



## What drives internal audit effectiveness? A systematic literature review of 20 years of evidence

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### ABSTRACT

Internal audit (IA) effectiveness is crucial in supporting good organizational governance. However, there are varied findings in the literature regarding the factors that influence IA effectiveness. This Systematic Literature Review (SLR) study aims to explore the factors driving internal audit (IA) effectiveness based on 20 years of evidence. Using data from 30 previous studies published from 2005-2025, the results are divided into three main findings. First QR 1, management support has been the most dominant factor for two decades, followed by IA independence and audit competence as the next dominant factors. Second QR 2, information technology (IT) emerged as the most prominent factor in studies between 2020-2025, explaining the shift toward new factors driving internal audit effectiveness. However, traditional factors such as management support remain relevant for now. Third QR 3, the findings emphasize the importance of synergy between management support and technology adoption to support internal audit, in addition to the need for regulators to develop future regulations that are adaptive to technological developments in internal audit practices.

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### 1. INTRODUCTION

The role of internal audit (IA) is becoming increasingly complex, as (Institute of Internal Auditors (IIA), 2025) explained that currently internal audit plays an important role in providing added value and company operations. In addition, internal audit also plays a role in evaluating and improving risk management, control, and corporate governance. In practice, internal audit has a very important role in a company. Research by (Benkirane & Benazzi, 2024; Qadri, 2025) mentioned that effective internal audit can improve company performance, such as profitability, asset management and maintaining financial stability. This is because internal audit (IA) helps companies identify inefficiencies, recommend cost-saving measures, and improve the accuracy of financial reporting (Budiandru, 2024).

Furthermore, other research also mentions that effective internal audit helps companies in streamlining the company's operations (Wadesango & Muwishi, 2024),

highlighting that internal audit (IA) is of strategic value to the company. In addition, the implementation of risk-based internal audit further strengthens IA's role in enterprise risk management, as shown in the study (Harahap & Erlina, 2024; Pradana et al., 2024). However, despite its strategic role, challenges in achieving IA effectiveness remain. The fundamental questions that arise are: What factors drive internal audit (IA) effectiveness?

The definition of internal audit (IA) effectiveness is the degree, including quality, to which the objectives set for the internal audit activity are successfully achieved (The Institute of Internal Auditors (IIA), 2010). Previous research conducted by (Cohen & Sayag, 2010; Drogalas et al., 2015; Mihret & Yismay, 2007) identified that factors such as management support, IA independence, and IA competence are key determinants. Meanwhile, other studies suggest that internal audit (IA) effectiveness is also influenced by other external factors, such as collaboration with external audit and the organizational environment (Badara & Saidin, 2014; Barišić & Tušek, 2016). Nonetheless, the ever-changing business environment, such as today's information technology developments, also brings significant changes in internal audit (IA).

An article released by PwC Indonesia together with the *Ikatan Komite Audit Indonesia (IKAI)* confirms internal audit's role in "Next Gen," where internal audit must be able to meet stakeholder needs through (1) digitalization of internal audit; (2) Agile Auditing; and (3) internal audit skills enhancement (PwC Indonesia, 2023). With these three steps, internal audit is expected to become a strategic business partner for the organization amid technological development and digitalization. Moreover, according to a survey reported by (McKinsey & Company, 2024) said that around 90% of organizations around the world are undergoing digital transformation in some form, although this refers to the transformation process in general. This suggests that the drivers of IA effectiveness may have shifted, with mastery of technology becoming a critical new variable. Some studies suggest that the use of technology, such as cloud-based computing and other technologies can improve audit effectiveness (Alkebsi & Aziz, 2017; H. Alqudah et al., 2024). But are traditional factors such as management support, audit competence, and independence still relevant?

Therefore, this systematic literature review is designed to determine (1) the factors that consistently influence internal audit effectiveness; (2) the changing trends of these factors over the past 20 years; and (3) provide implications for practitioners and regulators based on the latest findings. This systematic approach is used to analyze articles that do not have numeric data, such as qualitative research, theoretical reviews, or others, so this approach is expected to accommodate the diversity of data and factors to see the overall pattern of findings (Dixon-Woods et al., 2005; Greenhalgh et al., 2004). Thus, to see the consistency of factors related to IA effectiveness, this review will look at how often specific factors are mentioned. In addition, by looking at trends in factors related to internal audit (IA) effectiveness, this literature can look at the interactions between these factors, especially between modern and traditional factors. Thus, this article makes an important contribution to filling the literature gap that has often separated the study of traditional and modern factors. Ultimately, the results of this systematic literature review can inform companies and regulators on how to enhance their internal audit functions.

