telah memperkuat peran akuntansi forensik sebagai disiplin penting dalam upaya pencegahan, pendeteksian, dan investigasi fraud. Penelitian ini bertujuan untuk memetakan perkembangan penelitian akuntansi forensik selama periode 1987–2024 menggunakan pendekatan bibliometrik berbasis database Scopus. Data dikumpulkan menggunakan kata kunci "forensic accounting" dan dianalisis dengan perangkat lunak VOSviewer untuk mengidentifikasi tren publikasi, tema penelitian, pola sitasi, serta jaringan kolaborasi internasional.
Hasil penelitian menunjukkan adanya peningkatan signifikan jumlah publikasi akuntansi forensik, terutama setelah tahun 2020, yang mencerminkan meningkatnya perhatian akademisi dan praktisi terhadap pencegahan fraud dan investigasi kejahatan keuangan. Analisis keyword co-occurrence mengidentifikasi forensic accounting, fraud, fraud detection, fraud prevention, auditing, dan forensic accountant sebagai tema penelitian yang dominan. Temuan penelitian juga menunjukkan munculnya topik-topik berbasis teknologi, seperti digital forensics, big data analytics, computer crime, dan investigasi fraud berbasis data, yang menandakan terjadinya transformasi digital dalam praktik akuntansi forensik. Analisis sitasi mengidentifikasi Rezaee sebagai salah satu penulis paling

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

berpengaruh, sedangkan Amerika Serikat menjadi negara dengan produktivitas publikasi dan dampak sitasi tertinggi.
Penelitian ini memberikan kontribusi dengan menyajikan gambaran komprehensif mengenai struktur intelektual dan evolusi tematik penelitian akuntansi forensik. Temuan penelitian diharapkan dapat menjadi referensi bagi akademisi, praktisi, dan pembuat kebijakan dalam memahami perkembangan dan arah penelitian akuntansi forensik. Penelitian mendatang berpotensi berfokus pada penerapan kecerdasan buatan, machine learning, teknologi blockchain, keamanan siber, dan investigasi aset kripto dalam mendukung deteksi serta pencegahan kejahatan keuangan yang semakin kompleks.

Kata Kunci: *Akuntansi Forensik, Bibliometrik, Deteksi Fraud, Scopus, Tren Penelitian*

INTRODUCTION

Over the last five decades, forensic accounting has evolved significantly and emerged as an essential discipline within accounting, auditing, and financial investigation. The integration of accounting, auditing, investigative techniques, and legal expertise has positioned forensic accounting as a critical tool for detecting, preventing, and investigating fraud, financial crimes, and corporate misconduct. The growing complexity of financial transactions, increasing regulatory requirements, and heightened public awareness of corporate governance have further accelerated the development of forensic accounting as a specialized field of practice and research (Crumbley et al., 2017)

The increasing importance of forensic accounting can be attributed to the emergence of major financial scandals and corporate failures across both developed and developing countries. In developed economies, high-profile cases such as Enron, WorldCom, Lehman Brothers, and Bernard Madoff's Ponzi scheme revealed significant weaknesses in traditional auditing mechanisms and highlighted the necessity for more comprehensive investigative accounting approaches. Similarly, developing countries have experienced notable financial scandals, including the Bali Bank case in Indonesia, United Engineers Berhad in Malaysia, and the Bangkok Bank of Commerce scandal in Thailand, demonstrating that financial fraud is a global phenomenon that requires robust prevention and detection mechanisms (Sayidah et al., 2019)

The global impact of fraud remains substantial. According to the Association of Certified Fraud Examiners, organizations worldwide continue to lose approximately five percent of their annual revenue due to occupational fraud. Furthermore, fraud schemes are becoming increasingly sophisticated, involving digital technologies, cross-border financial transactions, and cyber-enabled criminal activities. These developments have expanded the scope of forensic accounting beyond traditional fraud examination toward comprehensive financial crime investigation and fraud risk management. Consequently, organizations are increasingly relying on forensic accountants to identify irregularities, support litigation processes, and strengthen internal control systems (Association of Certified Fraud Examiners, 2024)

The rapid digital transformation of financial systems has fundamentally altered the nature of financial fraud and financial crime. The widespread adoption of electronic payment systems, mobile banking, cloud computing, digital financial services, and cryptocurrency transactions has created new opportunities for fraudsters to exploit technological vulnerabilities. As financial activities become increasingly digitized, conventional auditing approaches are often insufficient to identify complex fraud schemes involving cybercrime, identity theft, money laundering, and cryptocurrency-related fraud. Therefore, forensic accountants are required to possess not only accounting and investigative competencies but also technological expertise to analyze digital evidence and detect sophisticated financial crimes (Haddad et al., 2024)

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

Research in this field now encompasses a wide range of topics, including fraud motivation, fraud prevention, fraud detection techniques, forensic accounting education, forensic accounting competencies, digital forensics, data analytics, cybersecurity, and financial crime investigation. Recent review studies indicate that forensic accounting continues to gain prominence as organizations and governments increasingly recognize its role in promoting financial transparency and combating economic crimes (Mustafa Airout et al., 2024; Ozili, 2023)

Several studies have attempted to review developments in forensic accounting research such as identified major themes in the literature, including fraud motivation, fraud consequences, forensic accounting theory, fraud detection techniques, professional skills, and forensic accounting education (Ozili, 2023). Similarly, Other research has found that forensic accounting research has experienced significant growth since the early 2000s and highlighted the increasing importance of technological innovations such as blockchain and digital forensic investigation (Mustafa Airout et al., 2024). These studies also suggest that countries such as China and India are becoming increasingly influential contributors to forensic accounting scholarship. Nevertheless, the existing literature demonstrates that research development remains uneven across different regions and thematic areas.

