

A systematic review of public sector audits in Indonesia

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ABSTRACT

The literature on public sector auditing in Indonesia remains nascent and requires further exploration. This study aims to provide a comprehensive overview and serve as a reference for future research in this field by analyzing the trends, developments, and prospects for further research on Indonesian public sector audit literature. This study uses a systematic literature review covering 36 articles from 2015 to 2022. It also highlights recent advancements and outlines recommendations for further research. Seven key categories for future research are identified: audit quality, audit findings and opinions, fraud, auditor characteristics, financial report quality, transparency and accountability, and emerging themes. The findings indicate that even while academic publications are on the rise, more thorough and diverse research is still required. The study indicates that research on public sector auditing in Indonesia is still in its infancy, with chances to investigate fraud, audit quality, audit findings and opinions, transparency, accountability, and emerging themes. This study's contribution is that it offers a thorough summary and a point of reference for upcoming investigations into public sector auditing in Indonesia.

KEYWORDS:

Public sector audits; Indonesia; systematic literature review

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INTRODUCTION

The demand for accountability and transparency of information on the government's financial performance from the stakeholders is increasing as a form of exemplary governance implementation. One form of implementing accountability and transparency is the quality of government financial statements. The audit opinion issued by the Audit Board of the Republic of Indonesia (BPK) is not just a measure but also a crucial determinant of the quality of government financial statements (Irwandi & Pamungkas, 2020; Rakhman & Wijayana, 2019). The BPK's audit opinion carries significant weight, impacting local governments' performance in presenting financial statements as a form of financial management accountability (Adiputra et al., 2018). Meanwhile, internal audit functions are to improve the quality of financial statements by reducing fraud in government institutions (Rahmatika, 2016; Rahmatika & Yadiati, 2016). Therefore, public sector audits are essential in achieving government financial accountability and transparency.

It is crucial to highlight the evolving landscape of public sector auditing practices in the country to contextualize the study on Indonesian public sector audit literature comprehensively. Over the past decades, Indonesia has undergone significant reforms in its public sector auditing framework aimed at enhancing accountability and transparency in government operations. These reforms have been driven by persistent challenges such as corruption, inefficiency, and the mismanagement of public funds, prompting institutional changes and the adoption of international auditing standards.

The establishment of key institutions like the Financial and Development Supervisory Agency (BPKP), which coordinates the Government Internal Supervisory Apparatus (APIP), underscores Indonesia's commitment to enhancing internal audit capabilities. The APIP includes the inspector general at ministries and state institutions as well as the inspectorate at provincial and district/city governments. Concurrently, the role of the external auditor (BPK) with the responsibility of examining the management and accountability of state finances, has expanded to encompass broader responsibilities, including performance audits alongside traditional financial audits.

Despite the importance of public sector auditing, to our knowledge, no systematic literature review (SLR) was published on public sector auditing in Indonesia. Therefore, this study analyzes the trends, developments, and prospects for further research on the public sector audit literature in Indonesia. This study examines how far existing studies have progressed and what opportunities exist for future research to develop this field of study. This literature review addresses two research questions: (1) What trends could be seen in the themes, research backgrounds, ideas, methods, and primary data analytic approaches covered in public sector audit studies? (2) What research prospects exist for public sector audits in the future?

RESEARCH METHOD

This study presents a systematic analysis of the development of public sector audit studies in Indonesia using the SLR methodology. The application of SLR methodology, known for its rigorous and scientific approach, provides more robustness to the findings than traditional narrative literature reviews. This method minimizes bias and errors, thereby enhancing the validity and replicability of the review (Tranfield et al., 2003). Therefore, the SLR method is suitable and highly reliable for investigating what has been done and what needs to be done related to a specific topic of interest (Linnenluecke et al., 2019).

This study implements the SLR approach in three stages. The first stage involves identifying relevant articles, including selecting sample articles for further analysis. In the second stage, bibliometric analysis is conducted using web-based software, “Biblioshiny,” a part of the bibliometric package in R Studio, to understand the trends and developments of publications. The bibliometric analysis includes a brief discourse analysis based on the relationship among the principal terms used in the relevant articles. Finally, the third stage involves a content analysis of the full articles sampled to identify the development of public sector audit studies in Indonesia and future research opportunities. The practical implications of the research findings are significant as they can inform policymakers and practitioners in the public sector about the current state of public sector audit studies in Indonesia and the potential areas for improvement and further research.

The article selection process began by searching the academic publication database Scopus for articles on public sector audits in Indonesia. The key phrases used for the search were “public sector audit,” “government audit,” and “Indonesia.” The search was conducted on December 16, 2022. The parameters used for the search were peer-reviewed articles published in English in the subject areas of business, management, and accounting. The search resulted in 87 articles.