## 2. RESEARCH METHOD

### 2.1. The Systematic Literature Review Methodology

A systematic literature review approach was used in this study to look at the factors driving internal audit (IA) effectiveness in the last two decades. Furthermore, the research design followed systematic steps based on the SLR framework adopted by (Kitchenham & Charters, 2007), which includes (1) formulation of research questions; (2) search for relevant literature; (3) selection and screening of literature; (4) data extraction; and (5)

synthesis of research. Thus, this literature can provide a comprehensive, structured, and evidence-based overview of the developments and consistencies that drive internal audit (IA) effectiveness over time.

## 2.2. Data Retrieval Procedure

Literature sources were taken from reputable scientific databases such as Scopus, IEEE Xplore, ScienceDirect, Google Scholar, SpringerLink, and Emerald. In searching the database, 57 articles were found. At the initial stage, an initial screening process was carried out by looking at the title and abstract of the article, then the article underwent a full text review to ensure that the articles met the inclusion and exclusion criteria. Through this stage, the number of articles that meet the criteria will be reduced, to see how the overall article selection process can be seen in the PRISMA model in Figure 1.

To ensure that this article comes from a quality publication, the author uses a journal screening tool called "Rapid Journal Quality Check". But to ensure that the article comes from a reputable journal, the author checks manually on the web [www.scimagojr.com](http://www.scimagojr.com) or through the journal's official web page by looking at the academic database index. Furthermore, in order for the 57 articles to be suitable for the research topic, the author will ensure that the articles meet the inclusion and exclusion criteria and that the selected articles can answer the research topic. Table 1 is a systematic approach to the identification and selection of the reviewed articles adopted from a study with a similar method by (Ma et al., 2025). In addition, the author also conducts an article validity by ensuring that the empirical data used in the study is relevant and makes a real contribution to the understanding of the factors that influence internal audit quality, and the methodology used, such as the clarity of the research design, the instruments used, and the validity and reliability of the data.

Table 1. Systematic Approach for Identification and Selection of Reviewed Articles

No	Approach
1	Research Question (1) What factors consistently affect internal audit effectiveness? (2) How have the trends of these factors changed in the last 20 years? (3) What are the implications of the findings for practitioners and regulators?
2	Keyword Search String The search strategy uses a combination of keywords with Boolean operators (AND, OR), such as ("Internal audit" or "Internal Audit Effectiveness") AND ("Determinants" or "Factor") AND ("Technology").
3	Electronic Database Google Scholar IEEE Xplorer ScienceDirect SpringerLink Emerald
4	Inclusion & Exclusion Criteria <i>Inclusion Criteria</i> (1) Articles published from 2005 to 2025. (2) Peer-reviewed journal articles and publications, and reviewed articles in English. (3) Articles indexed on Scopus (Q1-Q4) or come from reputable journals. (4) Explicitly discuss the driving factors of internal audit effectiveness. <i>Exclusion Criteria</i> (1) Non-academic articles such as blogs, personal opinions, or news summaries. (2) Studies that are not directly relevant to the research topic.

