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STUDY OF FINANCIAL REPORTING AND AUDIT QUALITY USING VOSVIEWER

STUDI TENTANG LAPORAN KEUANGAN DAN KUALITAS AUDIT MENGGUNAKAN VOSVIEWER

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ABSTRACT

This study aimed to analyze the research map related to Audit Quality using the Vosviewer bibliometric study. The methods employed to analyze the data in this study include using the Google Scholar tool Publish or Perish to look for papers that contain the term Audit Quality over a ten-year period starting in 2014 and ending in 2024, sorting the metadata of articles that meet the study criteria with Mendeley, and finally mapping the findings of the VOSViewer bibliometric visualization related to Audit Quality by grouping them according to the number of clusters and items. The study's findings demonstrate the vast amount of literature on audit quality, which is categorized into three clusters and encompasses fifty topic items. This study's involvement and purpose illustrate the key findings of audit quality research. Future scholars can use the visualization's findings as a guide to do additional research.
Keywords: *Audit Quality, Analyze, Data, Vosviewer Bibliometric*

ABSTRAK

Penelitian ini bertujuan untuk menganalisis peta penelitian terkait Kualitas Audit menggunakan studi bibliometrik Vosviewer. Metode yang digunakan untuk menganalisis data dalam studi ini meliputi penggunaan alat Google Scholar Publish or Perish untuk mencari artikel yang mengandung istilah Kualitas Audit selama periode sepuluh tahun mulai tahun 2014 hingga 2024, mengurutkan metadata artikel yang memenuhi kriteria studi menggunakan Mendeley, dan akhirnya memetakan hasil visualisasi bibliometrik VOSViewer terkait Kualitas Audit dengan mengelompokkannya berdasarkan jumlah kluster dan item. Temuan studi ini menunjukkan jumlah literatur yang besar tentang audit quality, yang dikategorikan ke dalam tiga kluster dan mencakup lima puluh item topik. Keterlibatan dan tujuan studi ini menggambarkan temuan utama penelitian audit quality. Para peneliti masa depan dapat menggunakan temuan visualisasi sebagai panduan untuk melakukan penelitian tambahan.
Kata Kunci: Audit Quality, Analisis, Data, Vosviewer Bibliometrik

INTRODUCTION

An integral component of the auditor's annual report, the audit report certifies that the financial statements have been submitted in accordance with Indonesian Financial Accounting Standards. Audit quality research has grown rapidly in recent years, for example in Indonesia. The practice of stakeholders, including the government and financial statement users, criticizing the quality of audits will put pressure on auditors to become one of the elements that increase audit quality. The growing number of big business accounting scandals is another motivating element.Therefore, this needs to be studied and researched further. Researchers have used various methods to study audit quality which is learned from several activities that can affect audit quality, including surveys, case studies, and empirical data analysis(Ulupui et al., 2023).

According to scholars' definition of the role of auditors in the financial system using agency theory, they must possess a solid understanding of accounting. Adam Smith introduced the idea of agency theory to the world.

According to agency theory, an agent enters into a contractual arrangement with one or more people to carry out specific tasks on their behalf. Accounting is a set of calculation rules that measure the economic activities of a company(Pascaru & Hategan, 2024). Either complicated estimations and forecasts, generally referred to as accrual accounting, or just factual facts, like those shown in cash flows, can be used to make measurements. Purchasing raw materials that have already been obtained but will be paid for later is an example of accrual accounting. The cash disbursement is made even if payment has not yet been received, and it will be taken into account when financial statements are being prepared. A list of payments and disbursements is not as useful to users of financial statements as accrual accounting(Yulianti et al., 2024). When earnings recorded under accrual accounting are analyzed, the findings show less volatility over a short period of time, making them a better indicator of financial performance. Analysis of economic activity takes into account more than simply monetary transfers; it also takes into account continuous attention. IAS 1-Presentation of Financial Statements states that the goal of financial reporting is to give stakeholders who are unable to prepare the statements information that is specific to their needs. There are hazards associated with accrual accounting's flexibility since management can manipulate earnings through presentation strategies.

Although estimating techniques adhere to the conceptual framework, the quality of financial information may suffer as a result of their superior ability to communicate outcomes. Stakeholder needs, such as alternative measurement techniques, sources of estimated elements, and assumptions, are being taken into account in financial reporting(Ciğer, 2020). Auditors must modify their audit approach by evaluating the components brought about by the new reporting standards in order to raise the degree of assurance in financial statements. IAS 1 links the quality of accounting information with the qualitative aspects of financial information, such as faithful presentation and relevance, since audit quality is dependent on the information provided in the financial statements. The ability of auditors to request changes to previously certified financial statements is what adds value to the audit (and how the audit improves reporting quality).

The next goal of this study is to pinpoint other research topics pertaining to audit quality(Jazadi & Santoso, 2024). since audit quality has emerged as a crucial concern for accountants. The findings of this study are also anticipated to assist auditors in raising the caliber of their audits. The findings of this study can potentially be used by regulators to create regulations that will improve audit quality(Sari & Sukiswo, 2024).