The following selection stage involves a manual selection of the results from the first stage. In this stage, the first step is to check the relevance of the articles with the research objective, which is the development of public sector audits in Indonesia. The examination is conducted by evaluating the title and abstract of each article that has been found. This study applies two criteria in evaluating relevance, namely, (1) the main discussion is the context of the public sector in Indonesia, and (2) audit is the primary variable discussed, either as a dependent or independent variable in research with a quantitative approach, and is the primary context of the discussion in research with a qualitative approach. Examples of articles excluded in the first step include articles that discuss the context of private companies and those that make audits a criterion for sample selection.

This selection process, characterized by its thoroughness and strict adherence to quality criteria, resulted in 57 articles. The final step was to meticulously evaluate the quality of the journals, referring to the Scimago Journal Rank. The criteria applied were articles published in Scopus-indexed journals in the year of publication, ensuring that the articles were recent and up-to-date. This selection step was conducted with utmost care, resulting in a final sample of 36 articles with a journal ranking distribution from Q2 to Q4 and a publication range from 2015 to 2022, ensuring the reliability and quality of the selected articles.

RESULT AND DISCUSSION

This section reviews the development of public sector auditing in Indonesia. The review first examines the development of the literature and then identifies discussion themes within each aspect of public sector auditing. The first step involves using a bibliometric analysis method to investigate trends, influential publications, and articles on public sector auditing in Indonesia. The bibliometric analysis studies a corpus of literature by looking at the identity of articles. It has been widely applied to provide quantitative analysis, particularly publication trends in a particular field. The bibliometric analysis allows researchers to review the development of a field and identify major influences within that field (Ellegaard & Wallin, 2015).

The authors employ a cutting-edge bibliometric analysis tool called Biblioshiny, part of bibliometrics in the R software. Bibliometric is an open-source tool revolutionizing comprehensive

bibliometric analysis and visualization (Aria & Cuccurullo, 2017). The bibliometric analysis focuses on trend and influence analyses by examining the number of publications per year, articles per publication, and citations, respectively. Citation data were imported from the Scopus database on December 16, 2022. The next step is a qualitative content analysis to identify the development of the literature and future research opportunities for public sector auditing in Indonesia by the determined theme. The authors determined the theme by reading the sample articles thoroughly and identifying similarities and differences in research objectives, research backgrounds, applied frameworks, or main arguments. The authors identified seven themes that are aspects of public sector auditing in Indonesia, namely, (1) audit quality; (2) audit opinions and findings; (3) fraud; (4) auditor characteristics; (5) financial report characteristics; (6) transparency and accountability, and (7) emerging themes.

The bibliometric analysis begins by reviewing the development of the literature. The objectives are to confirm the significance of public sector auditing in Indonesia in academic publications and to examine influential publications and main discussions. This analysis reviews two main issues: publication trends and influential literature sources. Figures 1 and 2 show the trend and number of publications annually, both overall and based on research themes. Figure 1 shows that, in general, an increasing trend exists in academic publications from 2015 (one publication) to 2022 (six publications). The fraud theme is the most significant contribution to the total number of publications, as depicted in Figure 2.

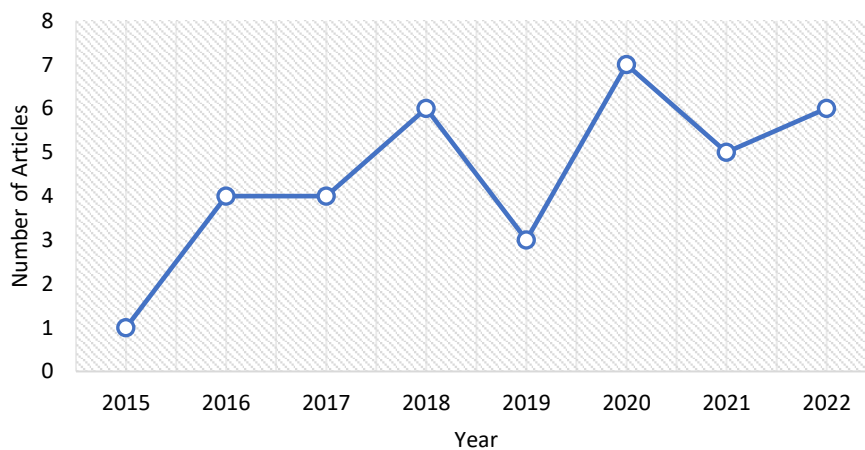


Figure 1. Annual Publication Trends



Figure 2. Annual Publication Trends Based on Themes

The theme of audit opinions and findings grew from 2016 to 2020. However, further research related to this theme is still necessary. The development of publications is relatively stable in the themes of audit quality and financial report quality. This result indicates that these two themes are highly relevant in academic discussions on public sector auditing in Indonesia. Table 1 shows the most significant increase in publications in Q4-ranked journals. Notably, the findings of this analysis are based on the data available in the Scopus database, and other relevant publications may not be included in this analysis.