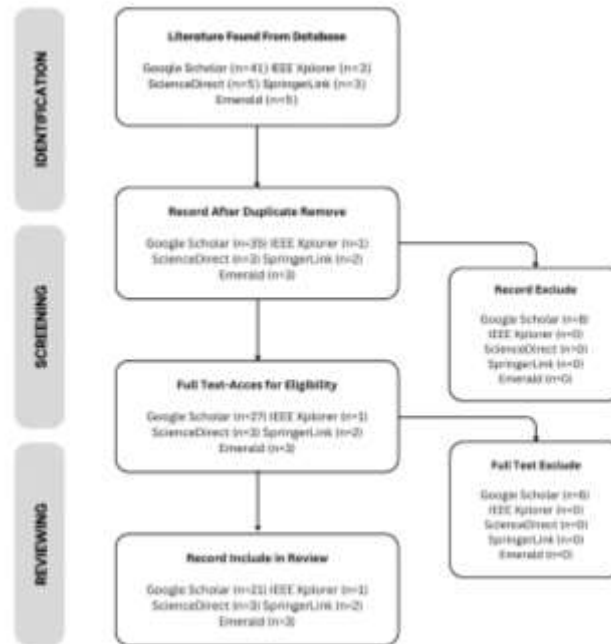


Figure 1. PRISMA Model for Literature Review

### 2.3. Data Analysis Process

Data obtained from the literature will be analyzed using thematic narrative synthesis techniques (Thomas & Harden, 2008). This narrative-thematic method was chosen because some of the selected studies used qualitative methods, theoretical reviews, and other mixed methods that have diverse data, so this approach offers depth (through narrative) and breadth (through thematic patterns) (Lucas et al., 2007; Shukla et al., 2014). Through this process, the author can identify relevant thematic and narrative patterns by grouping factors into specific characteristics and periods, which are then presented as the basis for answering research questions (QR) and formulating comprehensive and evidence-based conclusions. In addition, this literature will also analyze the research gaps in the 30 studies used. In this analysis, the author will use bibliometric analysis using Keyword co-occurrence through VOSviewer software as described by (Donthu et al., 2021). The results of biometrics will be analyzed descriptively to determine research gaps, This analysis will be seen through (1) the size of the keyword occurrence node; (2) the links between nodes; (3) the thickness of the links; and (4) the color of each cluster. Thus, the author can conclude the research gaps that can be researched in the future.

## 3. RESULTS AND DISCUSSIONS

This literature begins with a descriptive analysis of the articles reviewed, as described in point 3.1. This analysis contains a distribution of the year of publication, where the article was published, the data collection area, the sector studied, and the research method used. Next, in 3.2, we will discuss the main objective of this literature, where the authors categorize the factors driving internal audit (IA) effectiveness based on the similar characteristics of these factors. Finally, in 3.3, we discuss the research gaps identified using bibliometric analysis.

### 3.1. Descriptive Analysis

Table 2 lists the articles used in this systematic literature review. In total, 30 articles were used, of which 24 were Scopus-indexed publications and 6 were from reputable publishers. The selection of these articles was done selectively to ensure that the literature analyzed has a strong scientific basis and supports the discussion of this research comprehensively.

Table 2. List of Articles for Literature Review

Author	Code	Article Title
(Cohen & Sayag, 2010)	1	The Effectiveness of Internal Auditing: An Empirical Examination of its Determinants in Israeli Organisations
(Arena & Azzone, 2009)	2	Internal audit effectiveness: Relevant drivers of auditees satisfaction
(Mihret & Yismay, 2007)	3	Internal audit effectiveness: an Ethiopian public sector case study
(Barua et al., 2010)	4	Audit committee characteristics and investment in internal auditing
(Alzeban & Gwilliam, 2014)	5	Factors affecting the internal audit effectiveness: A survey of the Saudi public sector
(Salehi, 2016)	6	Investigation Factors Affecting the Effectiveness of Internal Auditors in the Company: Case Study Iran
((Drogalas et al., 2015)	7	Factors Associated with Internal Audit Effectiveness: Evidence from Greece
(Ahmad, 2015)	8	The Effect of System Quality and User Quality of Information Technology on Internal Audit Effectiveness in Jordan, And the Moderating Effect of Management Support
(Endaya & Hanefah, 2016)	9	Internal Auditor Characteristics, Internal Audit Effectiveness, and Moderating Effect Of Senior Management
(Cherves et al., 2016)	10	The effectiveness of internal audit in Jamaican commercial banks
(Barišić & Tušek, 2016)	11	The importance of the supportive control environment for internal audit effectiveness – the case of Croatian companies
(Onumah & Yao Krah, 2012)	12	Barriers and Catalysts to Effective Internal Audit in the Ghanaian Public Sector
(Karagiorgos et al., 2011)	13	Evaluation of the Effectiveness of Internal Audit in Greek Hotel Business
(Badara & Saidin, 2014)	14	Empirical Evidence of Antecedents of Internal Audit Effectiveness from Nigerian Perspective
(Alkebsi & Aziz, 2017)	15	Information Technology Usage, Top Management Support and Internal Audit Effectiveness
(Joghan, Rahimian, & Gharedaghi, 2018)	16	Factors Affecting the Internal Audit Effectiveness in the Viewpoint of Audit Committee Members
(H. M. Alqudah et al., 2019)	17	Factors affecting the internal auditors' effectiveness in the Jordanian public sector: The moderating effect of task complexity
(Gamayuni, 2018)	18	The effect of internal auditor competence and objectivity, and management support on effectiveness of internal audit function and financial reporting quality implications at local government
(Asiedu & Deffor, 2017)	19	Fighting Corruption by Means of Effective Internal Audit Function: Evidence from the Ghanaian Public Sector
(Gharrafi et al., 2024)	20	Exploring the external factors affecting the effectiveness of internal audit in Moroccan public enterprises with commercial activities: A qualitative approach
(Thuy, 2025)	21	Determinants of internal audit effectiveness and its mediating role in fraud prevention
(Gharrafi et al., 2025)	22	External factors affecting the effectiveness of internal audit functions in the public Moroccan sector: A quantitative approach
(Lenz et al., 2017)	23	Internal Audit Effectiveness: Multiple Case Study Research Involving Chief Audit Executives and Senior Management

