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AUDIT QUALITY RESEARCH: A BIBLIOMETRIC STUDY OF GLOBAL TRENDS AND EMERGING THEMES

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A B S T R A C T

In recent years, scientific audit quality output has increased. However, there is still a scarcity of research that provides a comprehensive picture of the situation. This research aims to spot trends in audit quality research and scientific production, such as sources, authors, and documents, across time. A total of 1356 papers published between 1968 and 2024 were analyzed using bibliometric analysis. Audit quality is a query used in article titles to get metadata from the Scopus bibliographic database. The analysis was built using biblioMagika for frequency analysis, VOSviewer for data visualization, and Harzing's Publish or Perish for citation metrics and research. The findings reveal an increase in audit quality literature from 1968 to 2024, with a notable increase since 2013. Various studies on audit quality incorporating multi-author collaboration have been published in various languages, with 160 writers from 104 countries and 160 organizations. The United States, the United Kingdom, Australia, China, and Indonesia were the top contributors to this study, and these data may aid future research into the global overview of audit quality studies over time.
Keywords: *audit quality, bibliometric analysis, global trends, emerging themes*

Dalam beberapa tahun terakhir, output penelitian kualitas audit telah meningkat. Namun, masih ada kelangkaan penelitian yang memberikan gambaran komprehensif tentang situasi tersebut. Penelitian ini bertujuan untuk menemukan tren dalam penelitian kualitas audit dan produksi ilmiah, seperti sumber, penulis, dan dokumen. Sebanyak 1356 makalah yang diterbitkan antara tahun 1968 dan 2024 dianalisis menggunakan analisis bibliometrik. Kualitas audit adalah kueri yang digunakan dalam judul artikel untuk mendapatkan metadata dari basis data bibliografi Scopus. Analisis ini dibangun menggunakan biblioMagika untuk analisis frekuensi, VOSviewer untuk visualisasi data, dan Harzing's Publish or Perish untuk metrik kutipan dan penelitian. Temuan tersebut mengungkapkan peningkatan literatur kualitas audit dari tahun 1968 hingga 2024, dengan peningkatan yang nyata sejak tahun 2013. Berbagai penelitian tentang kualitas audit yang menggabungkan kolaborasi multi-penulis telah diterbitkan dalam berbagai bahasa, dengan 160 penulis dari 104 negara dan 160 organisasi. Amerika Serikat, Inggris, Australia, Tiongkok, dan Indonesia merupakan kontributor utama studi ini, dan data ini dapat membantu penelitian masa depan mengenai gambaran umum global studi kualitas audit dari waktu ke waktu.
Kata kunci: kualitas audit, analisis bibliometrik, trend global, tema

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INTRODUCTION

The quality and dependability of financial reporting would improve with good audit quality. Audit quality is a critical component of financial reporting and corporate governance, serving as the foundation for stakeholder confidence in an organization's financial disclosures. High-quality audits enhance the credibility of financial statements, thereby fostering trust among investors, regulators, and the broader market. Audit quality is one of the elements of sound financial reporting (DeFond & Zhang, 2014). High audit quality will improve financial report quality and promote intelligent investment decisions and financial stability (IAASB, 2020a, 2020b). Audit quality also functions as a monitoring tool, bridging the gap between management and shareholders (Arens et

al., 2012). Meanwhile, audit quality aids creditor approval and attracts possible investment partners. Audit operations that must be done according to established standards and rules and executing quality control processes fall under audit reliability and quality. By providing improved knowledge and confidence in the dependability and accountability of financial statements produced by management, independent and unbiased auditors play a vital role in enhancing public confidence in the capital markets. As a result, auditing contributes to a better economic situation (ICAEW, 2005).

The financial scandal at Enron in 2001, which involved significant corporations such as Worldcom, Xerox, Tyco, AOL Time Warner, Imclone, Global Crossing, Adelphia Communications, and Rite Aid, heightened interest in audit quality research and regulation (Cunningham, 2002). These scandals have shattered public trust in financial statements, corporate management, independent auditing firms, and capital markets and have raised questions about the auditing profession's quality of work (Kilgore et al., 2011; Teck-Heang & Ali, 2008). In re-establishing the confidence in capital markets and defending public welfare, a set of international regulations was enacted. The Sarbanes-Oxley Act (SOX), a model for later laws, was the first ground -breaking rule. The Sarbanes-Oxley Act established the Public Company Accounting Oversight Board (PCAOB) to audit and set auditing standards for public corporations' auditors. The PCAOB board's objective is to encourage public firms' educated, accurate, and impartial audit reports (PCAOB, 2020). The most important and pioneering work in this sector is the PCAOB's efforts in the United States and the International Audit and Assurance Standard Board's (IAASB) publication of the "Audit Quality Framework" as indicators of International Auditing Standards. The International Accreditation and Accreditation Standards Board (IAASB) provides international standards to assist in the performance of quality audits (IAASB, 2014).

After the global financial crisis of 2008, officials, on the other hand, tried to identify the driving dynamics in audit quality. Just a few examples include the formation of the "Advisory Committee on the Auditing Profession" (2008) in the United States, the publication of "Promoting Audit Quality" (FRC, 2006) in the United Kingdom, the publication of Audit Quality-Strategic Review (2010) in Australia, and the publication of Green Book Audit Policy: Lessons Learned from Crises (2010) in Europe (Kilgore et al., 2014). The American Institute of Chartered Public Accountants (AICPA Centre) of Audit Quality (CAQ) strives to improve investor and public confidence in global capital markets (CAQ, 2020). Therefore, to get a comprehensive picture of the development of audit quality research, the data used is from the first article written about audit quality and indexed by Scopus.

As a result, auditing and audit research has changed dramatically during the previous two decades. The latest study's most notable feature is its emphasis on audit quality. However, because the quantity of auditor assurance cannot be seen, gauging audit quality is difficult (DeFond & Zhang, 2014; FEA, 2016). Even though there is no universally accepted method for determining audit quality, the literature is examined differently. These perspectives include audit firm size, reputation, industry expertise, auditor tenure, costs beyond control, audit committee, and the duration of an auditor-customer relationship (Francis, 2004). Finally, the main driving factor of audit quality continues to be scrutinized, and global regulators are attempting to improve financial reporting reliability, validity, and audit quality (Montenegro & Brás, 2018). As a result, audit quality remains a hot topic for scientific study, government agencies, and legislation, and the number of studies in this area is growing.

Consequently, the study of audit quality remains a dynamic and expanding area of research, attracting attention from scholars, government agencies, and legislative bodies alike. The increasing

volume of studies in this domain underscores the need to explore its multidimensional determinants, ranging from regulatory frameworks and auditor independence to advancements in auditing technology. By examining emerging trends and evolving perspectives, researchers aim to bridge gaps in understanding and contribute to the development of robust frameworks that ensure high-quality audits in a rapidly changing global landscape. Bibliometric analysis is one of the strategies used to assess the output of scientific studies.