In order to guarantee that financial statements are presented truthfully and in accordance with applicable accounting rules, audit quality is essential. Established auditing standards ensure that there are no major misstatements in the financial accounts, whether as a result of fraud or mistakes(Singh, 2025). Information technology can assist auditors in identifying and locating errors in audited financial statements and reports from accounting systems. How well the audit process is carried out in relation to preset criteria is what is meant by the quality of the audit report. The Public Accountant Professional Standards

(SPAP) emphasize the value of auditors conducting high-quality audits. Compliance with auditing regulations or standards, as well as the professional caliber of the auditor, the factors taken into account during the audit, and the preparation of the auditor's report, are the basis for evaluating the quality of an audit(Nuraisiah et al., 2024). The audit report, which certifies that the financial statements were produced in accordance with Indonesian Financial Accounting Standards (PSAK), is a crucial component of the auditor's annual report. When inspecting the client's financial accounts, the auditor's ability to identify infractions in the client's accounting system is known as audit quality(Antwi et al., 2023). It is believed that higher audit quality results from more experienced auditors. The procedure and outcomes of a high-quality audit are intimately linked to the expertise of the auditor. Due to the auditor's unique duty to the meeting regarding the organization's budget report, an evaluator can do high-quality work(Sari & Sukiswo, 2024).

The auditor's quality crucial since it has to do with the conviction that the audited financial statements are prepared in compliance with relevant accounting standards and don't include any significant misstatements brought about by fraud or mistakes. This is consistent with laws like the Sarbanes-Oxley Act (SOX) in the US and Indonesia's Regulation of the Minister of Finance No. 17 / PMK.01/2008, which seeks to uphold the independence and quality of auditors. In the sense that professionalism and competence can be acquired through one's educational attainment, competence is one of the professional ethics principles that auditors must possess. It is hoped that the auditor's high level of education will increase their level of competence(Ardimansyah et al., 2025).

The quality of the audit is a crucial component of financial reporting, and it is anticipated that internal audit would enhance quality and collaborate to stop aberrations in the financial statements. Bibliometric analysis serves as a tool for evaluating and comprehending quality. By looking at publication trends, major themes, and significant authors, researchers can learn more about the changing audit quality landscape(Ummah & Kurniawan, 2024). This method identifies gaps and new subjects for further research while highlighting the evolution of the literature in this field.

Bibliometric analysis is a statistical method used to analyze scientific publications. This method can identify research trends, factors or main actors in a field, and relationships between publications. Meanwhile, VOSViewer is a visualization software that can create bibliometric maps. The map can help researchers understand the research landscape and identify areas that need further study.Based on the search results through the emarald and Sinta websites, this study only took 20 articles that matched the keywords to be studied(Bima et al., 2024). This study uses the VOSViewer bibliometric study analysis approach to estimate the research development on audit quality. Although audit quality has been the subject of numerous earlier studies, there is currently little bibliometric study of audit quality research trends. Thus, a thorough bibliometric examination of audit quality research trends is the goal of this work(Gulo et al., 2024).

LITERATURE REVIEW

Audit Quality

The quality of an audit conducted by an auditor is referred to as audit quality. An audit conducted by an auditor is considered to be of high quality if it complies with the requirements of the Public Accountant Professional Standards (SPAP). Professional quality, independent auditors, audit judgments, and report preparation are all examples of auditing standards(Nugrahanti, 2023).

Audit quality by (Ulupui et al., 2023), is defined as the ability level of an accounting firm to understand the client's business. Many factors play a role in the level of ability such as accounting values that can describe the company's economic situation, such as the adaptability of applying generally accepted accounting standards (GAAP) as a norm, the financial statements' depiction of competitiveness and its connection to company risk, and so on.

In its broadest definition, auditing is the methodical process of gathering and impartially assessing information about claims made about economic activities and events in order to ascertain how closely such claims adhere to predetermined standards and to communicate the findings to interested parties(Padmalia, 2023). From this opinion, the following essential things can be described: (a) Audits must be conducted systematically. This means that the audit is planned and uses people with adequate technical skills and training as auditors, and can be independent in mental attitude, both in appearance and in action. (b) Needs to gather proof to support the findings of the investigation and assess if the financial data complies with accepted accounting rules and criteria. (c) Assess how closely the claims made in the client's financial accounts match the predetermined standards or criteria. The requirements or standards in question are by generally accepted accounting principles. (d) Deliver the audit results to interested users (for example, to managerial ownership), so that users interested in the information can make economic decisions.

Judijanto et al., (2023), the market evaluates the quality of an audit when there is a chance that the auditor will find a) a violation in the client's accounting system and b) a violation in its recording. The term "audit independence" refers to the potential for the auditor to disclose a mistake. Because the auditor is answerable to the public and other parties interested in a company's financial accounts, they must perform high-quality work. The auditor is a party with the qualifications to review and verify whether the financial statements have been presented fairly in accordance with generally accepted accounting principles, in addition to relying on the client. From the definition of audit quality above, it can be concluded that audit quality is all possibilities (probabilities) where the auditor is guided by auditing standards and the applicable public accountant code of ethics while performing his duties, and where he is able to identify infractions in the client's accounting system and report them in the audited financial statements.