(Bani Ahmad (Ayassrah) et al., 2023)	24	The Effect of System Quality and User Quality of Information Technology on Internal Audit Effectiveness in Jordan, And the Moderating Effect of Management Support
(H. Alqudah et al., 2024)	25	Enhancing the internal auditors' effectiveness in Jordanian companies: The impact of cloud-based accounting usage and the moderating role of digital proficiency
(Doda et al., 2025)	26	Effects of Information Technology Utilization on Internal Audit Effectiveness and Moderating Effect of Management Support in Ethiopian His
(H. Alqudah et al., 2023)	27	Examining the critical factors of internal audit effectiveness from internal auditors' perspective: Moderating role of extrinsic rewards
(Omar et al., 2023)	28	Decision Tree and Random Forest Models for Internal Audit Effectiveness Factors Evaluation
(Abdelrahim & Al-Malkawi, 2024)	29	Examining the moderating role of senior management support in internal audit effectiveness: evidence from GCC region
(Oussii & Klibi, 2019)	30	Does the chief audit executive gender matter to internal audit effectiveness? Evidence from Tunisia

Figure 2 illustrates the publication trend related to internal audit (IA) effectiveness from 2005-2025, showing the fluctuation of this discussion. The highest number of publications was in 2017, with a total of 7 publications, indicating significant interest in this topic in that year. In addition, there are also several studies with zero publications, such as 2005, 2006, 2020, and 2021. But overall, this topic began to be discussed frequently from 2015 to 2025. In terms of the distribution of journals that contain related publications (Figure 3), two journals are often the publication media for this topic, namely *Edelweis Applied Science and Technology* and the *International Journal of Auditing*, where each of these publishing media contains two publications. Meanwhile, the other journals only contain one publication.

Based on the research distribution map (Figure 4), it can be seen that research related to the effectiveness of internal audit is spread in several regions of the country, especially in developing countries. Countries in the Middle East are the dominant countries in this research, such as Saudi Arabia, Iran, Yemen, and Jordan, with the highest intensity. In addition, countries in Southeast Asia, Europe, and parts of Africa also contribute to research on this topic. In terms of the sector that is the object of research, as can be seen in Figure 5, it is dominated by the public and private sectors. Meanwhile, the most widely used research methods are surveys and quantitative methods, as illustrated in Figure 6. The other methods are also found, namely qualitative, causal studies, and descriptive analysis.

Based on this descriptive analysis, research on internal audit effectiveness shows a fluctuating trend but tends to increase in the last period. Publications are spread across a variety of journals, although they have not been published in a single journal. Research on this topic is also geographically dispersed, especially in developing countries, reflecting the global interest in this topic. In terms of research sectors, public and private are the main focus of this research. In addition, survey and quantitative methods are most widely used, indicating that the empirical approach is still the main method in discussing this topic.