Table 1. Distribution of article publications based on journal ranking

Journal ranking	2015	2016	2017	2018	2019	2020	2021	2022	Total
Q1	0	0	0	0	0	0	0	0	0
Q2	0	0	1	0	1	1	0	2	5
Q3	1	0	2	3	1	1	4	0	12
Q4	0	4	1	3	1	5	1	4	19
Total	1	4	4	6	3	7	5	6	36

The distribution of articles based on themes and Scimago rankings in Table 2 provides valuable insights. Studies on audit quality, financial report quality, audit opinions and findings, and auditor characteristics have a good chance of being published in journals with a Q2 ranking. However, articles on transparency and accountability, which is a critical area of research, are limited to the highest-ranking journals, Q3. The theme of fraud, despite its significant contribution to public sector audit studies in Indonesia, can only be published in journals with a Q4 ranking. These findings underscore the importance of considering journal rankings when planning to publish research.

The authors conducted a bibliometric analysis to identify the most relevant sources and found that the 36 articles included in this study were published in 23 journals. The results in the Appendix 1 show that only ten journals have more than one publication, with the Asian Journal of Accounting Research, Problems and Perspective in Management, and Cogent Business Management having the most significant proportion, each with 8.33%.

Table 2. Distribution of article publications based on journal ranking

Theme	Q1	Q2	Q3	Q4	Total	%
Audit quality	0	1	4	2	7	19.4
Audit findings and opinions	0	1	2	2	5	13.9
Fraud	0	0	0	4	4	11.1
Auditor Characteristics	0	1	1	2	4	11.1
Financial reporting quality	0	2	1	5	8	22.2
Transparency and accountability	0	0	3	2	5	13.9
Emerging themes	0	0	1	2	3	8.3

The paper discusses a deep analysis of the number of citations per year from each journal, representing the significance or influence of the journal. Citation per year (CPY) is chosen as a proxy for analysis instead of total citations to minimize time bias, as articles published earlier are likely to have more total citations. The year with the most citations is 2018, with six articles published by six journals. The highest CPY contributor for these journals is Adiputra et al. (2018), cited 26 times and discussed transparency in local government in Indonesia. Figure 3 shows the top 10 authors with the highest citations.

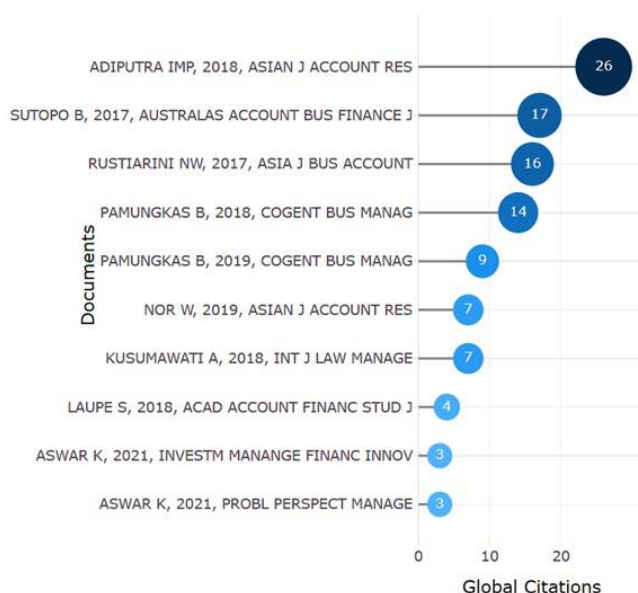


Figure 3. Authors with the Highest Citations

A thematic analysis is conducted to understand the development of research backgrounds, methods, main data analysis techniques, and theories used in the academic literature about public sector auditors in Indonesia over time. The examination of the research background revealed whether the articles sampled were conducted on internal, external, or both audits. Table 4 presents the thoroughness of our approach, with 27 studies using an external audit background, nine articles using an internal audit background, and two articles utilizing both internal and external audit backgrounds.

Table 4. Distribution of Articles Based on Research Background

Background	2015	2016	2017	2018	2019	2020	2021	2022	Total
Internal		2		1		3	1	2	9
External	1	2	3	5	3	4	4	3	25
Internal and external			1					1	2
Total	1	4	4	6	3	7	5	6	36

The 36 articles reviewed use five research methods: survey, archival, literature review, experiment, interview, and document review. From Table 5, the most commonly used method is the archival method, with 23 articles. By contrast, the least used methods are literature review, experiment, interview, and document review, each with only one article. The distribution of articles based on the main types of data analysis techniques and theories used are illustrated in Appendix 2 and 3.