Kumari & Naresh (2023)assert that in order to maintain the profession's accountability to clients, the public, and the law, service quality is crucial. The professional caliber of auditors is one of the criteria or measurements of quality, according to the 1994 IAI publication SPAP (Public Accountant Professional Standards). General auditing standards dictate that auditors must be independent, honest, and objective in order to be considered professional. According to this assertion, the goal of

high-quality audit services is to guarantee that the industry, including auditors, is accountable to clients and the public. According to (Taqi, 2021), accounting companies must implement quality control policies and processes that incorporate the nine parts of quality control. This will ensure that audits, accounting services, and review services are conducted in a manner that complies with professional standards. The following are the nine components of quality control: (a) Independence. All auditors must be independent of the client when performing their duties. The procedures and policies used communicate the rules regarding independence to the staff. (b) Assignment of personnel to carry out the agreement. Personnel must have the technical training and professionalism needed in the assignment. The procedures and policies used are to appoint the right personnel in the assignment to carry out the agreement and to allow the partner to approve the assignment. (c) Consultation. Personnel can have assistants from people with the right expertise, judgment, and authority if necessary. The procedures and policies applied are to appoint individuals according to their expertise. (d) Supervision. Work at all levels must be supervised to meet quality standards. The purpose of the policies and procedures is to set rules for evaluating reports and working papers and to oversee the work being done. (e) Recruitment.New hires need to be of the highest caliber in order to complete the work. The procedures and policies that are implemented are always to implement an team member recruitment program to get employees at the level to be occupied. (f) Development of the professional. Employees must be knowledgeable enough to carry out their assigned duties. The policies and procedures that have been put in place inform staff members of new professional regulations and offer a program for enhancing specialized abilities. (g) Promotion. Personnel must meet the qualifications to fulfill the responsibilities they will receive in the future. The procedures and policies are applied to determine the qualifications needed for each accounting firm's responsibility level and periodically evaluate personnel. (h) Acceptance and continuation of cooperation with clients. The accounting firm must minimize the possibility of accepting assignments in connection with clients whose management has less integrity. The procedures and policies implemented are to establish criteria for evaluating new clients and review procedures for continuing cooperation with clients. (i) Inspection. The accounting firm must determine procedures related to other elements that will be implemented effectively. The methods and policies implemented are to define the extent and content of the inspection program and provide inspection report results to the appropriate management level.

The results of Mashayekhi et al., (2024) there are 6 audit quality attributes (out of 12 attributes) that have a significant effect on client satisfaction, namely: audit experience, understanding the client's industry, responsiveness to client needs, adherence to general standards, involvement of the KAP leadership, and involvement of the audit committee. The following are 12 audit quality attributes, namely: (a) Audit experience (client experience). Experience is an important attribute that auditors must possess. This is proven by the errors made by inexperienced auditors which is more significant than experienced auditors. (b) Understanding the client's industry (industry expertise). Auditors must also consider things that

affect the industry in which a business operates, such as economic conditions, government regulations and technological changes that affect their audits. (c) Responsiveness to client needs (Responsiveness). The attribute that makes clients decide on a KAP is the seriousness of the KAP in paying attention to the needs of its clients. (d) Compliance with general standards (Technical competence). The auditor's credibility depends on: the possibility of the auditor detecting material errors and misrepresentations and the possibility of the auditor reporting what he finds. Both of these reflect the implementation of general standards. (e) Independence (Independence). Independence is the attitude expected of a public accountant not to have personal interests in carrying out his duties, contrary to the principles of integrity and objectivity. Being independent means not being easily influenced. (f) Cautious attitude (Due Care). Auditors who work with a careful attitude will work carefully and thoroughly to produce a good audit, can detect and report errors and irregularities. (g) Strong Commitment to Audit Quality (Quality Commitment). IAI as the parent organization of public accountants in Indonesia requires its members to follow a continuing professional education program and to become a new member must follow the accounting profession program (PPA) so that their audit work is of quality, this shows a strong commitment from IAI and its members. (h) KAP leaders' involvement. A strong leader must be able to inspire others, acknowledge and value the efforts and accomplishments of both people and organizations, and offer a broad perspective and vision for improvement initiatives. (i) Properly perform field work (field work conduct). In order to correctly and maturely construct a written audit program that will satisfy clients, auditors must take into account the nature, scope, and timing of the work to be done. (j) The audit committee's involvement. A company organization needs an audit committee because it facilitates the realization of honest financial reporting and supervises the audit process. (k) Not easily trusting. Auditors should not consider management as dishonest people, but also should not assume that managers are people whose honesty is beyond doubt, this attitude will provide quality audit results and satisfaction for clients. So based on the definition above, it can be seen that auditors are required by parties interested in the company to give opinions on the fairness of financial reporting presented by company management and to carry out their obligations components must be possessed by auditors, namely competence (expertise), independence and due professional care.

Nonetheless, in the course of their work, auditors frequently encounter conflicts of interest with business management. In order to foster appreciation, management wants the business's operations or performance to seem successful, which includes increased earnings. The study of audit quality has been around since before 1985. Over the years, the view of audit quality has shifted, moving from the audit market, regulators, determinants of quality (e.g., auditor size, industry, non-audit service ratio, accruals) to smaller units of analysis (audit firm, audit partner, audit team and, contract terms)(Lidyah et al., 2023). An audit is a review and compilation of all the evidence that supports the data used to confirm and reveal that the data complies with predetermined standards. However, the auditor's audit quality

allows them to independently express their opinions about the data in the financial statements. Because of its audit quality, the auditor is also free to express comments about the data in the financial statements. Therefore, the independence of the auditor and the management's capacity to review and comment on the company's financial statements in order to enable the auditor to report financial statement fraud determine the quality of the audit.