Bibliometrics is a new discipline that looks at scientific communication processes utilizing mathematical and statistical methods designed explicitly for written documents (Ahmi & Mohd Nasir, 2019). Said, it is one of the tools used to compute the statistical output of scientific papers (Rusly et al., 2019). The bibliometric analysis aims to extract usable data from a database on a specific topic (publications, citations, authors, journals, institutions, keywords, and others). As a result, it can identify research trends and provide a macro-level view of academic literature (Lee et al., 2020). On the other hand, a bibliometric study motivates researchers to be proactive and up-to-date on advances in their field (Samiee & Chabowski, 2012). "Audit" (Uyar et al., 2020), "Audit Quality" (Montenegro & Brás, 2018), "Audit Quality and IFRS Adoption" (Fallatah et al., 2021), "Audit and technology" (Lamboglia et al., 2020), and "Audit Quality and Auditor Independence" (Lamboglia et al., 2020) are bibliometric studies in (Tepalagul & Lin, 2015).

This research aims to figure out the current state of audit quality research. The following issues are addressed using a bibliometric study of the literature related to this phrase. (a) What is the history of audit quality articles?, (b) What are the primary research areas in audit quality?, and (c) Who are some of the most influential audit quality researchers? There are four primary parts to this study. The first section provides an overview of the audit quality literature based on prior research and study goals. Section 2 emphasized the bibliometric analysis approach, including processes for retrieving documents from the Scopus database, using VOSviewer software, biblioMagika and referring to Harzing's Publish or Perish. VOSviewer and Harzing's Publish or Perish are used to present the results in Section 3. The fourth portion contains the discussion, conclusions, limits of the research, and recommendations.

RESEARCH METHODS

In audit quality, bibliometric analysis is the best method for solving research problems, including trend analysis. Bibliometric analysis is a quantitative method of studying academic literature that employs a bibliography to describe, appraise, and track published research (Garfield et al., 1964; Liang & Liu, 2018; White & McCain, 1989). The methodological goal is to examine publications, citations, and information sources. This type of research will aid in determining the authors' scientific output, the annual growth rate of publications, citation analysis, author network analysis, journals, universities, nations, keywords based on citations, frequency analysis approaches, and a variety of other data. It aids in discovering research clusters, provides insight into existing research interests and identifies upcoming trends in an area. Each bibliometric method is helpful for specific research issues, and bibliometrics for scientific mapping can address the most prevalent questions (Aria & Cuccurullo, 2017).

On Monday, September 2, 2024, metadata was taken from the Scopus database. Scopus is a database that delivers accurate and comprehensive information and offers specific analysis tools and a wide range of topics. Metadata was collected from 1968 through 2024 using an "audit quality" search of article titles. Increased specificity and information recovery have been documented in utilizing title-specific searches (Aleixandre et al., 2015; Sweileh et al., 2017). Metadata is available in RIS and CSV formats for download. Metadata from published literature was evaluated using biblioMagika

to perform frequency analysis, and calculate citation metrics (Ahmi, 2024). VOSviewer is also used for data visualization.

ANALYSIS AND DISCUSSION

Some general statistics from the data set are provided to provide an overview of the audit quality research. All articles that met the search query were evaluated using the following criteria: document type and source, research productivity, publication language, subject area, the title of the most active source, distribution of publications by country, most active institution, generality, keywords, title, and abstract analysis, and citation analysis. The majority of the findings are reported as percentages and frequencies. Meanwhile, until August 2024, we give annual growth data in the form of the number of documents retrieved every year, including frequency and percentage. Citation analysis is reported as a citation metric, and the top ten most cited papers in audit quality are shown.

Basic Information

In this research, there are 1356 publications identified on audit quality that are focused on the article title only. The publication time span is 56 years (1968-2024), total citations 35,334 from 3658 contributors who wrote about audit quality research. And the average citations is 26.06 per article, while citations per author is 9.66. For 56 years, research on audit quality found h-index 83 and g-index 160. Table 1 shows basic information from research on servant leadership.

Document Profile

Documents are based on the authenticity of documents from articles, conference papers, book chapters, and other sources, whereas source documents include

Table 1.
Basic Information

Main Information	Data	Main Information	Data
Publication Years	1968 - 2024	Citation per Cited Paper	33.33
Total Publications	1356	Citation per Year	630.96
Citable Year	57	Citation per Author	9.66
Number of Contributing Authors	3658	Author per Paper	2.70
Number of Cited Papers	1060	Citation sum within h-Core	31,246
Total Citations	35,334	h-index	83
Citation per Paper	26.06	g-index	160
		m-index	1.456

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Tabel 2.
Profile of Documents

Document Type	TP	%	Source Type	TP	%	Language	TP	%
Article	1203	88.72	Journal	1272	93.81	English	1313	96.83
Conference Paper	66	4.87	Conference Proceeding	38	2.80	Korean	20	1.47
Book Chapter	31	2.29	Book Series	29	2.14	Chinese	7	0.52
Review	29	2.14	Book	15	1.11	Spanish	7	0.52
Note	14	1.03	Trade Journal	2	0.15	French	4	0.29
Editorial	4	0.29				Arabic	3	0.22
Erratum	3	0.22				German	1	0.07
Letter	3	0.22				Persian	1	0.07
Book	2	0.15				Portuguese	1	0.07
Data Paper	1	0.07				Russian	1	0.07
						Ukrainian	1	0.07

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

journals, conference proceedings, books, book series, or trade magazines. Conference papers listed under document types may differ from those appearing under document sources, according to (Sweileh et al., 2017). Under the document type, a conference paper, for example, would be classified as a conference paper. Depending on the publication stage, the same content may be classified as a whole journal article, conference proceedings, or book chapter under documentary sources.

The documents issued in audit quality are divided into ten categories, as shown in Table 2. Articles accounted for more than half of the overall publications, with 1023 documents (88.72 percent), conference papers 66 documents (4.87 percent), and book chapter 31 documents (2.29 percent). As illustrated in Table 2, the source type of documents are divided into five categories: journal, conference proceeding, book series, book, and trade journal. According to Table 2, journals are the most common