Table 5. Distribution of Articles Based on Research Method

Method	2015	2016	2017	2018	2019	2020	2021	2022	Total
Survey	1		3	1		2	2	1	10
Archival		4	1	5	3	4	3	3	23
Literature Review						1			1
Experiment								1	1
Interview & Document Review								1	1
Total	1	4	4	6	3	7	5	6	36

The number of theories used is more than the number of articles reviewed in this study, as several studies have more than one theoretical basis. For example, Raditya et al. (2022) used agency theory and signaling theory to explain the determinants of the level of disclosure. The result shows that the most widely used theory is agency theory, indicating that academic discussions on public sector audits in Indonesia still highlight the role of auditors in reducing the negative impact of information asymmetry.

Current Developments from Previous Studies

Audit quality

Audit quality is the ability of an auditor to detect errors and deviations. Analysis of selected articles shows seven articles that discuss the topic of audit quality, as presented in Table 6. From Table 6, authors can discern seven articles on audit quality focused on its antecedents. The research methods employed in these studies vary, with five articles using quantitative survey methods, one using a mixed-archival and interview approach, and one using quantitative-archival methods. The theoretical underpinnings of these studies are diverse, encompassing the theory of planned behavior, inverted U shape theory, attribution theory; attitude, behavior, and learning theory; agency theory, institutional theory; stewardship theory, and goal setting theory (Aswar et al., 2021; Ibrani et al., 2020; Karlina et al., 2018; Kusumawati & Syamsuddin, 2018; Syamsuddin, 2017; Zainudin et al., 2021).

From the number of articles discussing the antecedents of audit quality, evidently, certain factors hold significant sway. Auditor skepticism, competence, due professional care, and understanding of information systems are among these influential factors (Aswar et al., 2021; Ibrani et al., 2020; Kusumawati & Syamsuddin, 2018; Zainudin et al., 2021). Interestingly, auditor quality

indirectly influences audit quality through professional skepticism (Kusumawati & Syamsuddin, 2018). This highlights the essential role of professional skepticism in the audit process. On the other hand, factors such as whistleblowers, ethics, and independence were found not to directly or indirectly influence audit quality (Aswar et al., 2021; Syamsuddin, 2018). The study also revealed that research on audit quality in the public sector is similar to that in the private sector, with no observed differences in the factors influencing audit quality between internal and external audits in both sectors.

Table 6. Articles on Audit Quality

Author and Year	Theory	Method	Theme
Ritonga and Suyanto (2022)	N/A	Mixed-archival and interview	Antecedent of audit quality
Zainudin et al. (2021)	Theory of planned behavior and inverted U-shape theory	Quantitative-survey	Antecedent of audit quality
Aswar et al. (2021).	Attribution theory	Quantitative-survey	Antecedent of audit quality
Ibrani et al. (2020).	Attitude, behavior, and learning theory	Quantitative-survey	Antecedent of audit quality
Kusumawati and Syamsuddin (2018)	N/A	Quantitative-survey	Antecedent of audit quality
Karlina et al. (2018)	Agency theory institutional theory	Quantitative-archival	Antecedent of audit quality
Syamsuddin (2017)	Agency theory Stewardship theory Goal setting theory	Quantitative-survey	Antecedent of audit quality

Audit findings and opinions

Similar to the private sector, discussions about audits in the public sector also involve audit findings and opinions. Analysis of selected articles shows five articles that discuss audit findings and opinions. Table 7 reveals a striking pattern in the selected audit findings and opinion articles. Although the majority delved into audit opinions, a solitary article stood out for its focus on audit findings. This rarity underscores the unique perspective it offers. Regarding methodology, four articles employed quantitative-archive methods, whereas one opted for qualitative-archive. On the theoretical front, only three of the five articles explicitly mentioned the theory they use, all of which are grounded in agency theory.

Table 7. Articles on Audit Findings and Opinion

Author and Year	Theory	Method	Theme
Sutaryo et al. (2020)	Agency theory	Quantitative-archival	Audit opinion
Pamungkas et al (2019)	Agency theory	Quantitative-archival	Audit finding
Pamungkas et al. (2018)	N/A	Quantitative-archival	Audit opinion
Sutopo et al. (2017)	N/A	Quantitative-archival	Audit opinion
Ningsih (2016)	Agency theory	Qualitative-archival	Audit opinion

Pamungkas et al. (2019) conducted research on audit findings and revealed that the size of the local government positively affected internal control weaknesses and that the degree to which BPK’s audit recommendations were completed in the preceding period negatively affected internal control weaknesses and non-compliance with legal provisions. Meanwhile, based on the extensive research conducted by Ningsih (2016), Pamungkas et al. (2018), Sutaryo et al. (2022), and Sutopo

et al. (2017) on audit opinions, the factors influencing audit opinions in the public sector can be grouped into three:

1. Entity characteristics, a significant factor in influencing audit opinions, encompass the complexity of local government, financial supervision, regional size, and type of local government (Sutaryo et al., 2022).
2. Regional leaders' commitment, particularly the timeliness of APBD ratification and submission of LKPD, plays a crucial role in shaping the audit opinion on LKPD (Sutaryo et al., 2022).
3. Audit results, a key determinant of audit opinions, reveal findings related to regional losses and non-compliance with GAS (Pamungkas et al., 2018).