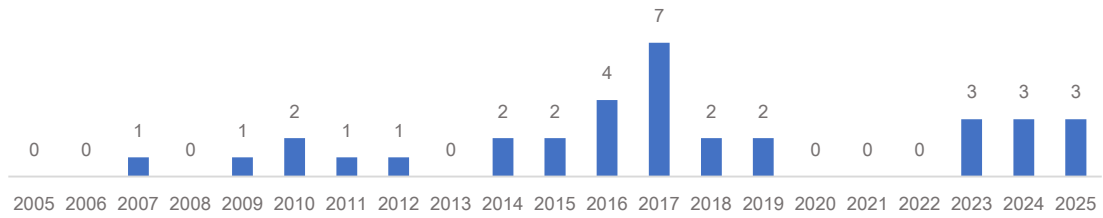


Figure 2. Number of Publications by Year



Figure 3. Number of Publications by Journal



Figure 4. Map of Research by Country

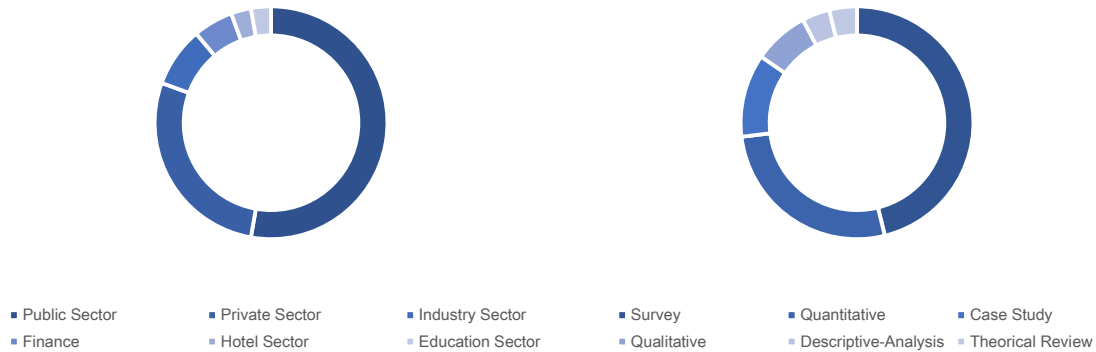


Figure 6. Method in the Research

### 3.2. Content Analysis

Furthermore, to answer (QR) 1, 2, and 3, the author grouped the various factors found in the 30 literature based on similar characteristics. From this process, the author managed to find several main factors that significantly play an important role in internal audit (IA) effectiveness, namely management support, IA independence, IA quality, IA team competence, information technology, audit processes & activities, relationships & collaboration, organizational environment, resources & size, legal regulations, demographics & individual characteristics, isomorphism, communication and extrinsic factors. Each factor is then broken down into key factors and sub-factors as illustrated in Table 2.

Table 2. Sub-Factors of Key Factors of IA Effectiveness

Sub-Factor	Key Factor	Code article
Management Support	- Top Management Support	1, 3, 5, 6, 7, 9, 10, 12,
	- Management Support	15, 16, 17, 18, 20, 22,
	- Senior Management Support	24, 26, 27, 28, 29, 23
	- Top Management Empowerment	
	- Human, Financial & Material Support	
Internal Audit Quality	- Internal audit quality	3, 7, 10
	- Quality audit of investigation	
Auditor Competence	- Competence of IA team	7, 12, 16, 18, 21, 23
	- Professional proficiency	
	- Auditor's experience	
	- Technical skills	
Internal Audit Independence	- Organizational independence	7, 10, 16, 17, 19, 21,
	- Independence of IA	22, 27
	- IA independence	
Audit Process & Activity	- Audit processes and activities	2
Information Technology (IT)	- IT usage	15, 21, 24, 25, 26, 28
	- System quality	
	- Cloud-based accounting	
	- Digital transformation	
	- System Quality; User Quality of IT	
Relationship & Collaboration	- Cooperation between internal & external auditors	14, 16, 17, 21, 27
	- Relationship with external audit	
	- External Auditor's Cooperation	
Organizational Environment	- Supportive control environment	11, 13, 22, 8
	- Organizational culture	
	- Control Environment	
	- Organizational Characteristic	
Resources & Size	- Budget in IA	4, 16, 28



	- Size of IA department	
	- IA member's size	
Regulation & Law	- Implementation of regulations & law	19
Demographics & Individual Characteristics	- Internal auditor's characteristics	9, 30
	- Gender IA	
Isomorfisme	- Coercive/Mimetic/Normative Isomorphism	8
Communication	- Communications	20, 13
Factor Extrinsic	- Extrinsic rewards	27

In presenting the discussion of this research, the author visualizes the factors driving the effectiveness of internal audit (IA) in the form of bar charts. The factors included in the bar chart are the factors that appear the most from 2005-2025. This is done to find out which factors are the most consistent and which trends in critical factors are driving internal audit (IA) effectiveness over time. Figure 2 is a bar chart to present the distribution of factors affecting the effectiveness of Internal Audit (IA), which is grouped in 4 specific periods, making it easier to read and understand the dynamics of change and dominance of each factor throughout the last 2 decades.