Table 3.
Annual Research Output and Citation Metrics

Year	TP	NCA	NCP	TC	C/P	C/CP	*h*	*g*	*m*
1968	1	1	0	0	0.00	0.00	0	0	0.000
1974	1	1	0	0	0.00	0.00	0	0	0.000
1981	2	2	1	2683	1341.50	2683.00	1	2	0.023
1985	1	1	1	8	8.00	8.00	1	1	0.025
1987	1	1	0	0	0.00	0.00	0	0	0.000
1988	1	1	1	5	5.00	5.00	1	1	0.027
1990	1	1	0	0	0.00	0.00	0	0	0.000
1991	2	4	2	341	170.50	170.50	2	2	0.059
1993	2	4	2	134	67.00	67.00	2	2	0.063
1994	2	3	2	129	64.50	64.50	2	2	0.065
1996	5	11	5	275	55.00	55.00	5	5	0.172
1997	5	6	4	226	45.20	56.50	3	5	0.107
1998	1	4	1	1828	1828.00	1828.00	1	1	0.037
1999	6	8	4	279	46.50	69.75	4	6	0.154
2000	6	8	6	479	79.83	79.83	6	6	0.240
2001	3	3	2	158	52.67	79.00	2	3	0.083
2002	2	5	2	84	42.00	42.00	2	2	0.087
2003	5	12	5	441	88.20	88.20	5	5	0.227
2004	10	21	10	1100	110.00	110.00	9	10	0.429
2005	8	17	8	727	90.88	90.88	7	8	0.350
2006	3	5	3	599	199.67	199.67	3	3	0.158
2007	17	40	15	957	56.29	63.80	12	17	0.667
2008	13	32	12	1521	117.00	126.75	10	13	0.588
2009	21	44	18	1613	76.81	89.61	13	21	0.813
2010	17	40	15	2463	144.88	164.20	12	17	0.800
2011	30	72	28	2698	89.93	96.36	17	30	1.214
2012	35	89	31	1592	45.49	51.35	21	35	1.615
2013	30	72	27	1596	53.20	59.11	15	30	1.250
2014	38	102	35	1199	31.55	34.26	15	34	1.364
2015	53	136	45	1343	25.34	29.84	21	36	2.100
2016	63	156	55	2090	33.17	38.00	24	45	2.667
2017	70	193	61	1782	25.46	29.21	24	41	3.000
2018	76	207	72	1487	19.57	20.65	23	34	3.286
2019	122	319	106	1930	15.82	18.21	26	39	4.333
2020	127	344	105	1191	9.38	11.34	20	29	4.000
2021	132	383	110	1071	8.11	9.74	17	26	4.250
2022	125	378	103	755	6.04	7.33	15	21	5.000
2023	186	526	122	467	2.51	3.83	10	15	5.000
2024	133	406	41	83	0.62	2.02	5	5	5.000
Total	**1356**	**3658**	**1060**	**35334**	**26.06**	**33.33**	**83**	**160**	**1.456**

Note: TP=total number of publications; NCA=number of contributing authors;NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index; m=m-index.
Source: Generated by the author(s) using biblioMagika ® (Ahmi, 2024)

source of papers, accounting for 1272 documents, or 93.81 percent of all publications, followed by conference proceedings, which account for 38 documents (2.80 percent).

Meanwhile, English was the essential language among some of the documents collected, as seen in Table 2, accounting for 96.83 percent of the total. Several publications are also available in various languages, including Korean, French, Spanish, German, Chinese, and others.

Research Evolution and Distribution

This study examines the following data to address concerns concerning the evolution of audit quality research and trends in its distribution: (a) the number of publications by year, (b) journals.

Year of publication.

This study will look at research production regarding the number of papers produced each year. Researchers can observe the pattern and popularity of study themes through time by looking at papers by year of publication (Ahmi & Mohamad, 2019). "Quality audit in spinning mills: An explanation of some of the findings," by Steven Jonas, MD, was the first author to publish an article on audit quality in the Journal of the National Medical Association, Vol. 60, Issues. 3, in 1968 (Jonas, 1968). Since then, the number of

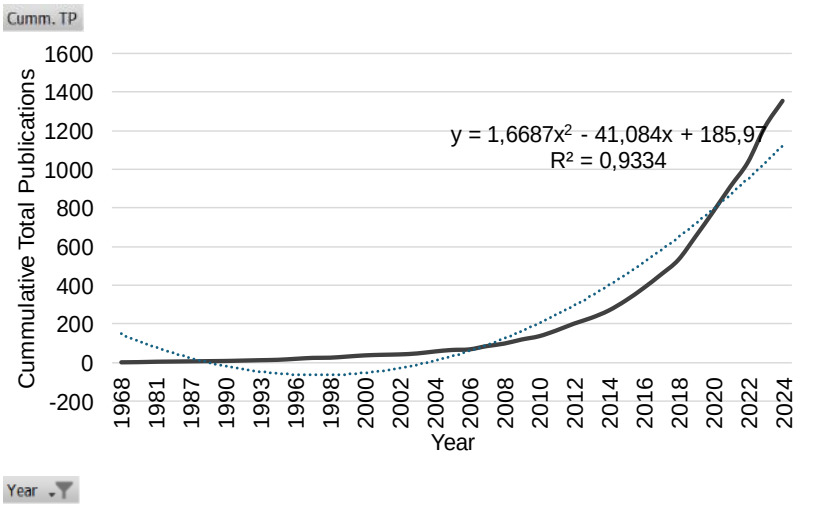


Figure 2.
Cumulative Growth of Publications Over Time (1997-2023)
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

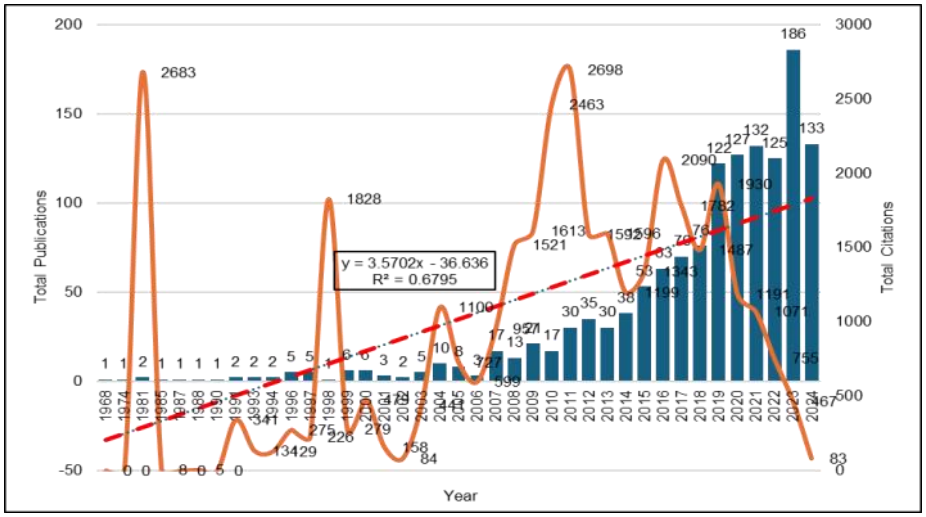


Figure 1.
Total publications and total citations by year; Source: Generated by the author(s) using biblioMagika

publications has risen steadily till 2024. The increase in the number and trend of audit quality publications has been fluctuating until now (see Figure 1 and 2). Table 3 shows the number of audit quality papers published since 1968. Audit quality appears to be a popular topic among academics, based on the number of publications.

The highest number of citations per year was 2698 in 2011, with 30 publications, but the average citation per publication cited was in 1981, with the paper "Auditor size and audit quality" written by L.E. DeAngelo of the University of Pennsylvania accounting for the highest total citations with 2683 citations per year (DeAngelo, 1981). In 2010, the second-highest number of citations per year was 2463. In 2016, there were 2090 citations per year, according to Table 3, which shows total publications and citations per year.