Another way to think about audit quality is as a gauge of how well or poorly the audit found and revealed significant financial statement errors. The efficacy of the auditor in performing his obligations to offer a fair view on a company's financial accounts is known as audit quality. The amount of time needed to comprehend the client's business, evaluate risk, and carry out the audit—all of which are impacted by the client's complexity—as well as the time allotted for the auditor to complete the task contribute to the low audit quality in the first year of the audit assignment(Chiosea, 2024).

In the meantime, audit quality enhances the quality of profit (and sales revenue) in executive losses as well as the analysis of profit response in company assessment. The quality of audits is positively impacted by competence, auditor ethics, and time constraints. In the meantime, independence has no bearing on audits, and audit fees degrade audit quality. The most important factor influencing audit quality in public sector audits is auditor expertise. If the auditor loses their independence, the quality of the audit may suffer. Then, businesses with conscientious directors and Big 4 audits contribute significantly to increased social and environmental disclosure.

Bibliometric Analysis

Bibliometric analysis is used to see the distribution of the number of publications and citations from various literatures (Pangaribuan, 2024). Both qualitative and quantitative explanations of bibliometric analysis themes are possible (Chi et al., 2024). By examining the nature and advancement of the scientific in question, bibliometric indicators can provide a higher level of development for that science. Two primary factors affect the reliability of bibliometric indicators: database selection, namely the quantity of bibliometric databases, some of which are multidisciplinary and others in particular fields, and the identification of publications based on the authors' addresses (Kumari & Naresh, 2023). At higher degrees of aggregation, bibliometric indicators show greater resilience. They are less appropriate for assessing individuals or small research teams and more appropriate for examining trends in huge collections (large research teams) (Analysis, 2025).

"Coordination Program" bibliometric data search using Scopus data. Highly respected international scientific articles can be found in Scopus, an indexer and database for abstracts and citations. Peer-reviewed journal publications, scientific proceedings, books, and other conference articles are the source of abstracts and citations. Researchers can use Scopus as a database source to look for bibliographies. The choice to use Scopus stems from the fact that Elsevier, the top publisher in the world, owns one of the databases (data centers) of citations and scientific literature. The public was first exposed to Scopus in 2004(Evci, 2024)

Although the interpretation of bibliometric analysis frequently relies on objective evaluations (like

performance analysis) and subjective evaluations (like thematic analysis) established through well-informed techniques and procedures, the data that is the focus of bibliometric analysis tends to be massive (like hundreds, if not thousands) and objective (like the number of citations and publications, the occurrence of keywords and topics) (Vandapuye, 2024). One popular and reliable analysis technique is bibliometric analysis. Bibliometric techniques are employed to re-identify subjects or keywords that are related to the growth of mathematical problem solving. The goal of this technique is to comprehend the connection between journal citations and draw conclusions about the state of current or popular research areas.

Data from worldwide articles from the Scopus database (www.scopus.com) were used in this investigation. Data gathering by using the search term "Coordination program" The four stages of bibliometric analysis—the search stage, the filtering stage, the checking of bibliometric attributes, and bibliometric analysis—were then used to analyze the data gathered from Scopus searches (Polat Çeltikci, 2024). These are the steps involved in the research.

1. Phase of Search
   Bibliographies can be found by searching databases using Scopus. Scopus is one of the biggest databases that provide peer-reviewed papers and literature, which is why it was chosen. Bibliographic searches in this study are restricted to a few areas. First, the kind of bibliography that was used for the keywords, abstract, and title of the journal article. Second, "Coordination program" is one of the keywords chosen. Third, searches in English are restricted.
2. Stage of Filtering
   The journals to be examined are chosen at the filtration stage. The sort of article title, abstract, keywords, articles, or reviews are all included in the bibliography that is selected and utilized. Using the phrase "coordination program" and restricted search parameters, the first data search in the Scopus application yielded hundreds of bibliographies.

Bibliometric Analysis Stage

It will be examined in this study using seven different problem formulation criteria. The questions posed in the problem formulation at the outset are anticipated to be addressed by bibliometric analysis. The author visualizes the study data using the VOSviewer tool to aid in bibliometric analysis. A computer software called VOSViewer is used to display bibliometric maps. A network or relationship (co-relation) in an article citation can be shown by the text-mining algorithm. Computerized data processing is quite helpful for this bibliometric study, and the number of publications has significantly increased in recent years. Furthermore, in order for bibliometric analysis to be statistically accurate, a certain volume of data must be entered sequentially, in addition to relying on computerization for processing (Alshanti et al., 2024)

VOSViewer facilitates the interpretation of a relationship or network by presenting and visualizing detailed information about bibliometric graphic maps (Sabău et al., 2022). The filter results on Scopus that have been subjected to criterion limits represent the initial step in bibliometric analysis. By choosing the Excel CSV format, the document is exported. Choosing to create is the next step. Click Next, select Read Data from Bibliographic

Database Files (supported file types: Web of Science, Scopus, Dimensions, and PubMed), click Next, select Scopus, enter the extracted file from Scopus (in csv format), click Next, and then select Co-occurrence. click next, click finalize, then select co-authorship or co-citation.

VOSviewer

A free open-source program called VOSviewer is used to visualize and analyze bibliometric data(Ellili, 2023). Researchers may map research trends, find connections between articles, and assess the impact of their work with the help of this software.