Despite the growing body of knowledge, several significant gaps remain in the forensic accounting literature. First, most previous review studies rely primarily on qualitative or narrative approaches that provide limited insights into the intellectual structure and knowledge networks within the field. Second, prior reviews often focus on specific themes such as fraud detection or forensic accounting education without comprehensively examining the evolution of emerging topics including artificial intelligence, machine learning, blockchain technology, cybersecurity, and digital forensic investigation. Third, many existing studies utilize databases such as Web of Science or Google Scholar, while relatively limited attention has been given to Scopus despite its extensive coverage of high-quality international publications. Finally, there remains a lack of comprehensive bibliometric studies that systematically map the development of forensic accounting research over an extended period of time.

Bibliometric analysis has emerged as a powerful methodological approach for evaluating scientific productivity, identifying influential authors and institutions, mapping collaboration networks, and uncovering emerging research themes. By applying bibliometric techniques, researchers can systematically examine the intellectual structure and evolution of a scientific discipline while identifying future research opportunities (Muhammad & Triansyah, 2023). Given the increasing complexity of financial fraud and the rapid technological transformation of the accounting profession, a comprehensive bibliometric analysis of forensic accounting research is both timely and necessary.

Therefore, this study aims to conduct a comprehensive bibliometric analysis of forensic accounting research indexed in the Scopus database from 1987 to 2024. Specifically, this study seeks to: (1) examine publication trends in forensic accounting research; (2) identify dominant research themes through keyword co-occurrence analysis; (3) determine the most influential authors, institutions, and countries; and (4) explore emerging research directions that may shape the future development of forensic accounting. By mapping the evolution of forensic accounting scholarship over a period of more than fifty years, this study contributes to a deeper understanding of the field's intellectual development and provides valuable insights for researchers, practitioners, policymakers, and professional accounting organizations.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

LITERATURE REVIEW

Forensic Accounting

Forensic accounting has emerged as a specialized discipline that combines accounting, auditing, investigation, and legal knowledge to detect, prevent, and investigate financial fraud and misconduct. The term forensic accounting refers to the application of accounting skills and investigative techniques suitable for use in legal proceedings and dispute resolution. Unlike traditional auditing, which primarily focuses on providing assurance regarding the fairness of financial statements, forensic accounting seeks to uncover intentional misrepresentation, fraud schemes, asset misappropriation, corruption, money laundering, and other forms of financial crime (Dako et al., 2020)

Forensic accounting integrates financial expertise with investigative capabilities to identify and analyze evidence that can support litigation and legal decision-making. The discipline has gained prominence due to increasing incidents of corporate scandals, financial statement fraud, and regulatory violations across industries. Forensic accountants often collaborate with auditors, law enforcement agencies, legal professionals, and regulatory authorities to conduct fraud examinations and provide expert testimony in courts.(Crumbley et al., 2017)

The importance of forensic accounting has increased substantially following major corporate collapses such as Enron, WorldCom, and Lehman Brothers, which exposed limitations in conventional auditing approaches. These cases demonstrated the necessity of incorporating investigative methodologies into accounting practices to strengthen fraud detection and corporate governance mechanisms. Recent studies also suggest that forensic accounting contributes significantly to improving financial transparency, organizational accountability, and investor confidence (Mustafa Airout et al., 2024; Ozili, 2023)

In recent years, forensic accounting has expanded beyond traditional fraud examination toward technology-assisted investigations. The integration of digital forensics, cybersecurity, artificial intelligence, and blockchain technologies has transformed how forensic accountants identify suspicious transactions, analyze financial evidence, and investigate complex financial crimes. This transformation reflects the growing complexity of financial ecosystems and the need for more sophisticated investigative tools in the digital age.

Fraud Triangle Theory and Fraud Detection

The theoretical foundation of forensic accounting is closely associated with fraud theories, particularly the Fraud Triangle Theory proposed by Cressey (Schuchter & Levi, 2016). According to this theory, fraud occurs when three elements coexist: pressure, opportunity, and rationalization. Pressure refers to financial or non-financial motivations that encourage individuals to commit fraud. Opportunity arises from weaknesses in internal control systems, while rationalization represents the justification used by perpetrators to legitimize unethical behavior.

The Fraud Triangle Theory remains one of the most influential frameworks in fraud examination and forensic accounting. However, recent studies suggest that increasingly sophisticated fraud schemes cannot always be adequately explained by the three original dimensions of pressure, opportunity, and rationalization. Consequently, researchers have extended the framework through the Fraud Diamond by incorporating capability and through the Fraud Pentagon by retaining capability while introducing arrogance as an additional determinant of fraudulent behavior. These extensions provide a more comprehensive explanation of organizational fraud in increasingly complex business environments.(Andriani et al., 2022; Devi et al., 2021; Fathmaningrum & Anggarani, 2021; Nugroho & Diyanty, 2022)

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

Forensic accounting plays a critical role in addressing all dimensions of fraud theory. Through investigative procedures, forensic accountants identify opportunities that enable fraud, analyze behavioral indicators associated with fraud motivation, and gather evidence that can support legal prosecution.