In the past five years, research on audit quality has shown significant growth and diversification. Key trends include the exploration of emerging technologies like artificial intelligence and blockchain in enhancing audit procedures, as well as their implications on audit quality. For instance, AI tools are being increasingly

Table 4.
The Most Active Journal

Source Title	TP	NCA	NCP	TC	C/P	C/CP	*h*	*g*	*m*
Auditing	58	164	54	3783	65.22	70.06	27	58	0.931
Accounting Review	47	127	46	6075	129.26	132.07	32	47	1.143
Managerial Auditing Journal	46	120	41	1165	25.33	28.41	20	33	1.000
Contemporary Accounting Research	37	117	36	3715	100.41	103.19	23	37	0.719
European Accounting Review	36	92	32	1383	38.42	43.22	19	36	0.731
International Journal of Auditing	32	84	25	513	16.03	20.52	13	22	0.929
Journal of Accounting and Public Policy	31	82	29	871	28.10	30.03	16	29	0.400
Journal of Financial Reporting and Accounting	21	53	18	124	5.90	6.89	7	10	1.000
Korean Accounting Review	20	49	14	27	1.35	1.93	3	3	0.500
Asia-Pacific Journal of Accounting and Economics	19	62	18	155	8.16	8.61	8	11	0.381
Academy of Accounting and Financial Studies Journal	19	47	15	40	2.11	2.67	4	5	0.400
Accounting Horizons	18	56	17	423	23.50	24.88	7	18	0.250
Asian Review of Accounting	18	45	16	187	10.39	11.69	9	13	0.563
Journal of Accounting, Auditing and Finance	18	48	16	484	26.89	30.25	9	18	0.529
Accounting and Business Research	14	42	11	177	12.64	16.09	6	13	0.500
Australian Accounting Review	14	23	11	132	9.43	12.00	5	11	0.227
International Journal of Accounting and Information Management	14	37	12	294	21.00	24.50	9	14	1.000
Current Issues in Auditing	13	46	9	87	6.69	9.67	5	9	0.333
Journal of Accounting in Emerging Economies	13	36	12	203	15.62	16.92	7	13	0.778
Journal of Accounting and Economics	12	26	12	3849	320.75	320.75	10	12	0.227

Note: TP=total number of publications; NCA=number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index; m=m-index.
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

used to analyze large datasets for anomalies, reducing the risk of human error and improving overall audit reliability. Similarly, blockchain is transforming financial auditing by providing immutable transaction records, ensuring greater transparency and accuracy

Another major focus has been the impact of regulatory changes and global events, such as the COVID-19 pandemic, on audit practices. The pandemic highlighted challenges in remote auditing, including difficulties in inventory verification and assessing fraud risks. As a result, there has been a surge in literature addressing how auditors adapt to such challenges, emphasizing the importance of technological and methodological agility in maintaining audit quality. Additionally, ethical concerns and compliance with evolving international standards have remained central themes, driving discussions around the role of audit quality in promoting trust and accountability in financial reporting

Most Active Journal

Research on audit quality is also published in various journals, conference proceedings, books, and book series. Table 4 shows the most active source titles publishing articles on audit quality. This report also lists the most active audit quality journals with 12 or more articles (see Table 4). As can be seen from the table, "Auditing" is the highest source of documents published on audit quality with 58 documents. The source of documents that received the most citations was "Accounting Review" with 6075 citations, and an average citation per paper of 129.26.Figure 3 depicts the co-occurrence of source documents with a minimum of five documents. Figure 3 shows that the document that releases the most studies on audit quality is auditing. The thickness of connecting lines shows the strength of the relationship between the document sources, while the size of the nodes indicates the number of documents. Relevant originals are frequently found together, as depicted in the same color. Auditing, NTU Management Review, Management Science, China Journal of Accounting Studies, and all other brown source documents, for example, are closely related and frequently occur together, as shown in the diagram. VOSviewer has produced twelve different colors, each indicating a cluster of 72 source documents, 824 links, and a total link strength of 3766.

Main Areas of Audit quality research

The main areas of audit quality research were analyzed in terms of (a) main subject areas, (b) frequency of keywords, and (c) document titles and abstracts.

Subject Area

Table 5.
Subject Area

Subject Area	TP	%	Subject Area	TP	%
Business, Management and Accounting	1117	82.37%	Earth and Planetary Sciences	10	0.74%
Economics, Econometrics and Finance	792	58.41%	Pharmacology, Toxicology and Pharmaceutics	10	0.74%
Social Sciences	178	13.13%	Biochemistry, Genetics and Molecular Biology	9	0.66%
Decision Sciences	80	5.90%	Agricultural and Biological Sciences	8	0.59%
Computer Science	74	5.46%	Multidisciplinary	7	0.52%
Engineering	70	5.16%	Psychology	6	0.44%
Arts and Humanities	53	3.91%	Chemical Engineering	3	0.22%
Environmental Science	30	2.21%	Physics and Astronomy	2	0.15%
Mathematics	17	1.25%	Health Professions	1	0.07%
Medicine	17	1.25%	Materials Science	1	0.07%
Energy	11	0.81%			

Table 5 summarises how this paper categorizes publications according to subject areas because audit quality relies more on research connected to Business, Management, and Accounting, these three topics of study account for 82.37 percent of all publications. Economics, Econometrics and Finance (58.41 percent), and Social Sciences (13.13 percent) are some of the other fields that have made significant contributions.

Keyword Analysis

The authors used the VOSviewer software to map the keywords provided for each document for keyword analysis. VOSviewer is a robust network analysis software that helps depict the dynamics and structure of science and performs connectors and events on keyword analysis to explore and study the intellectual structure of the targeted research field (Valenzuela et al., 2017; van Eck & Waltman, 2010). Figure 4 shows a visual representation of the author's keyword network, which is titled audit quality. The color, circle size, font size, and thickness of the connecting line in Figure 3 represent the strength of the association between keywords (Sweileh et al., 2017).

Keywords with the same meaning are deleted from the VOSviewer application's thesaurus to reduce keywords with the same meaning. The maximum number of keyword occurrences is ten. According to the investigation findings, audit quality research has been divided into seven clusters based on keywords. The first green cluster, which includes auditor size, audit tenure, audit firm size, and auditor industry specialization, is associated with audit quality. Blue, purple, red, yellow, orange, and light blue are the colors of the other clusters.

Meanwhile, Figure 5 shows study themes that should be investigated further in future studies. Topics most closely connected with audit quality are highlighted in yellow. This indicates that future studies will link audit quality to financial reporting quality, audit effort, audit fee, PCAOB, audit size, audit tenure, audit firm size, and the big four.

We also look at keywords in spreadsheet documents to see how many times they appear. The total frequency of keywords used in the recovered papers is shown in Table 6. In audit quality research, there are 92 keywords. The keyword with the highest performance (67.55%) is audit quality, followed by audit fees (7.74%), earning management (7.37%), and corporate governance (4.87%).