Some of the uses of VOSviewer for bibliometric analysis are:

a. Visualizing bibliometric data
   VOSviewer allows researchers to visualize bibliometric data through network maps, which can help them understand research trends and relationships between publications.
b. Identifying relationships between publications
   VOSviewer can help researchers identify relationships between publications based on citations, co-authorship, and keywords.
c. Evaluating research impact
   VOSviewer can help researchers evaluate the impact of their research by analyzing the number of citations, h-index, and other indicators.
   Key features of VOSviewer:
   - Creating network maps
     VOSviewer can create various network maps, including co-authorship, citation, and keyword network maps.
   - Cluster analysis
     VOSviewer can be used to analyze clusters in network maps, which can help researchers identify key research topics.
   - Bibliometric overlay
     VOSviewer allows researchers to overlay bibliometric information on network maps, such as citation counts and h-index.

VOSviewer is a handy tool for bibliometric analysis. The software allows researchers to visualize bibliometric data, identify relationships between publications, and evaluate the impact of research. VOSviewer is a software developed by Leiden University that is used to build and visualize bibliometric networks, such as relationships between articles, authors, journals, or keywords, so that researchers can analyze bibliographic data and map relationships in academic literature. VOSviewer allows researchers to create, visualize, and analyze bibliometric maps, which help identify trends and patterns in a research field. Journals, researchers, or individual publications are among the networks that can be created. Citations, bibliographic linkages, co-citations, or co-authorship ties can all be used as building blocks. The Centre for Science and Technology Studies (CWTS) at Leiden University created VOSviewer. VOSviewer can be downloaded for free and is also accessible online. Co-authorship, citation, and keyword network maps are among the different types of network maps that VOSviewer can produce. VOSviewer has the ability to see the most relevant scientific journals, analyze publishing statistics, and examine publication trends within certain scientific journals(Khalid, 2024).

VOSviewer is the program that is frequently utilized for bibliometric research in this analysis. A growing number of bibliometric researchers are using Visualization of Similarity (VOS) viewers, which are designed to make it easier to create and visualize bibliometric maps. By using this

approach, we may effectively gather material and establish connections between the articles chosen from the possibilities. The mapping facilitates the examination of pertinent patterns, clusters, and trends in the scientific literature, which is another goal of our VOSViewer. By creating network maps according to keywords, authors, or institutions, users may intuitively and visually see how these elements relate to one another.

Trends can be visualized and analyzed in bibliometric form by using VOSViewer after the search and received results are downloaded in RIS management format. VOSViewer enables the development of network-based country maps, as well as network-based keyword maps and maps with several objects. We can analyze it more easily with the help of this program(Obidat, 2022).

RESEARCH METHOD

In this study, the method used descriptive using bibliometric investigation(Rahman & Zamin, 2022). The basis of the data used is a published scientific article about Audit Quality based on a survey of the emerald website. The articles used come from accredited international journals. Regarding the published articles, there are limitations used in this study which are published and grouped as Open Access or can be accessed publicly in terms of content, author, publisher, abstract, keywords, year of publication and pdf. Published article data was accumulated from 2014 to 2024 through publish or perish using google schoolar with a maximum result of 200. The search technique used the keyword "Audit Quality".

Furthermore, article data was downloaded using the RIS (Research Information System) format and CSV format, then the data was entered into Mendeley software to store reference data and find out the metadata contained in the article document. Then, the RIS data was managed and reviewed with the help of the VOSViewer (Visualization of Similarities) algorithm software. This was to see the bibliometric visualization and trends of scientific publications around Audit Quality in Indonesia over 10 years. Published article data was accumulated from January 2014 to December 2024.

Bibliometric studies of financial reporting and audit quality using VOSviewer can be done by analyzing related journals, evaluating author productivity, and visualizing them. Explanation VOSviewer is software used to build and visualize bibliometric networks. Bibliometric networks can include journals, researchers, or individual publications. These networks can be built based on citations, bibliographic relationships, co-citations, or co-authorship relationships. VOSviewer can create, visualize, and explore maps based on network data. VOSviewer can be used freely for any purpose(Ahmi & Mohamad, 2019).

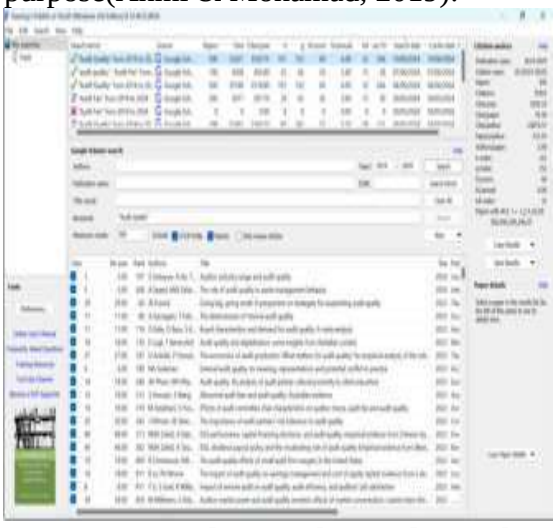

Figure 1. Article Search Results With Publish And Perish

Data review techniques include several methods, namely: (1) mapping

RIS data files to be reviewed and classified by year, author, and publisher using the Mendeley Desktop application; (2) dividing bibliometric network visualization and scientific publishing trends using VOSviewer software, by observing the total cluster and its items. (3) Divide topics, methods, research findings, and gaps using literature review studies.