Bibliometric Analysis as a Research Method

Bibliometric analysis is a quantitative research method used to evaluate scientific publications and map the intellectual structure of a research field. The method applies statistical and mathematical techniques to analyze publication patterns, citation relationships, collaboration networks, and thematic developments within academic literature. Bibliometric analysis enables researchers to systematically explore large volumes of scientific data and identify emerging trends, influential authors, productive institutions, and future research directions. Unlike traditional narrative literature reviews, bibliometric analysis provides objective and reproducible evidence regarding the evolution of a scientific discipline (Donthu et al., 2021)

Several bibliometric techniques are commonly used, including citation analysis, co-citation analysis, bibliographic coupling, co-authorship analysis, and keyword co-occurrence analysis. Citation analysis measures the influence of publications based on citation frequency, whereas co-citation analysis identifies intellectual relationships among studies. Bibliographic coupling examines similarities among publications through shared references, while co-authorship analysis reveals collaboration networks among researchers. Keyword co-occurrence analysis helps identify dominant themes and emerging research topics within a field. (Muhammad & Triansyah, 2023)

One of the most widely used tools in bibliometric research is VOSviewer. The software enables visualization of complex bibliometric networks, including relationships among authors, institutions, countries, citations, and keywords. Through network visualization, researchers can identify research clusters, thematic structures, and emerging knowledge domains. Consequently, VOSviewer has become a standard tool in accounting, finance, and business research bibliometric studies (van Eck et al., 2023)

RESEARCH METHOD

This study employed a quantitative descriptive approach using bibliometric analysis to examine the development of forensic accounting research over the period 1987–2024. Bibliometric analysis is a quantitative method used to evaluate scientific publications and map the intellectual structure, thematic evolution, and collaboration networks within a particular field of study. The method combines statistical, mathematical, and visualization techniques to analyze scientific literature systematically (Donthu et al., 2021)

Bibliometric analysis was selected because it enables researchers to identify publication trends, influential authors, productive institutions, citation patterns, collaboration networks, and emerging research themes. Compared with traditional narrative literature reviews, bibliometric analysis offers a more objective and reproducible approach for evaluating scientific knowledge development.

Data Source and Search Strategy

The data used in this study were obtained from the Scopus database. Scopus was selected because it is one of the largest curated abstract and citation databases, covering high-quality peer-reviewed journals, conference proceedings, books, and book chapters from various disciplines. Furthermore, Scopus provides comprehensive bibliographic metadata that supports advanced bibliometric analysis and visualization (Prahani et al., 2024)

Data collection was conducted on May 30, 2024. The search query used in the Scopus database was: TITLE ("forensic accounting")

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

The search was restricted to publications published between 1987 and 2024. The initial search identified 951 documents related to forensic accounting research.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the dataset, several inclusion and exclusion criteria were applied.

Inclusion Criteria

1. Publications containing the term "forensic accounting" in the article title.
2. Documents indexed in the Scopus database.
3. Publications published between 1987 and 2024.
4. Journal articles, conference proceedings, reviews, book chapters, and books related to forensic accounting research.
5. Publications written in English.

Exclusion Criteria

1. Duplicate records.
2. Publications unrelated to forensic accounting despite containing similar keywords.
3. Documents with incomplete bibliographic information.
4. Publications outside the specified time period.

Following the screening process, 247 highly relevant publications were selected for detailed bibliometric analysis. The screening process ensured that the final dataset accurately represented the evolution of forensic accounting research over the study period.

Data Extraction Procedure

Bibliographic information from the selected publications was exported from Scopus in Comma-Separated Values (.csv) format. The exported dataset contained detailed metadata including:

- Authors
- Author IDs
- Article titles
- Publication years
- Source titles
- Affiliations
- Countries
- Abstracts
- Author keywords
- Index keywords
- Citation counts
- Digital Object Identifiers (DOIs)
- Publisher information
- ISSN and ISBN numbers
- Language information

The exported dataset was subsequently cleaned and standardized using Microsoft Excel to remove duplicate entries and ensure consistency in author names, affiliations, and keyword formats.

Bibliometric Analysis

The bibliometric analysis was conducted using VOSviewer version 1.6.20. VOSviewer is widely recognized as one of the most effective software applications for constructing and visualizing bibliometric networks. The software allows researchers to identify relationships

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

among authors, institutions, countries, citations, and research themes through network visualization techniques (van Eck et al., 2023)

The analysis consisted of four stages:

Publication Trend Analysis

Publication trend analysis was conducted to examine the annual growth of forensic accounting publications from 1987 to 2024. This analysis provided insights into the development trajectory and maturity of the research field.

Keyword Co-occurrence Analysis

Keyword co-occurrence analysis was performed to identify dominant research themes and thematic relationships within forensic accounting literature. Author keywords and index keywords were analyzed using the full-counting method in VOSviewer.

The minimum threshold for keyword occurrence was determined based on the dataset characteristics. Keywords meeting the threshold were visualized in a network map, where node size represented keyword frequency and link strength represented the degree of relationship among keywords.

Citation Analysis

Citation analysis was conducted to identify the most influential authors, articles, and publications in forensic accounting research. The number of citations received by each publication was used as an indicator of scholarly impact and academic influence.

Collaboration Analysis

Collaboration analysis examined research cooperation among authors, institutions, and countries. Co-authorship networks were generated using VOSviewer to visualize collaboration patterns and identify major contributors to forensic accounting research.

For country collaboration analysis, a minimum threshold of one document per country was established. Countries meeting the threshold were included in the visualization network. The size of each node represented publication productivity, while the thickness of connecting lines indicated the strength of collaborative relationships.