Title and Abstract Analysis

This study examines documents' inclusion and exclusion criteria using VOSviewer to quantify the type of occurrences and co-occurrences. The binary sum approach is used in the creation of a shared network in this investigation. According to VOSviewer's creators, the binary counting approach suggests that most repetitions of a figure of speech occur in journal inclusion and exclusion criteria have little bearing. Proper nouns that exist only once

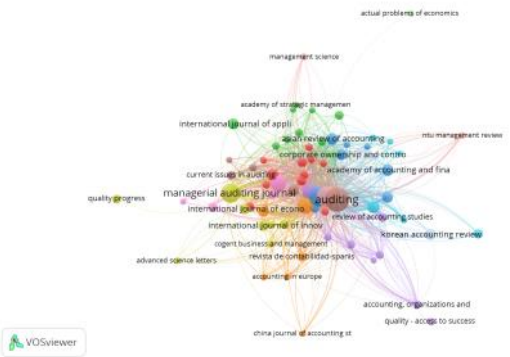


Figure 3.
Network Visualization Map of Citations by Source

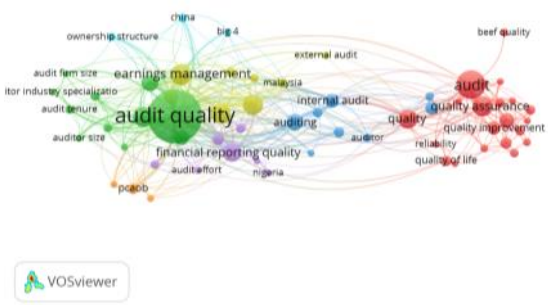


Figure 4.
The Author's Keyword Network Visualization Map

in the selected studies of a publication are regarded very much like linguistic expressions that feature ten or even more times (van Eck & Waltman, 2010).

Figure 5 shows a network of phrases with a total of 10 occurrences that appear together in the title and abstract fields. The core word in Figure 6 is audit quality, which serves as the central point of the auditing quality research network. The intensity of the relationship between terms is shown by the density of connecting lines, whereas the number of nodes represents the number of phrases. The same colour indicates that related words are commonly encountered together. For example, audit quality, pcaob, abnormal, accrual, price, size, audit, committee, and other red terms are closely linked and commonly appear together in the diagram. Each of the four clusters, each with 640 issue title terms, 62309 links, and a total link intensity of 205431, has been represented by three distinct colours.

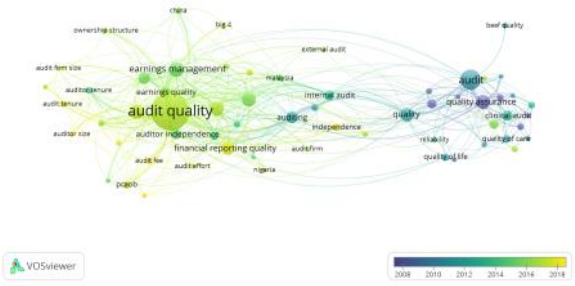


Figure 5.
Keyword Overlay Visualization Map

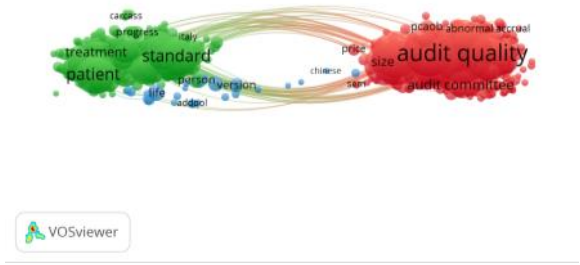


Figure 6.
Vosviewer Visualization of the Term Co-Occurrence Network Based on Title and Abstract Fields

Major Players and Research Collaboration

This study examines the characteristics of scientific collaboration on audit quality research by analyzing (a) the most frequently contributing countries, (b) the prominent institutions involved in audit quality research, (c) author's analysis, and (d) citation analysis.

Geographical Publication Distribution

This research also assesses the number of publications produced by each country, with 81 countries identified as producing audit quality publications. Table 7 and figure 7 displays the top ten most active countries, contributing at least 42 papers to audit quality. The United States had the most publications (347) in audit quality, accounting for 25.59 percent of all publications, followed by the China (11.80 percent), and Indonesia (9.07 percent). These findings suggest that industrialized countries are at the forefront of audit quality research.

Most Influential Institution

Based on a minimum of 11 publications, this article has considered the participation of research institutions connected to audit quality. A sum of 73 organizations has collaborated on the audit quality research. Table 8 lists the top ten institutions based on the number of papers they have published. Meanwhile, City University of Hong Kong has the most audit quality publications (24, or 1.77 percent), followed by UNSW Sydney (19, or 1.40 percent) and University of Sfax (18, or 1.33 percent).

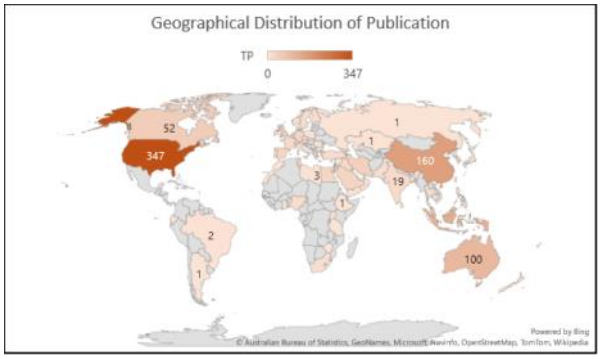


Figure 7.
Geographical Distribution of Publication
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Author's Analysis

For author analysis purposes, Harzing's Publish or Perish tool is utilized to visualize the variety of writers, highly productive contributors, associations, and descriptions of the work supplied for each document. According to Harzing's Publish or Perish, a total of 191 individual writers contributed to the quality audit's total of 1356 publications. For each publication, Table 9 shows the number of publications divided by the number of authors. Table 9 and figure 8 demonstrates that approximately 212 publications (15.63 percent) were written by a single person, while a group wrote the remainder. Three authors co-wrote most of the articles in audit quality (472 documents, or 34.81 percent), while two authors co-wrote 366 documents (26.99 percent). In one article, the most significant number of authors who wrote audit quality publications was fourten. A total of 14 authors contributed to the creation of one publications. Figure 6 shows single author and multi author.

This research also identifies the most active contributors who publish audit -quality papers. Table 10 shows the authors who have published at least nine times. According to table 10, Belk K.E., of Colorado State University's Department of Animal Sciences, is the most active author in this topic, having published 16 articles on audit quality.

The authors' collaboration is further investigated in this study with the use of VOSviewer. This analysis was created using the total count method, which looked at recognitions with more than five citations. The color, circle size, font sizes, and density of the apparent gap all demonstrate the quality of the writers' relationship. Connected authors are frequently grouped, as shown by the same color. According to the visualization created by VOSviewer, all of the authors collaborated and researched together, for example, Omer TC, Knechel WR, Sic LL, Zhang Y., Ghozali I., Chen Y., Vanstraelen A., Alzebam A., Salehi M (in red), Chi W., Gulf A., Lennox CS, Lin CJ, Wu X., Habib A., Lobo GJ, Chen (see Figure 9). There are 38 objects in Figure 6 with 6 clusters, 308 links, and a total link strength of 761.