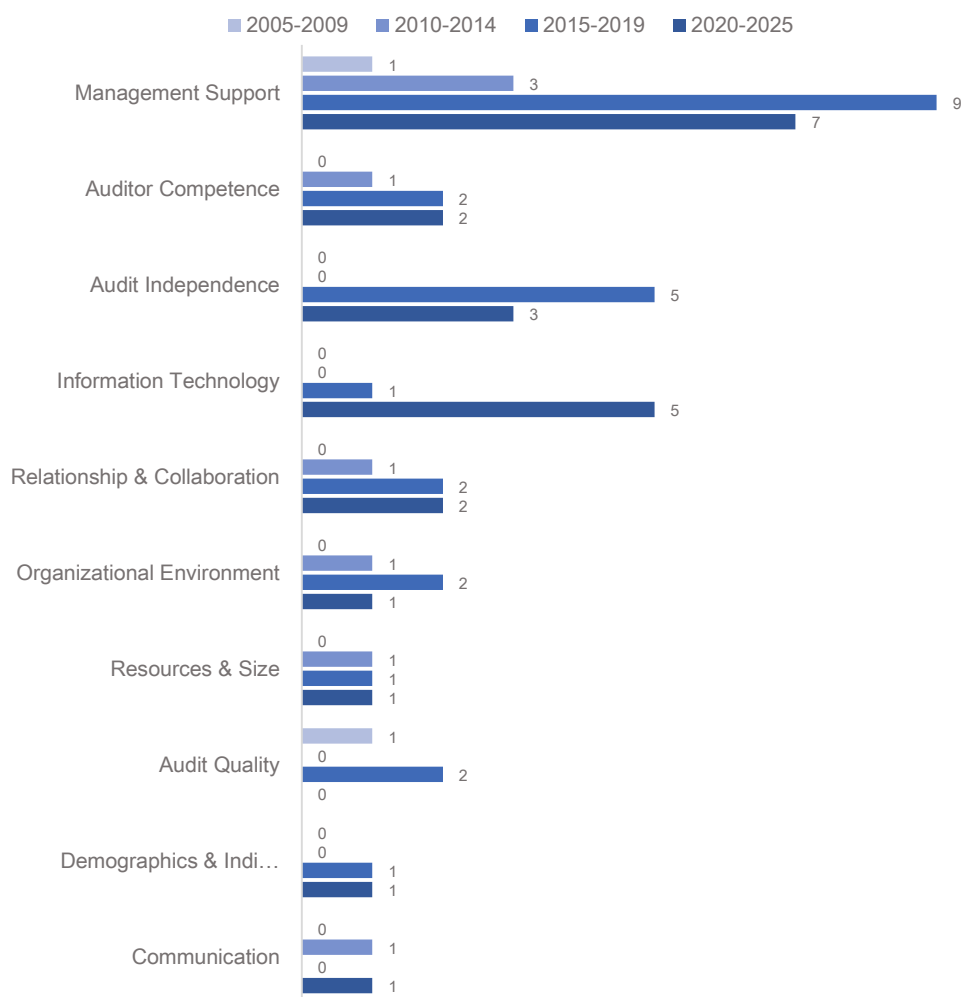


Figure 7. IA Effectiveness Factor Trends (2005-2025)

a. QR 1: What factors consistently affect internal audit effectiveness?

Based on the bar chart in Figure 7, several factors consistently affect the effectiveness of internal audit (IA). First, management support, this factor is the most dominant and consistent factor that appears in each period. Mentioned in 20 articles, especially the 2015-2025 period, shows the importance of this factor in the effectiveness of internal audit (IA). Top management plays a crucial role in the success of the internal audit (IA) function. This support includes budget allocation, human resources, and top management's active involvement in implementing audit recommendations. Studies from various geographical regions, including the Middle East (Alzeban & Gwilliam 2014; Joghan et al. 2018), Africa (Mihret & Yismay, 2007; Onumah & Yao Krah, 2012), and Europe (Drogalas et al., 2015; Karagiorgos et al., 2011), consistently found a positive correlation between management support and internal audit (IA) effectiveness.

The second important factor is internal audit independence, with an occurrence rate of 8 studies from 2005-2025. Studies in the commercial bank sector in Jamaica (Cherves et al., 2016), Morocco public sector (Gharrafi et al., 2025), as well as research from the perspective of audit committees by (Joghan et al., 2018), mentioned that neutrality and objectivity are factors that are quite influential on the effectiveness of internal audit (IA) in carrying out its functions. Furthermore, audit competence is also a consistent factor in several periods, especially 2010 and above. Based on a study by (Drogalas et al., 2015; Joghan et al., 2018; Onumah & Yao Krah, 2012; Thuy, 2025) emphasizes the importance of internal audit (IA) competence, skill, and experience in making relevant and reliable audit recommendations. However, despite this, management support remains the most consistent and significant factor in improving internal audit (IA) effectiveness, as illustrated in the SLR data trend diagram.

b. QR 2: How have the trends of these factors changed in the last 20 years?