However, other entity characteristics, such as geographical location and budget surplus/deficit realization, and audit results in the form of weaknesses in the internal control system, do not significantly influence the audit opinion (see Pamungkas et al., 2018; Sutaryo et al., 2022). Meanwhile, auditor opinion has a positive relationship with regional government administrative performance. Thus, local governments with high e-government scores and great audit opinions tend to perform exceptionally (Sutopo et al., 2017).

From the above discourse, it becomes evident that research on audit opinions in the public sector has primarily concentrated on factors that can sway opinions from the auditor's and the auditee's perspectives. However, the exploration of the ramifications of audit opinions on other variables remains a pressing need.

Fraud

The State Finance of Auditing Standards, a set of guidelines for financial audits in Indonesia, stated that BPK auditors are responsible for identifying fraud risk factors and assessing the risk of non-compliance with legal provisions caused by fraud and abuse (BPK, 2017). Meanwhile, from another aspect, the Association of Certified Fraud Examiners (ACFE), a professional organization dedicated to fraud prevention and detection, reported that the fraud that internal and external auditors can find is only approximately 4% (ACFE, 2022). These statistics highlight the challenges in detecting and preventing fraud, making discussions about fraud and audit in the public sector particularly interesting.

However, research discussing fraud in public sector audits is still scarce. Only four of the 36 articles reviewed addressed this topic, as presented in Table 8. The four articles on fraud have different themes: forensic accounting and investigative auditing, fiscal decentralization and regional government financial accountability, also internal audit function. Based on the method, three articles use quantitative surveys, and one article uses quantitative archival. Meanwhile, the theories used by three of the articles on fraud topics include agency theory, cognitive dissonance theory, fraud diamond theory, institutional theory, economic regulation theory, fraud triangle theory, and theory of planned behavior.

These studies provided valuable insights into the factors influencing fraud in public sector audits and noted potential strategies for reducing fraud in local governments. They highlighted the importance of robust internal audit functions, whistleblowing's role, fiscal decentralization's impact, also the significance of accountability and compliance with laws in managing fraud. Factors influencing fraud in public sector audits encompass internal audit function, good forensic accounting investigative auditing practices, and fiscal decentralization (Din et al., 2022; Laupe et

al., 2022; Rahmatika & Yadiati, 2016). The more robust the internal audit function, the less fraud there is in local governments (Rahmatika & Yadiati, 2016). Furthermore, the level of fraud could be significantly reduced by implementing good forensic accounting and investigative auditing practices.

Table 8. Articles on Fraud

Author and Year	Theory	Method	Theme
Laupe et al. (2022)	Agency theory Cognitive dissonance theory Fraud diamond theory	Quantitative-survey	Forensic accounting and investigative auditing
Din et al. (2022)	Agency theory Institutional theory Economic regulation Theory Fraud triangle theory	Quantitative-archival	Fiscal decentralization and regional government financial accountability
Rustiarini and Sunarsih (2017)	Theory of planned behavior	Quantitative-survey	Whistleblowing
Rahmatika and Yadiati (2016)	N/A	Quantitative-survey	Internal audit function

Moreover, audit skepticism can increase the impact of investigative auditing and forensic accounting, thereby lowering fraud. The degree of fraud in regional financial management is positively impacted by fiscal decentralization (Din et al., 2022). The effect of fiscal decentralization on the degree of fraud in regional financial management is moderated by accountability, financial reporting, and accountability compliance with laws. However, the influence of fiscal decentralization on the degree of fraud in regional financial management is not moderated by the low degree of accountability and accountability in the internal control system. Notably, whistleblowing intentions, significantly influenced by perceptions of behavioral control, can play a pivotal role in fraud management. Positive whistleblowing behavior can be fostered, whereas attitudes and norms have no impact (Laupe et al., 2022).

Auditor characteristics

As a crucial aspect of auditing, auditor characteristics encompass a range of attributes found in internal and external auditors. These attributes, including competence, maturity, expertise/level of education, and experience in the audit team, are critical determinants of audit outcomes. Extensive research has shown that auditor characteristics significantly impact audit risk assessment, local government budget preparation timeliness, and local government's implementation of government accounting standards. Four out of 36 articles sampled discussed auditor characteristics, as presented in Table 9. The four articles on auditor characteristics have different themes: auditor competency and smart governance, preparation of regional government budgets, characteristics of internal auditors, and risk assessment. Furthermore, based on their methods, two articles used quantitative-archive, whereas the other used quantitative-experiment and quantitative-survey.