A visualization mapping of the author's networking and countries with which they are affiliated is also included in Figure 10. Only nations with far more than five studies and more than just citations

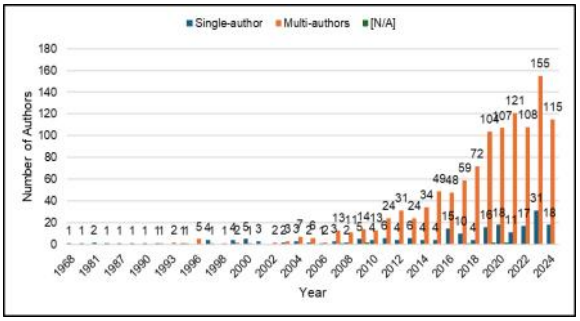


Figure 8.
Single Author vs. Multi Authors Source: Generated byy the author(s) using biblioMagika® (Ahmi, 2024)

Table 6.
Top Keywords

Keywords	TP	%
Audit Quality	916	67.55%
Audit Fees	105	7.74%
Earnings Management	100	7.37%
Corporate Governance	66	4.87%
Discretionary Accruals	64	4.72%
Auditor Independence	44	3.24%
Auditing	38	2.80%
Audit Committee	37	2.73%
Financial Reporting Quality	27	1.99%
PCAOB	27	1.99%
China	26	1.92%
Audit	24	1.77%
Audit Fee	21	1.55%
Audit Tenure	21	1.55%
Auditor Tenure	21	1.55%

Table 7.
Top 10 Countries Contributing to Publications

Country	TP	%
United States	347	25.59%
China	160	11.80%
Indonesia	123	9.07%
Australia	100	7.37%
Malaysia	81	5.97%
South Korea	68	5.01%
United Kingdom	64	4.72%
Canada	52	3.83%
Hong Kong	49	3.61%
Iran	43	3.17%

were considered in this analysis. According to the complete count method, the United States appears to be a significant actor in international cooperation. France, Iraq, Spain, Poland, Singapore, Bulgaria, Japan, Portugal, and Romania collaborated with the US (red). In comparison, the UK appears to be collaborating with Sweden, Italy, South Africa, and Switzerland (blue). In the meanwhile, China works with Hong Kong, Taiwan, and Turkey (yellow). Malaysia partners with New Zealand, Egypt, India, and Tunisia in the meantime (green).

Meanwhile, Table 11 shows the top 10 most referenced publications (based on the number of documents mentioned) according to the Scopus database. The document "Auditor Size and Audit Quality" by L.E. DeAngelo (1981) from the University of Pennsylvania in Philadelphia, USA, has garnered the most citations (2010 citations or an average of 50.25 citations per year).

ANALYSIS AND DISCUSSION

The purpose of this study is to assess intellectual creation in auditing research using bibliometric analysis. Bibliometric analysis can analyze the output of research findings in a particular subject (Fauzan & Jahja, 2021). The outputs of analyzing the literature can be used to assess the effectiveness of detailed study and govern a variety of financing strategies and correlate intellectual inputs and outputs (Fauzan et al., 2022). Furthermore, the results of the bibliometric analysis can be utilized to explain what factors stimulate research contributions in a given topic and guide scholars in generating higher works (Akhavan et al., 2016). The conclusions can be expressed as follows, based on the research objectives presented at the beginning of this work.

Moreover, clearly defining this bibliometric study's expected output is essential. By systematically analyzing the research landscape, the study aims to deliver actionable insights, including identifying dominant research clusters, emerging themes, and methodological gaps. For instance, the output could reveal underrepresented theories, unexamined sectors, or geographic disparities in audit quality research, thereby providing a roadmap for future exploration. Additionally, the study can guide practitioners and policymakers by distilling

Table 9.
Number of Authors per Document

Author Count	Frequency	%
0	8	0.59
1	212	15.63
2	366	26.99
3	472	34.81
4	228	16.81
5	54	3.98
6	9	0.66
7	2	0.15
8	3	0.22
10	1	0.07
14	1	0.07
Total	**1356**	**100**

Table 8.
Most Influential Institutions

Institution	TP	%
City University of Hong Kong	24	1.77%
UNSW Sydney	19	1.40%
University of Sfax	18	1.33%
Seoul National University	17	1.25%
Monash University	17	1.25%
The University of Texas at San Antonio	16	1.18%
Central University of Finance and Economics	14	1.03%
Deakin University	13	0.96%
Singapore Management University	13	0.96%
FSEG Sfax - Faculté des Sciences Économiques et de Gestion de Sfax	13	0.96%
Bentley University	13	0.96%
Universiti Teknologi MARA	12	0.88%
University of Houston	12	0.88%
Universitas Airlangga	12	0.88%
Universiti Utara Malaysia	11	0.81%

findings relevant to improving audit practices and regulatory strategies. This dual focus—advancing academic knowledge and practical application—justifies methodological rigour and ensures the bibliometric study delivers impactful contributions to the audit quality domain.

On Monday, September 2, 2024, this study focuses on audit quality publications obtained from the Scopus database. Using a search query based on the title of the article, "audit quality," this investigation discovered 1356 documents from the database that were declared. Steven Jonas, MD "Quality audit in spinning mills: An explanation of some of the findings" published in the Journal of the National Medical Association, Vol. 60, Issues. 3, in 1968. (Steven Jonas, 1968), sparked a study on audit quality based on documents obtained from the Scopus database. The number of audit quality publications has risen year after year since then. This field is rapidly evolving, and it is expected that various research opportunities connected to audit quality will continue to pique academics' attention in the future. With 241 documents, 2023 was the year with the most publications (13.72 percent). Articles contributed 1203 (88.72 percent) publications, while journals contributed 1272 (93.81 percent) publications. Almost all of the publications (96.83 percent) were published in English by 160 authors from 104 countries and 160 institutions. Auditing 58 (5.18 percent) documents are the document source (journal) most active in publishing research on audit quality.

Audit quality research is frequently published in scholarly journals in business, management, and accounting, 1117 (82.37 percent). In addition, audit quality research is carried out in domains such as economics, econometrics, and finance, among others. The most general keyword in this study is "audit quality" which appears 917 times (16.15 percent).

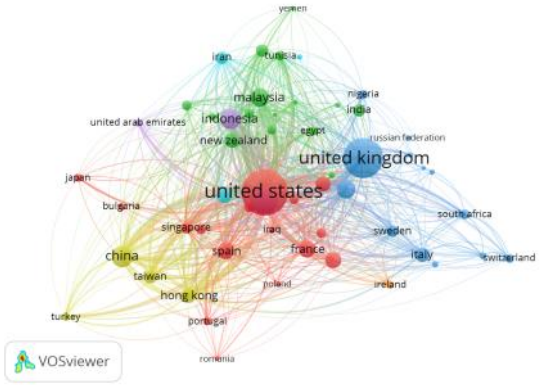


Figure 10.
Network Visualization Map of Co-Authors Between Countries

Table 10.
Most Productive Writers

Author's Name	Affiliations	Country	TP	% (N=874)
Belk, K.E.	Department of Animal Sciences, Colorado State University	United States	16	1.83
Savell, J.W.	Animal & Dairy Science, University of Georgia	United States	16	1.83
Hale, D.S.	Texas A&M University	United States	15	1.72
Griffin, D.B.	Texas Agricultural Experiment Station, Department of Animal Science, Texas A&M University	United States	14	1.60
Lawrence, T.E.	Department of Agricultural Sciences, West Texas A&M University	United States	10	1.14
Mafi, G.G.	Department of Animal Science, Oklahoma State University,	United States	10	1.14
Nedyalkova, P.	University of Economics Varna	Bulgaria	10	1.14
Omer, T.C.	School of Accountancy, University of Nebraska–Lincoln	United States	10	1.14
Woerner, D.R.	Department of Animal Sciences, Colorado State University	United States	10	1.14
Chi, W.	Department of Accounting, National Chengchi University,	Taiwan	9	1.03

Meanwhile, in the study of titles and abstracts, the terms "audit quality" and "standard" have been the research network's focal points. The analysis results with VOSviewer in the study of titles and abstracts show this emphasis area and keyword analysis.