Data Visualization and Interpretation

The results of bibliometric analyses were visualized using three types of VOSviewer maps : Network Visualization, network visualization was used to identify relationships among keywords, authors, and countries. The interpretation process focused on identifying dominant themes, emerging topics, influential contributors, and future research directions within forensic accounting scholarship.

Research Framework

The research procedure followed five sequential stages:

1. Literature identification using the Scopus database.
2. Data screening and selection based on inclusion and exclusion criteria.
3. Bibliographic data extraction and cleaning.
4. Bibliometric analysis using VOSviewer.
5. Visualization, interpretation, and reporting of findings.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

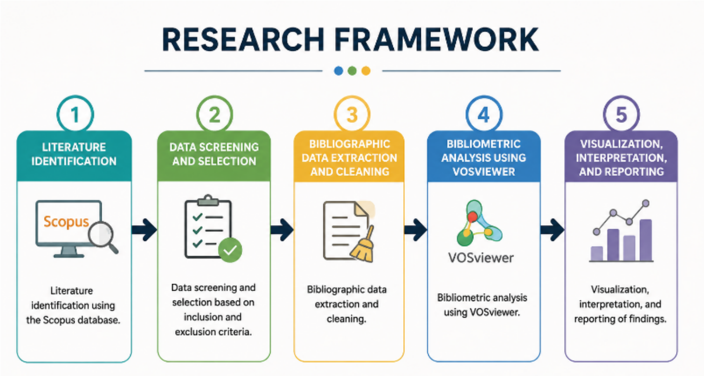

Figure 1. Publication Trends of Forensic Accounting Research (1987–2024)

RESULT AND DISCUSSION

Publication Trends in Forensic Accounting Research

The analysis identified 951 publications related to forensic accounting indexed in the Scopus database between 1987 and 2024. However, after applying inclusion and exclusion criteria, 247 relevant publications were selected for detailed bibliometric analysis. The publication trend demonstrates a substantial increase in scholarly interest in forensic accounting over the last five decades.

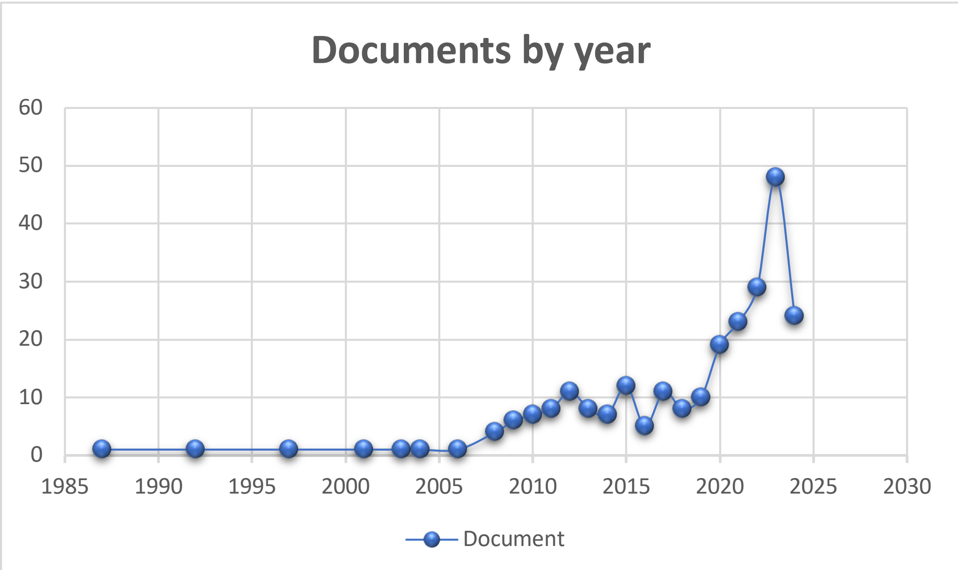

Figure 2. Publication Trends of Forensic Accounting Research (1987–2024)
Source: Scopus database processed using VOSviewer (2024).

Figure 2 illustrates the annual publication growth of forensic accounting research. During the period from 1987 to the early 2000s, publication output remained relatively limited. This finding suggests that forensic accounting was still considered a specialized field with restricted academic attention. A significant increase in publication volume began after 2002 and became more pronounced after 2020.

The highest number of publications was recorded in 2023, with 48 documents. This trend indicates growing recognition of forensic accounting as an important mechanism for combating fraud, financial misconduct, corruption, and cybercrime. The increasing publication output may also reflect the emergence of new technologies such as artificial

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

intelligence, blockchain, big data analytics, and digital forensic investigation, which have expanded the scope of forensic accounting research.

These findings are consistent with reserach who highlighted the global expansion of forensic accounting research and identified digitalization, fraud detection, and sustainability as emerging research directions (Ozili, 2023). Likewise, other reserach demonstrated through bibliometric analysis that forensic accounting has evolved into a multidisciplinary field encompassing corporate governance, fraud prevention, financial crime investigation, and technological innovation. Furthermore, the increasing number of publications reflects the growing frequency of financial scandals and the rising demand for effective fraud prevention mechanisms in both public and private organizations.(Mustafa Airout et al., 2024)

From the perspective of Fraud Triangle Theory, the increasing volume of forensic accounting research reflects organizations' efforts to minimize opportunities for fraud through enhanced detection and monitoring systems. Consequently, forensic accounting research is expected to continue expanding as financial transactions become increasingly digital and complex.