RESULT AND DISCUSSION

Citation Analysis

One of the most important aspects of scientific articles is citation analysis. The main foundation of citation analysis is the relationship between citations in scientific publications. Numerous techniques, including as mathematics, statistics, comparison, induction, abstraction, generalization, and logical processes, are used in citation analysis. Several scientific journals, publications, citation objects, and cited phenomena are analyzed using this method in order to identify the intrinsic features of the bibliometric analysis approach. In the 1920s, citation analysis was first used. Gross et al. carried out the first citation analysis in literary history in 1927. They examined citations found in works published in a number of core journals for chemical education and chemical engineering. The subject of bibliometrics has seen an increasing number of studies on citation analysis. With practice, this approach can be applied successfully to a wide range of fields and is becoming more and more significant (Maulani & Widuri, 2024)

Counting the number of times other scholars cite a scientific paper is one method of evaluating its quality. A scientific work's practical significance in the field of science is indicated by its citation (Approach & Economics, 2021). A work's citation frequency reveals how frequently scientists debate it.

Image

The lines between keywords show how strong the relationship is. Thick lines indicate strong relationships, while thin lines indicate weak relationships. The denser the line, the stronger the relationship between keywords. One of the relationships between keywords with thick lines is "audit quality" and "corporate governance". This shows that many studies have examined the influence between the two keywords.

Some keywords appear on the edge of the network. This condition shows that each keyword is rarely studied and has become a research that has quite a vast opportunity to be developed. In the network visualization shown in the image above, several keywords can be found on the network's edge, such as "auditor liability" and "audit market competition". By looking at the location of these keywords far from the center of the network, it can be assumed that "auditor liability" and "audit market competition" are some of the keywords that have just begun to receive attention from researchers in audit quality research(Nazara et al., 2024).

This network visualization analysis with the keyword “audit quality” provides in-depth insights into topics that are currently of concern to researchers, research trends on concepts within the scope of audit quality, and relationships between other aspects that appear in the topic of audit quality such as audit fees, firm size, corporate governance, auditor process, and so on. Overlay visualization image of audit quality.The search results for articles on the Google Scholar website in Publish or Perish are exported in RIS (Research Information Systems) format, inputted

and reviewed using VOSviewer software. Here are the results:

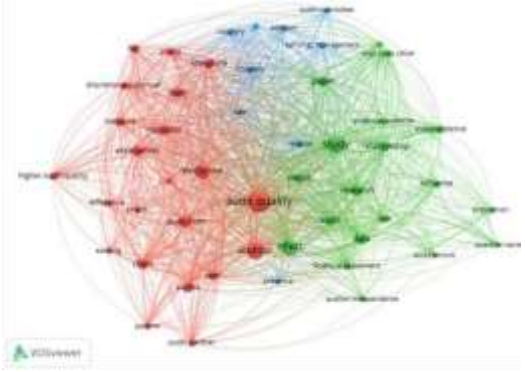

Figure 2. Network Visualization Audit Quality
Source: Processed data, VOSViewer 1.6.20 software

Several independent variables can influence audit quality explained and visualized in the image above. For example, based on the image above, audit quality can be influenced by audit firm, partner, tenure, independence, etc.

The mapping results on VOSViewer regarding the Audit Quality research series map contain 3 clusters and 50 topic items in this visualization, here is the explanation:

• Cluster 1. The red color consists of 22 items, namely: association, audit firm, audit partner, audit quality, auditor, audits, big, client, concern, difference, discretionary accrual, earning, evidence, extent, higher audit quality, level, literature, measure, partner, proxy, regulator, year.

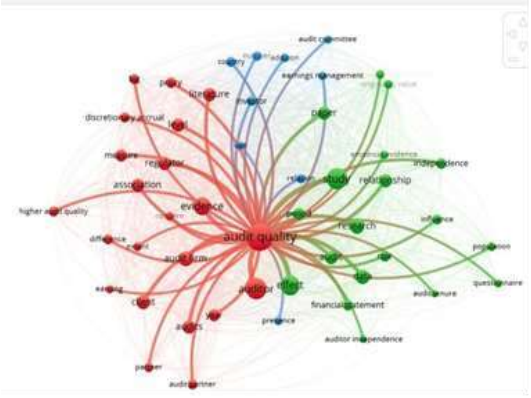

Figure 3. Network visualization obtained from cluster 1

Source: Processed data, VOSViewer 1.6.20 software

• Cluster 2. Green color consists of 19 items: audit, audit tenure, auditor independence, data, design methodology approach, effect, empirical evidence, financial statement, independence, influence, originality value, paper, period, population, questionnaire, relationship, research, role, study.

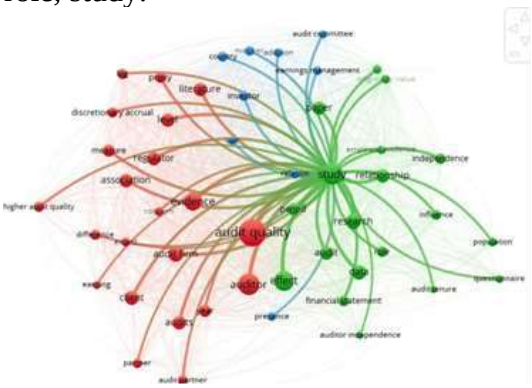

Figure 4. Network visualization obtained from cluster 2.
Source: Processed data, VOSViewer 1.6.20 software

• Cluster 3. The blue color consists of 9 items, namely: addition, audit committee, country, earnings management, investor, number, presence, relation, use.