With 347 (25.59 percent) of the total publications, the United States leads the 104 countries that participated in audit quality publications, followed by the China and Indonesia. In comparison, City University of Hong Kong became the university with the most publications in audit quality research, with 24 (1.77 percent). The majority of the papers (472, or 34.81 percent) were published by three authors, with Belk KE, of Colorado State University's Department of Animal Sciences, being the most prolific author of the 160 authors involved in audit quality research, with 16 (1, 83 percent) publications. The majority of the authors work together to generate articles about audit quality.

The citation metrics presented in this research show the effect of publications on the topic of audit quality. There have been 2483 texts published throughout 62 years (1959-2021), with 37573 citations. For papers generated from the Scopus database on audit quality, there

Table 11.
Most Cited Articles (per year)

No.	Author(s)	Title	Source Title	TC	C/Y
1	DeAngelo L.E. (1981)	Auditor size and audit quality	Journal of Accounting and Economics	2683	60.97727
2	Becker C.L.; Defond M.L.; Jiambalvo J.; Subramanyam K.R. (1998)	The effect of audit quality on earnings management	Contemporary Accounting Research	1828	67.7037
3	Gul F.A.; Kim J.-B.; Qiu A.A. (2010)	Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China	Journal of Financial Economics	700	46.66667
4	Francis J.R.; Yu M.D. (2009)	Big 4 office size and audit quality	Accounting Review	671	41.9375
5	Francis J.R. (2004)	What do we know about audit quality?	British Accounting Review	668	31.80952
6	Reichelt K.J.; Wang D. (2010)	National and office-specific measures of auditor industry expertise and effects on audit quality	Journal of Accounting Research	639	42.6
7	Lawrence A.; Minutti-Meza M.; Zhang P. (2011)	Can big 4 versus non-big 4 differences in audit-quality proxies be attributed to client characteristics?	Accounting Review	614	43.85714
8	Carey P.; Simnett R. (2006)	Audit partner tenure and audit quality	Accounting Review	504	26.52632
9	Francis J.R. (2011)	A framework for understanding and researching audit quality	Auditing	455	32.5
10	Gul F.A.; Wu D.; Yang Z. (2013)	Do individual auditors affect audit quality? Evidence from archival data	Accounting Review	403	33.58333

are a total of 606.02 citations every year, with 15.13 citations per publication. The article "Auditor Size and Audit Quality," written by L.E. DeAngelo (1981) from the University of Pennsylvania, garnered the most citations (2010 citations or an average of 50.25 citations per year).

LIMITATIONS AND SUGGESTIONS

Although the systematic review has various advantages, several limits must be overcome to give the paper's readers a clear understanding and enhance future research. First, the keywords used are solely for quality audits, as indicated by the piece's title. As a result, inquiries in categories other than the summary, phrases, writer, affiliations, and reference title were excluded from this study. Another primary reason for this is that the title of most research on a particular issue will be included in the paper. Some users save phrases related to search inquiries in document sources or affiliates.

The inclusion of additional variables in a bibliometric analysis enhances the depth and scope of the study, allowing for a more comprehensive understanding of the research landscape. By mapping independent and dependent variables, researchers can identify the core drivers and outcomes associated with audit quality, providing valuable insights into the interplay between key factors such as auditor independence, firm size, and financial performance. This approach also facilitates the identification of gaps in the literature, particularly in underexplored contexts or theoretical frameworks, thereby advancing academic discourse in this domain.

Furthermore, analyzing related theories and the specific sectors where audit quality research is applied enriches the contextual relevance of the findings. For instance, understanding how stakeholder theory or agency theory underpins audit quality research can offer nuanced perspectives on its implications in different industries. Exploring future trends, such as the integration of artificial intelligence in auditing or the role of sustainability reporting, ensures the study remains forward-looking and aligned with emerging challenges and opportunities. These enhancements not only justify methodological rigour of the bibliometric analysis but also provide a robust foundation for actionable recommendations, addressing both academic and practical needs.

However, it might not be specifically correlated to the researcher's objectives. As a result, before analysis can begin, filtering and cleaning should be accomplished. Other search criteria, such as abstracts and keywords, could have been employed in the future to widen the scope of research.

Moreover, though no search query is perfect, expect favorable and unfavorable errors (Sweileh et al., 2017). Third, because the Scopus database is the primary source of data present, our study focuses only on it. Although Scopus was among the most systems and processes for indexing all scientific articles, it is not without flaws (Ahmi & Mohamad, 2019; Fauzan et al., 2022; Fauzan & Jahja, 2021; Sweileh et al., 2017). Scopus can only cover some of the available sources. Other databases used in future research include Web of Science, Google Scholar, Dimension, and PubMed. When all of these resources are combined, more intriguing and significant discoveries can be made. Despite these flaws, this research has contributed to the body of knowledge by presenting current audit quality academic trends. This study also employs a bibliometric technique to improve and supplement prior findings on audit quality and provide valuable insights into historical literature trends.

REFERENCES

Ahmi, A. (2024). *Bibliometric analysis using biblioMagika*. available from https://bibliomagika.com.

Ahmi, A., & Mohamad, R. (2019). Bibliometric analysis of global scientific literature on web accessibility. *International Journal of Recent Technology and Engineering*, *7*(6), 250–258.

Ahmi, A., & Mohd Nasir, M. H. (2019). Examining the trend of the research on extensible business reporting

language (xbrl): A bibliometric review. *International Journal of Innovation, Creativity and Change*, *5*(2).

Akhavan, P., Ebrahim, N. A., Fetrati, M. A., & Pezeshkan, A. (2016). Major trends in knowledge management research: A bibliometric study. *Scientometrics*, *107*(3), 1249–1264. https://doi.org/10.1007/s11192-016-1938-x

Aleixandre, J. L., Aleixandre-Tudó, J. L., Bolaños-Pizarro, M., & Aleixandre-Benavent, R. (2015). Mapping the scientific research in organic farming: A bibliometric review. *Scientometrics*, *105*(1), 295–309. https://doi.org/10.1007/s11192-015-1677-4

Arens, A. A., Elder, R. J., & Beasley, M. S. (2012). *Auditing and assurance services: An integrated approach*. Prentice Hall.

Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

CAQ. (2020). *Audit quality indicators: The journey and path ahead*. Center of Audit Quality. https://www.thecaq.org/wp-content/uploads/2019/03/auditqualityindicators_journeyandpath2016-2.pdf

Cunningham, L. A. (2002). The sarbanes-oxley yawn: Heavy rhetoric, light reform (and it might just work). *Connecticut Law Review*, *35*, 915. https://doi.org/10.2139/ssrn.337280

DeAngelo, L. E. (1981). Auditor size and audit fees. *Journal of Accounting and Economics*, *3*(3), 183–199.

DeFond, M., & Zhang, J. (2014). A review of archival auditing research. *Journal of Accounting and Economics*, *58*(2–3), 275–326. https://doi.org/10.1016/j.jacceco.2014.09.002

Fallatah, E., Saat, N. A. M., Shah, S. M., & Chong, C. W. (2021). A bibliometric study of IFRS adoption and audit quality. *Academy of Accounting and Financial Studies Journal*, *25*(4), 1–15.

Fauzan, Ibrahim, M. B., & Jahja, A. S. (2022). A scholarly examination of tax compliance: A bibliometric analysis (1960-2021). *Journal of Indonesian Economy and Business*, *37*(1), 52–72. https://doi.org/10.22146/jieb.v37i1.2718

Fauzan, & Jahja, A. S. (2021). Intellectual dynamics of good governance studies: A bibliometric analysis. *Journal of Indonesian Economy and Business*, *36*(2), 155–178. https://doi.org/10.22146/jieb.v36i2.1411

FEA. (2016). *Overview of audit quality indicators initiatives update to December 2015*. Federation of European Accountants. https://www.accountancyeurope.eu/wp-content/uploads/1607_Update_of_Overview_of_AQIs.pdf

Francis, J. R. (2004). What do we know about audit quality? *The British Accounting Review*, *36*(4), 345–368. https://doi.org/10.1016/j.bar.2004.09.003

FRC. (2006). *Promoting audit quality*. Financial Reporting Council. https://www.frc.org.uk/getattachment/87498b3e-0aec-417c-b804-8b0c461174c8/Discussion-Paper-Promoting-Audit-Quality-Nov-2006.pdf

Garfield, E., Sher, I. H., & Torpie, R. J. (1964). *The use of citation data in writing the history of science*. Institute for Scientific Information Inc. http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=AD0466578

IAASB. (2014). *A framework for audit quality: Key elements that create an environment for audit quality*. International Auditing and Assurance Standards Board. https://www.ifac.org/system/files/publications/files/A-Framework-for-Audit-Quality-Key-Elements-that-Create-an-Environment-for-Audit-Quality-2.pdf

IAASB. (2020a). *About IAASB*. International Auditing and Assurance Standards Board. https://www.iaasb.org/about-iaasb

IAASB. (2020b). *Focus on audit quality*. International Auditing and Assurance Standards Board. https://www.iaasb.org/focus-areas/focus-audit-quality#:~:text=As the global auditing standard,and financial reporting more broadly

ICAEW. (2005). *Audit quality: Agency theory and the role of audit*. Institute of Chartered Accountants in England and Wales. https://www.icaew.com/-/media/corporate/files/technical/audit-and-assurance/audit-quality/audit-quality-forum-fundamentals/fundamentals-agency-theory-and-the-role-of-audit.ashx#:~:text=Audits serve a fundamental

purpose,decision-making authority to them

Jonas, S. (1968). Why audit quality of medical care?*. *Journal of the National Medical Association*, *60*(3), 228–233.

Kilgore, A., Harrison, G., & Radich, R. (2014). Audit quality: What's important to users of audit services. *Managerial Auditing Journal*, *29*(9), 776–799. https://doi.org/10.1108/MAJ-08-2014-1062

Kilgore, A., Radich, R., & Harrison, G. (2011). The relative importance of audit quality attributes. *Australian Accounting Review*, *21*(3), 253–265. https://doi.org/10.1111/j.1835-2561.2011.00141.x

Lamboglia, R., Lavorato, D., Scornavacca, E., & Za, S. (2020). Exploring the relationship between audit and technology: A bibliometric analysis. *Meditari Accountancy Research*. https://doi.org/10.1108/MEDAR-03-2020-0836

Lee, I. S., Lee, H., Chen, Y. H., & Chae, Y. (2020). Bibliometric analysis of research assessing the use of acupuncture for pain treatment over the past 20 years. *Journal of Pain Research*, *13*, 367–376. https://doi.org/10.2147/JPR.S235047

Liang, T.-P., & Liu, Y.-H. (2018). Research landscape of business intelligence and big data analytics: A bibliometrics study. *Expert Systems with Applications*, *111*(128), 2–10. https://doi.org/10.1016/j.eswa.2018.05.018

Montenegro, T. M., & Brás, F. A. (2018). A review of the concept and measures of audit quality across three decades of research. *International Journal of Accounting, Auditing and Performance Evaluation*, *14*(2–3), 183–253. https://doi.org/10.1504/IJAAPE.2018.091063

Rusly, F. H., Ahmi, A., Talib, Y. Y. A., & Rosli, K. (2019). Global perspective on payroll system patent and research: A bibliometric performance. *International Journal of Recent Technology and Engineering*, *8*(2 S2), 148–157. https://doi.org/10.35940/ijrte.B1028.0782S219

Samiee, S., & Chabowski, B. R. (2012). Knowledge structure in international marketing: A multi-method bibliometric analysis. *Journal of the Academy of Marketing Science*, *40*(3), 364–386. https://doi.org/10.1007/s11747-011-0296-8

Sweileh, W. M., Al-Jabi, S. W., AbuTaha, A. S., Zyoud, S. H., Anayah, F. M. A., & Sawalha, A. F. (2017). Bibliometric analysis of worldwide scientific literature in mobile - health: 2006-2016. *BMC Medical Informatics and Decision Making*, *17*(72), 1–12. https://doi.org/10.1186/s12911-017-0476-7

Teck-Heang, L., & Ali, A. M. (2008). The evolution of auditing: An analysis of the historical development. *Journal of Modern Accounting and Auditing*, *4*(12), 1–9.

Tepalagul, N., & Lin, L. (2015). Auditor independence and audit quality: A literature review. *Journal of Accounting, Auditing and Finance*, *30*(1), 101–121. https://doi.org/10.1177/0148558X14544505

Uyar, A., Kılıç, M., & Koseoglu, M. A. (2020). Exploring the conceptual structure of the auditing discipline through co-word analysis: An international perspective. *International Journal of Auditing*, *24*(1), 53–72. https://doi.org/10.1111/ijau.12178

Valenzuela, L. M., Merigó, J. M., Johnston, W. J., Nicolas, C., & Jaramillo, J. F. (2017). Thirty years of the journal of business & industrial marketing: A bibliometric analysis. *Journal of Business and Industrial Marketing*, *32*(1), 1–18. https://doi.org/10.1108/JBIM-04-2016-0079

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

White, H. D., & McCain, K. W. (1989). Bibliometrics. *Annual Review of Information Science and Technology*, *24*, 119–186.