Keyword Co-occurrence Analysis

To identify the intellectual structure and dominant themes of forensic accounting research, a keyword co-occurrence analysis was conducted using VOSviewer. In the visualization, node size represents the frequency of keyword occurrence, while the connecting lines indicate the strength of relationships among keywords. Different colors represent thematic clusters that frequently appear together within the literature. Figure 3 presents the network visualization of author keywords extracted from the selected publications.

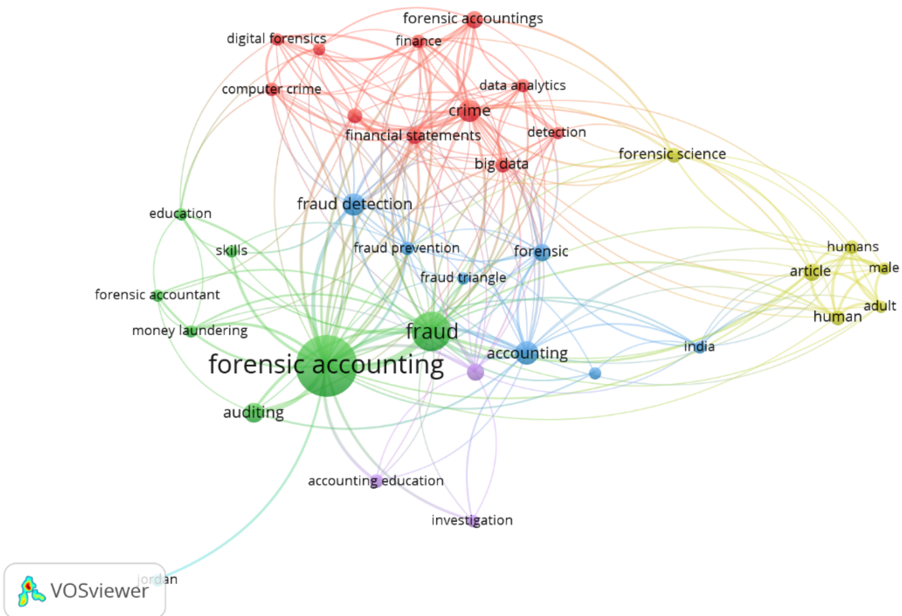

Figure 3. Network Visualization of Forensic Accounting Research Keywords
Source: Scopus database processed using VOSviewer (2024).

The results reveal that **"forensic accounting"** is the most dominant keyword, occupying the central position within the network and exhibiting strong connections with several related concepts, including fraud, fraud detection, auditing, forensic accountant, money laundering, financial statements, and investigation. This finding indicates that fraud-related issues remain the primary focus of forensic accounting research.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

The network visualization generated six thematic clusters. The green cluster is the largest cluster and centers on forensic accounting, auditing, forensic accountant, education, skills, and money laundering. This cluster reflects the traditional role of forensic accounting in fraud investigation and professional competency development. The prominence of auditing and education-related keywords suggests that researchers increasingly recognize the importance of integrating forensic accounting competencies into accounting education and professional training programs.

The blue cluster consists primarily of fraud detection, fraud prevention, fraud triangle, accounting, forensic, and India. This cluster highlights the theoretical and practical aspects of fraud prevention and fraud risk assessment. The presence of the fraud triangle keyword demonstrates the continuing influence of Cressey's Fraud Triangle Theory as a foundational framework in forensic accounting studies.

The red cluster contains keywords such as crime, financial statements, digital forensics, computer crime, finance, data analytics, and big data. This cluster represents the technological transformation of forensic accounting research. The emergence of digital forensics, big data, and data analytics indicates increasing scholarly interest in technology-assisted fraud detection and investigation. These findings suggest that forensic accounting is evolving beyond traditional investigative techniques toward data-driven and technology-enabled approaches.

The yellow cluster includes forensic science, article, human, humans, male, and adult. Although these keywords appear less directly related to accounting, they indicate interdisciplinary connections between forensic accounting and broader forensic science research. Such linkages may reflect studies involving criminal investigation, behavioral analysis, and legal proceedings.

The purple cluster consists primarily of accounting education and investigation, emphasizing the educational dimension of forensic accounting. The presence of these keywords suggests growing academic attention toward preparing future accountants with investigative competencies required in modern fraud examination environments.

Overall, the network structure demonstrates that forensic accounting research has evolved into a multidisciplinary field integrating accounting, auditing, criminology, law, behavioral science, and information technology. The emergence of keywords related to big data, digital forensics, and computer crime further indicates that future forensic accounting research is likely to focus increasingly on artificial intelligence, cybersecurity, blockchain technology, and digital fraud investigation.

Table 1. Main Keywords and Occurrence Frequency

No	Keyword	Cluster	Research Theme
1	Forensic Accounting	Green	Core Theme
2	Fraud	Green	Fraud Investigation
3	Fraud Detection	Blue	Fraud Detection
4	Fraud Prevention	Blue	Fraud Prevention
5	Auditing	Green	Audit and Assurance
6	Forensic Accountant	Green	Professional Competency

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

7	Money Laundering	Green	Financial Crime
8	Digital Forensics	Red	Digital Investigation
9	Computer Crime	Red	Cybercrime
10	Big Data	Red	Data Analytics
11	Data Analytics	Red	Technology Integration
12	Financial Statements	Red	Financial Reporting Fraud
13	Accounting Education	Purple	Education Development
14	Investigation	Purple	Investigative Practice
15	Fraud Triangle	Blue	Fraud Theory

Source: Scopus database processed using VOSviewer (2024).