Changes in the factors driving internal audit (IA) effectiveness show changes over time as illustrated in Figure 2. In the 2005-2009 period, the drivers of internal audit effectiveness still focused on management support and audit team competence as described by (Arena & Azzone, 2009; Mihret & Yismay, 2007) in Israel and Ethiopia. In the period 2010-2019, other factors such as auditor competence (Onumah & Yao Krah, 2012) and external collaboration (Badara & Saidin, 2014) began to emerge for discussion. This is due to the complexity of regulations and the demands of corporate governance. The period 2015-2019 is the peak of research with traditional factors, as seen in Figure 2, where there are 9 articles explaining management support, audit competence, and relationships & collaboration, appearing as many as 2 articles. This period was also the beginning of the emergence of information technology in internal audit (IA) effectiveness. A study by (Alkebsi & Aziz, 2017) shows that traditional and modern factors are beginning to interact in internal audit (IA) effectiveness. In addition, independence was also significant during this period.

In the current period (2020-2025), there is a shift in the factors driving internal audit (IA) effectiveness. Studies in Jordan explain the importance of the quality of IT systems in internal audit (IA) effectiveness (Bani Ahmad (Ayassrah) et al., 2023). Another study in Jordan calls cloud computing (H. Alqudah et al., 2024), and IT utilization in Ethiopia (Doda et al., 2025) is also a factor driving effectiveness. However, traditional factors such as management support remained stable at 7 articles during this period. The persistence of this factor indicates that the role of people and leadership is still relevant in driving internal audit effectiveness driven by technology utilization. Overall, this trend suggests that the past two decades have seen an increased understanding and a more structured focus on the key elements that drive internal audit effectiveness. In the current and future periods, information technology is a factor that continues to grow due to the rapid increase in information technology (IT).

c. QR 3: What are the implications of the findings for practitioners and regulators?

In (QR) 1 and 2, we have discussed what factors are consistent and the development of factor trends each period, so that from these discussions we can conclude to answer (QR) 3. First, for practitioners, management support is proven to be an absolute factor in internal audit (IA) effectiveness. Management support must continue to be sought in the form of both resources and political commitment. In addition, IA independence and IA competence are key factors in addition to management support. Therefore, executive management and the board can build proactive strategic relationships to ensure audit independence and authority. But in modern businesses with agile governance, maintaining IA independence becomes more complex. Thus, it requires the right organizational structure, clear policies, management support, and auditor professionalism. In addition, developments in today's digital era are also a crucial factor. IT mastery is becoming a mandatory competency amidst the growing IT risk attacks, therefore, audit teams should invest in training in data analytics, AI-based auditing, and digital surveillance. Maintaining traditional competencies, such as risk and control understanding or collaboration with external auditors, should also be enhanced to create synergies in organizational risk management. As for regulators, the findings highlight the need to adjust the regulatory framework to address contemporary challenges, such as adapting new guidelines in light of rapid technological developments. For the public sector, regulators need to facilitate capacity-building programs to ensure the audit profession's readiness in the face of digital disruption, while balancing the basic principles of auditing that have been tested.

### 3.3. Research Gap

Figures 8, 9, and 10 are the outputs of the bibliometric analysis using keyword co-occurrence using VOSviewer software. In Figure 8, you can see a network visualization of the keyword associations that appear in 30 studies. Furthermore, Figure 9 displays the results of the overlay visualization, which provides time information related to the occurrence of keywords from the studies used. Finally, Figure 10 presents the results of the density visualization, showing the density or frequency of keywords mentioned, helping to identify topics related to internal audit (IA) effectiveness that are frequently discussed.