These articles highlight the significant influence of auditor characteristics on audit risk assessment in internal and external auditors. Certified auditors, with their competence and expertise, are well-equipped to make audit judgments (Sudarma & Kumalawati, 2022). The characteristics of external auditors, such as maturity, ability, education level, and team experience, also impact audit risk assessment (Probohudono et al., 2015). Internal auditor characteristics, however, are a double-edged sword. On the one hand, auditors with sound capabilities, emotional maturity, and adequate expertise can expedite budget preparation (Sutaryo et al., 2022). On the

other hand, the characteristics of internal auditors can also have a negative influence, potentially leading to local governments' non-compliance in implementing accrual-based GAS (Muhtar et al., 2020). This finding underscores the potential risks that need to be addressed.

Table 9. Articles on Auditor Characteristics

Author and Year	Theory	Method	Theme
Sudarma and Kumalawati (2022)	Agency theory	Quantitative-experiment	Auditor competency and smart governance
Sutaryo et al. (2022)	Agency theory	Quantitative-archival	Preparation of regional government budgets
Muhtar et al. (2020)	Agency theory	Quantitative-archival	Characteristics of Internal Auditors
Probohudono et al. (2015)	N/A	Quantitative-survey	Risk assessment

In conclusion, internal auditor characteristics, represented by various explanatory variables, play a crucial role in their responsibilities as auditors. They contribute to local government institutions and have the potential to speed up budget preparation and ensure compliance with government accounting standards, painting an optimistic picture of improvement.

Financial reporting quality

According to Government Regulation of the Republic of Indonesia Number 71 of 2020, financial reporting quality is a highly relevant concept in the public sector, as high-quality financial reports help users assess accountability and make social, political, and economic decisions. Academic discussions on public sector audit also highlight its relationship with the quality of the government's financial statements (Aswar et al., 2021; Boolaky et al., 2020; Djanegara, 2016; Furqan et al., 2021; Laupe et al., 2018; Raditya et al., 2022; Rahmatika, 2016; Rakhman & Wijayana, 2019). Table 10 presents contributions focusing on this area.

Table 10. Articles on Financial Reporting Quality

Author and Year	Theory	Method	Theme
Raditya et al. (2022)	Agency theory	Quantitative-archival	Audit opinion
Aswar et al. (2021)	Agency theory	Quantitative-archival	Audit findings
Furqan et al. (2021)	Public choice theory	Quantitative-archival	Audit findings
Boolaky et al. (2020)	Neo-institutional theory	Quantitative-archival	Interaction between auditors and representatives of opposition on the council
Laupe et al. (2018)	Agency theory	Quantitative-archival	Audit findings
Rahmatika (2016)	Agency theory	Quantitative-archival	Internal audit function
Djanegara (2016)	N/A	Quantitative-archival	Audit findings and recommendation
Rakhman and Wijayana (2019)	Demand hypothesis	Quantitative-archival	Audit opinion

All studies on this topic employ a quantitative method, with agency theory being the most used theoretical lens to explain the relationship between audit variables and financial reporting quality. The disclosure level is primarily used to measure financial reporting quality in public sector organizations (Aswar et al., 2021; Laupe et al., 2018; Raditya et al., 2022). In academic discussions, audit variables are explored as independent and dependent variables. Audit results (i.e., findings and opinions) positively and indirectly affect financial reporting quality. Laupe et al. (2018) and

Aswar et al. (2021) investigated the direct relationship between audit findings and financial report disclosures. The results of both studies show that audit results have a positive influence on the government's financial reporting quality. Thus, a good audit opinion will lead to high-quality financial reporting. A follow-up study by Raditya et al. (2022) revealed that audit opinion could moderate the impacts of financial independence and legislative size on the level of disclosure of local government financial statements. Another measure to proxy financial reporting quality is the speed of the adoption of International Public Sector Accounting Standards (IPSAS). Boolaky et al. (2020) investigated the pressure that audits exert on the speed of local government to adopt IPSAS and found that audit opinions that reflect pressure from the BPK can encourage the speed of IPSAS adoption.

From another aspect, Rakhman and Wijayana (2019) employed audit opinion as a proxy for the quality of financial reports. The study probes into the factors shaping the quality of financial reports issued by Indonesian local governments. The research revealed a negative correlation between the percentage of capital expenditure in the budget and the quality of local government financial reports. The study identified local government size as a factor affecting the quality of local government financial reports. The primary factors influencing the quality of financial reports are those associated with local government. This result indicates that large regional governments with great financial independence (e.g., enhanced finance, information technology, and human resources) tend to produce high-quality financial statements. The demand for improved reporting is high in regional communities with these attributes, as they are typically highly politically engaged, greatly involved in decision-making, and possess further information processing skills. Consequently, the BPK generally holds a favorable opinion of their financial reports. Moreover, local governments with highly experienced mayors are highly likely to receive a favorable opinion on their financial statements.