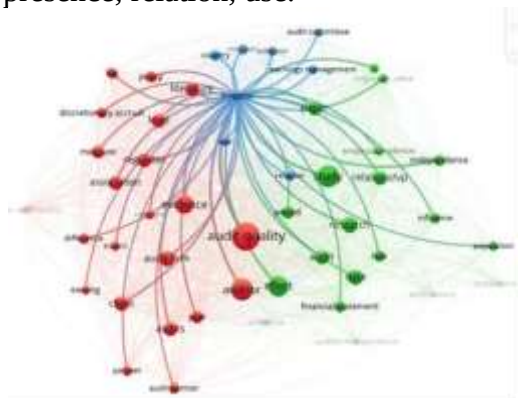

Figure 5. Network visualization obtained from cluster 3.
Source: Processed data, VOSViewer 1.6.20 software

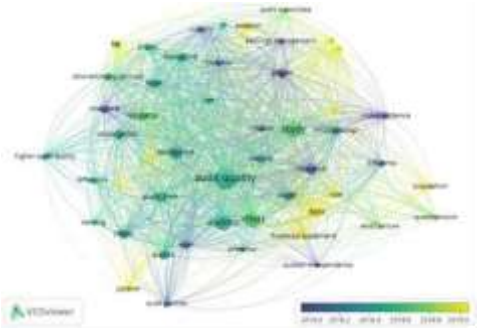

Figure 6. Overlay Visualization Audit Quality

Source: Processed data, VOSViewer 1.6.20 software.

The overlay visualization in this figure shows a bibliometric network analysis related to "audit quality" and related research topics. The size of each node reflects its significance or frequency in the research network, with "audit quality" being the largest and most central node, indicating that it is a significant focus of research. The colors range from blue to yellow. Terms in shades of green and yellow, such as "audit risk," "corporate social responsibility," and "emerging markets," are among the topics that have gained popularity in recent years and may indicate current research trends or new research avenues. Older terms in the blue area, such as "auditor choice," and "non-audit services," may indicate foundational studies or previous focuses in audit quality research. Smaller, more peripheral nodes such as "artificial intelligence," "data analytics," and "integrated reporting," point to emerging new topics that intersect with audit quality. The presence of "artificial intelligence," and "data analytics," highlights the growing interest in the role of technology in audit quality. This overlay analysis reveals that "audit quality" remains a complex, core topic with various interrelated research themes(Bima et al., 2024). Emerging interests focus on technology integration (AI and data analytics) and the role of corporate governance. The network shows a balanced mix of established research areas and emerging themes that may reflect future directions in audit quality research. The following is a density visualization of audit quality.The results of Figure 6 show the trend related to keywords during the research period. The color of the keyword node indicates the research period. This visualization shows the year this research was conducted with the range used, namely 2018 to 2019. We can see that the keyword "audit quality" was discussed and researched in mid-2019.

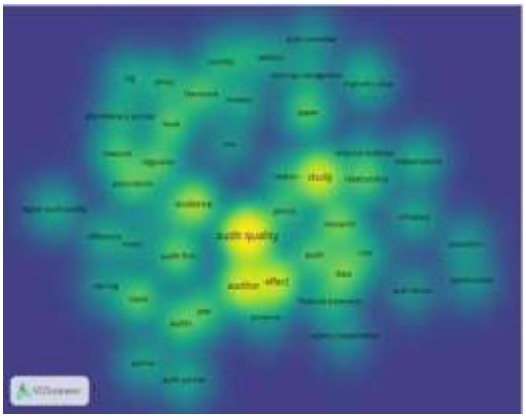

Figure 7. Density Visualization Audit Quality

Source: Processed data, VOSViewer 1.6.20 software.

The results of Figure 7 are a visualization of the VOSViewer color depth related to the map of research developments around Audit Quality. The density visualization in this figure shows the concentration and relevance of topics related to the "audit quality" research area. The yellow and light green areas represent clusters with high density, indicating frequently researched and interrelated topics. The term "audit quality" is located in the middle with the highest density, indicating its role as a core concept in the network. Other high-density areas include terms such as "audit fees", and "corporate governance", indicating that

these terms are closely related to audit quality and are popular research areas. Medium-density areas such as the terms “auditing”, “auditor tenure”, “corporate social responsibility”, “ownership structure”, and “emerging markets” are the green to blue areas. These areas are increasingly relevant but not as important as the main topic. “ownership structure” also shows medium density, indicating that this area is relevant but less studied in direct relation to audit quality. Darker blue areas indicate lower density topics, such as "artificial intelligence," "data analytics," "professionalism," and "auditor liability." This suggests that these topics are emerging or specific topics in audit quality research. Regional keywords such as "India," "China," and "Malaysia" indicate that audit quality research is specific or focused on a particular region. The keyword "emerging markets" is also seen in blue. It indicates a prominent but less critical interest in regional or market-based studies of audit quality. This may reflect a growing trend in studying audit quality in a specific economic context. This density analysis visualization highlights the layered structure in audit quality research. The highest density focuses on core topics such as "audit fees," "earnings management," and "audit committees." Medium density areas indicate established but slightly less essential themes, while low density areas represent emerging topics. Future research could expand on low density areas such as AI and data analytics in audit quality to reflect broader technological advancements in audit practice.The color of the keyword code indicates the research period. The more concentrated the color of the VOSViewer color depth visualization, the more researchers conduct research related to the keyword or topic. This visualization also shows how rarely and how often the keyword "Audit Quality" is discussed. Audit Quality, auditor, effect, study, evidence, audit firm, audit, audit partner are widely discussed(AL-Raggad & Al-Raggad, 2024).