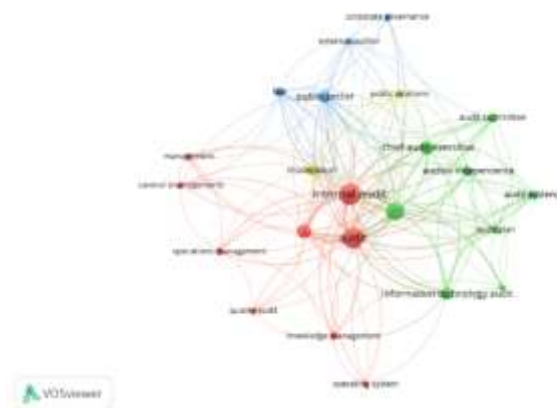


Figure 8. Bibliometric Network Result

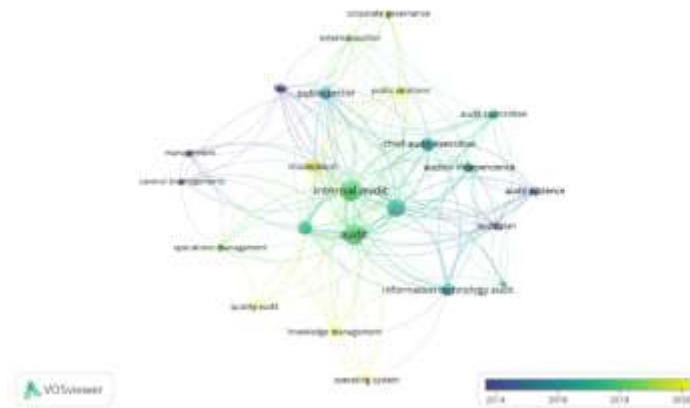


Figure 9. Bibliometric Overlay Visualization Result

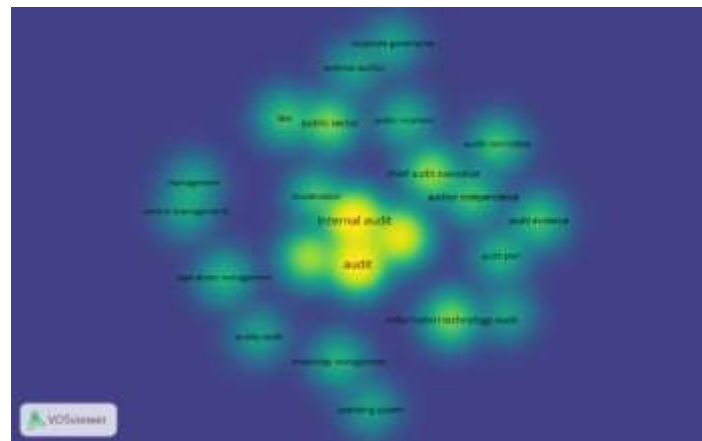


Figure 10. Bibliometric Density Visualization Result

The VOSviewer visualization results reveal several research gaps that require further exploration. In the period around 2014-2020, internal audit (IA) effectiveness is driven by several key factors as described in the previous point, however, several research gaps can be identified. First, information technology audit started to emerge around 2016-2020 with a moderate node size and density. This explains that this factor is quite often discussed, but its specific application in improving audit quality has not yet been explored. It can be seen from the absence of a connected network between information technology audit and audit quality. Therefore, research that explores the relationship between the two needs to be done to find out whether the use of information technology (IT) can significantly improve audit quality. Second, operating systems and quality audits are topics that began to emerge around 2020 and beyond. This indicates that these topics are relatively new and have the potential to become key factors in driving internal audit effectiveness in modern organizations. Third, in general, research related to internal audit (IA) effectiveness is still centered on the public sector, as seen from the visualization of figures 8, 9, and 10, where the node size and density are moderate. Therefore, further research is needed that focuses on other sectors, such as the private sector, non-profit, or other specific industries, to gain a more thorough understanding of internal audit (IA) effectiveness in various organizational contexts. Thus, these research gaps can be utilized for future developers of internal audit (IA) science and practice.

#### 4. CONCLUSION

This literature confirms that management support, IA independence, and audit team competence have consistently influenced internal audit (IA) effectiveness for 20 years, with technological developments emerging as the dominant trend in the most recent period. The main contribution of this literature emphasizes the comprehensive mapping of the development of factors driving internal audit (IA) effectiveness over 20 years, as well as the integration of traditional and modern factors. The findings have practical implications for organizations on the importance of management support in internal audit effectiveness, as well as technology investments by providing adequate resources, training and digital infrastructure. Then, for regulators, this literature can be used as a consideration in drafting regulations for the future. The limitations of this study lie in the dominance of the public sector and reliance on available literature. For future researchers, an in-depth exploration of traditional and modern factors amid rapid technological development is needed, and cross-country and industry studies can strengthen the generalizability of the findings. In addition, the research in this literature only highlights cloud-based accounting and the use of IT in driving the effectiveness of IA, for further research can examine the role of Artificial Intelligence (AI) in increasing the effectiveness of IA amid the development and increasingly complex IT threats.

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