Overall, audits can potentially fortify the quality of financial reports directly or indirectly. Various specific factors shape audit opinions, which pertain to regional government organizations and the social conditions of the region's community. This case underscores the potential for audits to continually enhance the quality and transparency of financial reports, fostering a sense of optimism about the effectiveness of audits in the public sector.

Transparency and accountability

Transparency and accountability, two of the 13 fundamental values of good governance, are intricately linked. As a concept, transparency requires government officials to openly disclose information about decisions, actions, and transactions and provide reasons for these actions (KNKG, 2022). As defined by Mardiasmo (2018), public accountability is the obligation of an agent (the trustee) to be accountable, present, report, and disclose all activities and responsibilities to the principal (the trustor). Accountability cannot be fully realized without transparency, as the latter is a prerequisite. This interdependence underscores the need for transparency and accountability to ensure good governance. Table 11 presents the academic contributions to the discussion about transparency and accountability.

Three studies focused on transparency (Adiputra et al., 2018; Nor et al., 2019; Yuniarta & Purnamawati, 2020), and two highlighted accountability (Muhtar et al., 2018; 2021). In the context of accountability, Muhtar et al. (2021) used audit opinion as a proxy for monitoring local governments. In contrast, Muhtar et al. (2018) used the ratio of follow-up audit recommendations as a proxy for audit response. Muhtar et al. (2021) empirically tested whether monitoring activities

of local government administration are crucial for local government performance's accountability. They found that monitoring activities conducted by external auditors (BPK) and the public positively impact the accountability of local government performance. Muhtar et al. (2018) reveal that performance accountability and public official salaries can deter corruption, whereas audit response can encourage it. These findings are significant as they shed light on the dynamics of corruption in local governments, emphasizing the role of performance accountability and audit response.

Table 11. Articles on Transparency and Accountability

Author and Year	Theory	Method	Theme
Muhtar et al. (2021)	Agency theory	Quantitative-archival	Accountability
Yuniarta and Purnamawati (2020)	Agency theory	Quantitative -archival	Transparency
Nor et al. (2019)	Agency theory	Quantitative-archival	Transparency
Adiputra et al. (2018)	Agency theory and institutional theory	Quantitative-archival	Transparency
Muhtar et al. (2018)	Fraud triangle theory	Quantitative-archival	Accountability

All studies on transparency in the sample articles used audit opinion as an independent variable and the local governments' level of internet-based disclosure as a dependent variable. Transparency research findings demonstrate that the audit opinion has no bearing on adopting online financial reporting. However, Nor et al. (2019) show contrary results that audit opinions greatly improve the disclosure of financial reports on the websites of Indonesian local governments. Adiputra et al. (2018) point out that BPK's audit opinion regarding the quality of financial reports positively impacts the transparency of local governments. This finding indicates that the audit opinion will substantially impact how well local governments perform in presenting their financial reports to the community as accountability for regional financial management, thereby boosting public confidence that regional funds are used for the community's welfare. Variations in research findings regarding the sub-theme of transparency are expected to account for the true impact of audit opinion on transparency in the local government.

Emerging themes

As authors delve into the realm of public sector audits in Indonesia, three pivotal themes come to the forefront: the financial and non-financial performance of local governments (Amdanata & Mansor, 2020), the institutionalization of BPK (Musa, 2020), and e-audit (Dharma et al., 2017). These themes, as presented in Table 12, are crucial to our understanding of the evolving landscape of public sector audits. Amdanata and Mansor (2020) have brought to light a significant correlation between BPK's financial audits and the performance of regional-owned enterprises. Their study has revealed intriguing findings: Compliance audits positively impact performance, but financial audits have no effect. This result signals a need for a reevaluation of auditing practices. Musa (2020) has meticulously examined the institutional position of BPK in Indonesia's government administration system, providing valuable insights into its role and responsibilities. Dharma et al. (2017) have shown that user interest in using technology is positively and indirectly influenced by perceptions of its usefulness and ease of use. This finding underscores the importance of user-centric design in the implementation of e-audit. Therefore, in the case of e-audit, BPK should give due consideration to these factors.

Table 12. Articles on Emerging Themes

Author and Year	Theory	Method	Theme
Amdanata and Mansor (2020)	Agency theory and resource dependence theory	Quantitative-survey	Performance
Musa (2020)	N/A	Qualitative-content analysis	Institution
Dharma et al. (2017)	Technology acceptance model	Quantitative-survey	e-audit

Future Research Agenda

Audit quality is the most researched topic in public sector auditing. Seven out of 36 reviewed articles examined audit quality. However, the audit quality examined is generally the same as that in the private sector. No research has explicitly examined the difference in audit quality between the public and private sectors, from attributes and influencing factors. For instance, the unique challenges in the public sector, such as political interference and resource constraints, may significantly impact audit quality. Moreover, most studies used archival data collection methods, and few involved auditors as the main actors in the audit. Therefore, future research opportunities are to examine the attributes and factors influencing audit quality, specifically in the public sector, using several approaches such as input, process, and output (Syam et al., 2021). In addition, future research can use survey methods involving auditors and users of audit results.