Table 2. Top Keywords in Forensic Accounting Research

Keyword	**Occurrences**	**Total Link Strength**	**Cluster**
Forensic Accounting	45	120	1
Fraud	32	98	1
Fraud Detection	20	65	2
Auditing	18	54	1
Digital Forensics	15	49	3
Big Data	12	40	3
Data Analytics	10	37	3
Money Laundering	9	32	1
Accounting Education	8	25	4
Investigation	7	20	4

Source: Scopus database processed using VOSviewer (2024).

Table 2 presents the most frequently occurring keywords in forensic accounting research. The results indicate that *forensic accounting*, *fraud*, and *fraud detection* are the most dominant keywords, confirming that fraud investigation and prevention remain the primary focus of the field. The emergence of keywords such as *digital forensics*, *big data*, and *data analytics* further suggests a growing interest in technology-driven approaches to fraud detection and financial crime investigation. These findings demonstrate the evolution of forensic accounting from traditional investigative practices toward digitally enabled forensic analytics.

Citation Analysis

Citation analysis was conducted to identify the most influential authors in forensic accounting research. Table 4 presents the authors with the highest citation impact within the dataset.

Table 3. Most Influential Authors in Forensic Accounting Research

Rank	Author	Documents	Citation
1	Rezaee, Zabihollah	3	84
2	Buckby, Sherrena	2	68

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

3	Van Akkeren, Jeanette	2	68
4	Alshurafat, Hashem	7	58
5	Wang, Jim	1	55

Source: Scopus database processed using VOSviewer (2024).

The results reveal that Zabihollah Rezaee is the most influential author, receiving 84 citations from three publications. Rezaee's prominence reflects his substantial contribution to forensic accounting, corporate governance, financial reporting quality, and fraud prevention literature. The analysis further indicates that Sherrena Buckby and Jeanette Van Akkeren each received 68 citations, despite having only two publications. This finding suggests that their work has had a significant scholarly impact and serves as an important reference for subsequent forensic accounting studies. Meanwhile, Hashem Alshurafat emerged as the most productive author with seven publications, although his citation count was lower than that of Rezaee. This result demonstrates that publication productivity does not necessarily correspond to citation influence.

Overall, the citation analysis highlights the central role of a relatively small group of scholars in shaping the intellectual development of forensic accounting research. Their contributions have influenced major themes such as fraud detection, forensic accounting education, corporate governance, and financial crime investigation.

Citation Network Analysis

Figure 4 presents the citation network of influential authors in forensic accounting research. The network visualization reveals several interconnected clusters representing the intellectual structure of the field. Larger nodes indicate authors with greater citation influence, while connecting lines represent citation relationships among publications.

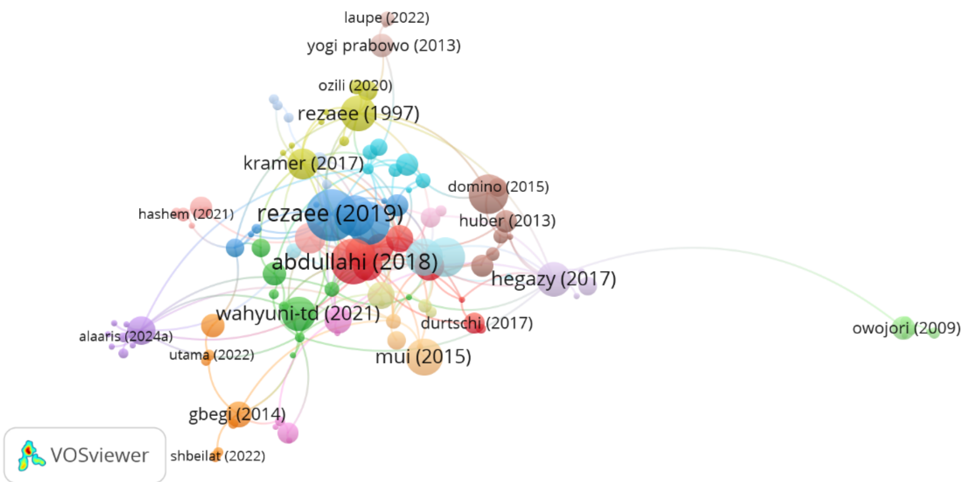

Figure 4. Author Citation Network in Forensic Accounting Research
Source: Processed by the authors using VOSviewer (2024).

The visualization identifies Rezaee (2019) as the most influential author within the network. Rezaee occupies a central position and maintains strong connections with several other highly cited authors, suggesting a substantial contribution to the development of forensic accounting scholarship. Rezaee’s research primarily focuses on corporate governance, financial reporting quality, fraud prevention, and forensic accounting practices, making his work a key reference in the literature.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

Other influential authors include Abdullahi (2018), Wahyuni-TD (2021), Kramer (2017), and Mui (2015). These authors form the core intellectual network of forensic accounting research and contribute to major themes such as fraud detection, forensic accounting education, fraud risk assessment, and financial crime investigation.
The existence of multiple clusters indicates that forensic accounting research has evolved into a multidisciplinary field characterized by diverse research streams. While some clusters focus on fraud theories and fraud detection mechanisms, others emphasize forensic accounting education, professional competencies, and emerging technological applications. This pattern demonstrates the increasing maturity and diversification of forensic accounting scholarship.