Mapping of Literature Review Studies around Audit Quality

Based on a review of literature reviews from previous research journals, this study found several factors that influence audit quality, including:

a. Statement of finances.

The reliability of the financial statements they publish is greatly enhanced by auditors. Economic stability is supported by high-quality audits. To guarantee that audit work is of a good caliber, public sector auditors should become more competent. There exists a noteworthy correlation between corporate governance and the quality of financial statement information disclosure, as evidenced by the independent audit quality.

b. Audit Committee.

Must be informative for the audit committee in making auditor selection decisions, and to investors and accounting researchers interested in the relationship between audit firm type and audit quality. Adverse internal control audit opinions when the audit committee has more excellent accounting expertise (measured by the proportion of accounting experts on the committee).

c. Empirical evidence.

Demonstrates how research findings might be influenced by the audit quality substitute used. When using and interpreting research findings that use various audit features, practitioners and policymakers

should exercise caution. Even though there is no proof at the individual auditor level, it should be argued that the findings suggest that joint specialty circumstances have the highest audit quality. Specialization at the individual auditor level, when combined with audit firm specialization, provides audit firm specialization on its own.

d. Audit Tenure (audit period).
Higher audit quality is associated with longer audit firm tenure, which also mitigates the negative impact of partner tenure and audit fees on audit quality. According to other research, audit tenure and auditor specialization have an impact on audit quality, while audit rotation, audit fees, and accounting firm size have no effect.
e. Audit Firm.
Rotation of audit firms: The overall fees paid to auditors are lower for Big 4 audited corporations and remain the same for non-Big 4 audit firms. Rotation of audit firms is required to raise the caliber of financial reporting. The Public Company Accounting Oversight Board (PCAOB) inspection deficiencies, financial statement misstatements, and extreme absolute and positive discretionary accruals are all indicators of audit quality, which is higher for association member firms than non-member firms.
f. Partner.
The disclosure of the engagement partner's name is linked to lower levels of abnormal accruals and a higher likelihood that the accounting firm will identify a material weakness in internal control, according to two metrics of audit quality: abnormal accruals and the likelihood of identifying a material weakness in internal control. Higher audit fees are found to be positively correlated with more experienced and female audit partners in terms of audit quality.

CONCLUSION

Based on the presentation and explanation above, it can be concluded that: first, based on the visualization of the number of journal publications related to Audit Quality from 2014 to 2024, sourced from the international journal Emerald, and national journals accredited by Sinta. Second, based on the visualization of the VOSviewer bibliometric study, the scope of Audit Quality is divided into 3 clusters and 50 topic items. Cluster 1 covers 22 topics, cluster 2 covers 19, and cluster 3 covers 9. The limitations of this study are that the scope of the survey only covers Audit Quality from 2014 to 2024, not all of which meet the criteria that have been determined and needed. In addition, this study uses secondary data from journals indexed in Scopus and Sinta.

This study aims to conduct bibliometric mapping of audit quality topics based on Scopus indexed literature. Bibliometric mapping is a quantitative analysis method of scientific literature to identify trends, patterns, and research contributions in a particular field. By analyzing several articles related to audit quality aspects, this study can provide knowledge and insight on the development of audit quality topics. By identifying keywords, review articles, and their relationship to audit quality. The results of this study are expected to provide significant contributions to auditor practices, stakeholders and for further researchers. The survey results show that there are pretty significant differences in articles viewed from the order of the number of

citations in other articles. A scientific technique that can be helpful to scholars who wish to conduct a retrospective of a wide and rich field of study is bibliometric analysis. The prevalence and use of bibliometric databases and software, which make it easier to gather and evaluate vast amounts of scientific data, have contributed to the recent explosion in popularity of bibliometric technique. Program coordination is a significant and relatively recent use of bibliometrics(Martins et al., 2024).

This collaboration network reveals a core cluster of researchers focusing on audit quality—highlighting a close-knit group of researchers and collaborators across clusters. Lead authors in clusters drive significant research directions in audit quality. While bridging authors facilitate broader knowledge sharing across related topics. This insight can help identify influential researchers and potential collaborators in audit quality research. This collaboration network reveals a core cluster of researchers who focus on audit quality—highlighting close-knit groups of researchers and collaborators across clusters. Lead authors in clusters drive significant research directions in audit quality, while bridging authors facilitate broader knowledge sharing across related topics. These insights help identify influential researchers and potential collaborators in audit quality research(Polat Çeltikci, 2024).

This limitation may cause bias in data selection because not all journals are indexed in the database. In addition, this study does not collect primary data, so the analysis results depend on the quality and coherence of the data available in the journals accessed. For further research suggestions, additional research is needed to investigate the sub-themes that emerge in audit quality research. Based on this research, audit quality is influenced by independent variables visualized in the explanation above. So this can be used as the title of the following research using different statistical testing methods, so that more types of studies will be studied and produced through the keyword "Audit Quality". It can also be done with cross-country research to help identify best auditing practices and areas for reform. More in-depth research is needed to examine the involvement of new technology in audit quality.

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