Country Collaboration Analysis

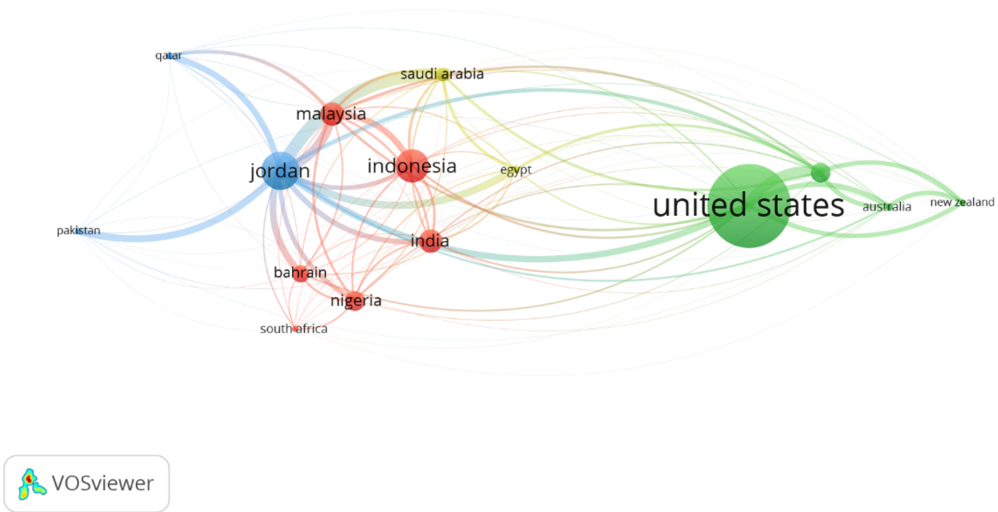

Figure 5. Country Collaboration Network
Source: Processed by the authors using VOSviewer (2024).

Figure 5 illustrates the collaboration network among countries contributing to forensic accounting research. The network visualization reveals the existence of several international collaboration clusters, indicating that forensic accounting has become a globally recognized research field involving both developed and developing countries.
The United States appears as the most dominant contributor, represented by the largest node in the network. The country's central position indicates a high level of publication productivity and extensive collaboration with researchers from other countries. Strong collaborative relationships are observed between the United States, Australia, and New Zealand, forming one of the most influential research clusters within the network.
In the Asian and Middle Eastern regions, Jordan, Malaysia, Indonesia, Saudi Arabia, and India form another important collaboration cluster. Jordan occupies a strategic position within this cluster and maintains strong collaborative links with Malaysia and Indonesia. This finding suggests that forensic accounting research is gaining increasing attention in emerging economies, particularly in countries seeking to strengthen fraud prevention, anti-corruption initiatives, and financial governance practices.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

Indonesia also demonstrates a relatively strong presence within the collaboration network. Its connections with Malaysia, Jordan, India, and Saudi Arabia indicate increasing international engagement among Indonesian scholars in forensic accounting research. This trend reflects the growing recognition of forensic accounting as an important mechanism for improving transparency and accountability in financial management.

Overall, the collaboration network demonstrates that forensic accounting research is becoming increasingly internationalized. While developed countries continue to dominate publication output, emerging economies are playing a more active role in shaping the future development of forensic accounting scholarship through cross-border collaboration and knowledge exchange.

Table 4. Most Productive Countries in Forensic Accounting Research

Rank	Country	Documents	Citations
1	United States	60	750
2	Jordan	27	94
3	Indonesia	24	67
4	Malaysia	17	160
5	India	17	85
6	United Kingdom	14	163
7	Nigeria	14	66
8	Bahrain	13	12
9	Saudi Arabia	10	30
10	Australia	6	179

Source: Scopus database processed using VOSviewer (2024).

Table 4 presents the most productive countries contributing to forensic accounting research. The United States dominates the field with 60 publications and 750 citations, indicating both high research productivity and substantial scholarly influence. This finding is unsurprising given the country's long-standing focus on fraud prevention, corporate governance, and financial regulation following major corporate scandals such as Enron and WorldCom.

Jordan ranks second in terms of publication output with 27 documents, followed by Indonesia with 24 publications. The strong presence of Jordan reflects growing academic interest in forensic accounting within the Middle East, particularly in relation to fraud prevention, anti-corruption initiatives, and public sector accountability. Similarly, Indonesia's position demonstrates increasing scholarly attention toward forensic accounting as a mechanism for strengthening governance and combating financial misconduct.

Although Australia contributed only six publications, it achieved 179 citations, indicating a relatively high scholarly impact. Likewise, the United Kingdom produced 14 publications but received 163 citations, suggesting that research from these countries has been widely recognized within the academic community. These findings indicate that publication quantity does not necessarily correspond to citation impact.

Overall, the results demonstrate that forensic accounting research is increasingly internationalized, with significant contributions from both developed and developing countries. The growing participation of countries in Asia, the Middle East, and Africa suggests expanding global awareness of the importance of forensic accounting in addressing fraud, financial crime, and accountability issues.

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

Future Research Directions

The bibliometric analysis provides valuable insights into the potential future development of forensic accounting research. The keyword co-occurrence network, citation patterns, and collaboration analysis indicate that forensic accounting is evolving from a traditional fraud investigation discipline toward a technology-driven and multidisciplinary field. Several emerging themes identified in this study are expected to shape future research agendas.

Future studies may explore the effectiveness of AI-based fraud detection systems, predictive fraud analytics, and explainable artificial intelligence in supporting forensic investigations. Such research is particularly relevant as organizations increasingly adopt digital financial platforms and automated decision-making systems.

Another emerging research direction concerns the application of blockchain technology and cryptocurrency investigations. Future research may examine blockchain auditing frameworks, forensic cryptocurrency analysis, and the role of blockchain in improving financial accountability and fraud prevention mechanisms.

The findings also suggest growing opportunities for research in digital forensic accounting and cybersecurity. As cybercrime continues to increase globally, forensic accountants are expected to play a more significant role in investigating digital fraud, data breaches, electronic money laundering, and cyber-enabled financial crimes. Future studies may focus on the integration of cybersecurity tools, digital evidence analysis, and forensic technologies into accounting investigation processes. This research area is likely to become increasingly important due to the digital transformation of financial services and business operations.

Furthermore, future research should investigate the relationship between forensic accounting and Environmental, Social, and Governance (ESG) reporting. The increasing emphasis on sustainability reporting has raised concerns regarding ESG fraud, greenwashing, and the manipulation of non-financial information. Forensic accounting techniques may provide innovative approaches for detecting misrepresentation in sustainability disclosures and enhancing stakeholder trust. Consequently, ESG assurance and sustainability-related fraud investigation represent promising areas for future scholarly inquiry.

Another potential research direction involves the development of forensic accounting education and professional competencies. The bibliometric findings indicate that accounting education remains an important theme within the literature. However, the rapid advancement of technology requires accounting curricula to incorporate digital forensic tools, data analytics, artificial intelligence, blockchain technology, and cybersecurity concepts. Future studies may evaluate the effectiveness of forensic accounting education programs and identify the competencies required by future forensic accounting professionals.

Finally, future research may benefit from adopting interdisciplinary approaches that integrate accounting, information technology, criminology, behavioral science, and law. Financial crimes are becoming increasingly sophisticated and often involve behavioral, technological, and regulatory dimensions. Therefore, collaborative and interdisciplinary research is essential for developing comprehensive fraud prevention and investigation frameworks capable of addressing emerging challenges in the digital economy.

Overall, the findings of this bibliometric study indicate that the future of forensic accounting research will be characterized by technological innovation, interdisciplinary collaboration, and increasing reliance on data-driven investigative techniques. The integration of artificial

JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

intelligence, blockchain technology, cybersecurity, and sustainability assurance is expected to redefine the role of forensic accounting in supporting transparency, accountability, and fraud prevention in an increasingly complex financial environment. Based on the thematic evolution identified in this study, future forensic accounting research is likely to move beyond traditional fraud examination toward intelligent forensic ecosystems supported by artificial intelligence, blockchain verification mechanisms, and advanced data analytics. Consequently, researchers, practitioners, and policymakers should collaborate to develop innovative forensic accounting frameworks capable of responding to emerging financial risks in the digital era.

CONCLUSION

This study aimed to examine the development of forensic accounting research through a bibliometric analysis of publications indexed in the Scopus database between 1987 and 2024. The findings reveal that forensic accounting has experienced substantial growth over the last three decades, particularly after 2020, indicating increasing scholarly and professional interest in fraud prevention, fraud detection, financial crime investigation, and corporate governance.

The publication trend analysis demonstrates that forensic accounting has evolved from a relatively specialized research area into a rapidly expanding multidisciplinary field. The keyword co-occurrence analysis identified forensic accounting, fraud, fraud detection, fraud prevention, auditing, and forensic accountant as the dominant themes within the literature. Furthermore, the emergence of keywords such as digital forensics, big data, data analytics, and computer crime indicates a significant shift toward technology-driven approaches in forensic accounting research.

The citation analysis highlights the important contributions of influential scholars, particularly Rezaee, whose publications have played a central role in shaping the intellectual foundation of forensic accounting research. In addition, the country productivity and collaboration analyses reveal that the United States remains the leading contributor in terms of both publication output and citation impact. Nevertheless, the increasing participation of countries such as Jordan, Indonesia, Malaysia, and India demonstrates the growing global relevance of forensic accounting research and the expansion of international collaboration networks.

From a theoretical perspective, this study contributes to the forensic accounting literature by providing a comprehensive overview of the field's intellectual structure, thematic evolution, and research collaboration patterns. From a practical perspective, the findings offer valuable insights for researchers, educators, practitioners, regulators, and policymakers regarding the emerging trends and future directions of forensic accounting scholarship. Despite its contributions, this study has several limitations. First, the analysis was limited to publications indexed in the Scopus database, which may exclude relevant studies available in other databases such as Web of Science, Dimensions, or Google Scholar. Second, the study relied primarily on bibliometric techniques and did not incorporate qualitative content analysis of individual publications. Therefore, future studies are encouraged to employ multi-database approaches, longitudinal thematic analyses, and advanced bibliometric techniques such as bibliographic coupling, thematic evolution, and science mapping.

Overall, the findings suggest that forensic accounting research is entering a new phase characterized by increasing technological integration, interdisciplinary collaboration, and data-driven investigative approaches. Future research is expected to focus more extensively on artificial intelligence, machine learning, blockchain technology, cybersecurity, cryptocurrency investigation, and sustainability-related fraud, which are likely to redefine the role of forensic accounting in addressing emerging financial risks in the digital era.

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JURNAL AKUNTANSI, KEUANGAN, PAJAK DAN INFORMASI (JAKPI)
Volume 5, No. 1, Juni 2025, p. 246 – 263

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