The two subtopics of audit findings and opinions are combined in research on audit findings and opinions. However, of the 36 articles reviewed, only one (Pamungkas et al., 2019) discussed audit findings, focusing on factors that influence findings, both weaknesses in the internal control system and non-compliance with statutory regulations. This study, although informative, only scratches the surface of the topic, leaving significant gaps in our understanding. These gaps are not mere omissions, but crucial areas that need to be explored to enhance our knowledge and improve the effectiveness of public sector auditing. For instance, the study analyzed the characteristics of local governments using secondary data, such as quantity, income, and expenditure, without delving into the crucial managerial behavior factors of local governments. This case highlights the need for future research to investigate government official characteristics influencing internal control system weaknesses and non-compliance with statutory regulations. In-depth interviews could be a valuable method to uncover the cause of recurring findings, filling these gaps in our knowledge.

Although the sub-theme of audit opinion has received much attention, with three articles focusing on the antecedents of opinion, there is still room for further exploration. This case is particularly true in the context of the public sector, where only one article (Sutopo et al., 2017) discussed the consequences of the audit opinion, specifically its impact on regional government administration performance. This area of research could be enriched by incorporating various organizational theories, such as legitimacy theory (Deegan, 2002), to investigate whether audit opinion can drive performance or is merely used for legitimacy. The potential impact of such research could be significant, as it could inform policy decisions and improve the effectiveness of public sector auditing.

Research on fraud in public-sector auditing is still relatively limited, presenting significant opportunities for further investigation. In-depth interviews with respondents could enhance understanding of how internal audit functions can reduce fraud. Future research could also explore

factors influencing fraud by examining the characteristics of government officials. Additionally, studies could investigate why public-sector auditing, both internal and external, is often suboptimal in detecting fraud.

The research on public sector auditors should extend beyond external auditors to include internal auditors and consider the uniformity of agency theory, which focuses on minimizing moral hazard and adverse selection between local governments and constituents. Like other professionals, auditors are susceptible to bias influenced by behavior and organizational climate. Future studies should examine external auditors' cognitive biases and their relationships with auditees, while research on internal auditors could investigate the organizational climate's role in whistleblowing actions. Employing qualitative approaches, such as interviews and textual data analysis, can provide deeper insights into these areas.

Meanwhile, research on financial reporting quality has explored factors influencing audits, which serve as a measure of financial report quality, and how audits can enhance the quality of government financial statements. Using diverse theoretical frameworks has facilitated a comprehensive evaluation of the relationship between audits and financial report quality. However, archival methods continue to dominate this research area. Therefore, there is a pressing need to explore alternative approaches, such as experimental methods, to examine treasurers' financial knowledge as a predictor of reporting quality (Rakhman & Wijayana, 2019). Expanding research methods could address the limitations of previous studies.

Despite audits' critical role in promoting transparency and accountability, their impact on local governments' web-based reporting remains unexplored. This gap could be investigated using social conformity theory (Bernheim, 1994). Future research could also explore domains not yet covered, such as the impact of individual auditors and organizational culture on auditor performance and ethical standards among Indonesian public sector auditors. Additionally, BPK is increasingly utilizing big data analytics audits, which presents a potential avenue for future research. Researchers could investigate specific methods in big data analytics to help auditors identify potential risks associated with audit objects.

CONCLUSION

The number of publications on public sector auditing in Indonesia still needs to be increased. Penetrating Scopus-indexed international journals is challenging due to the limited discussion context in Indonesia, which often lacks comparative analysis with other countries. This study categorizes the analysis and suggestions for future research into seven areas: (1) audit quality; (2) audit findings and opinions; (3) fraud; (4) auditor characteristics; (5) financial report quality; (6) transparency and accountability; and (7) emerging themes.

The results of this study are expected to provide a comprehensive overview of the development of public sector audit research and stimulate researchers to conduct more in-depth and diverse research. This study contributes to the literature by providing an in-depth analysis of Indonesia's public sector audit research, highlighting the need for further development.

Further research could explore (1) behavioral insight, that is, investigates how cognitive biases and organizational climate influence auditor behavior; (2) organizational culture, that is, examines how corporate culture affects public sector auditors' ethical standards and quality of

work; (3) whistleblowing, that is, examines the elements that incentivize internal audit whistleblowing, and considers linking them to theories of organizational climate and behavior; (4) technology acceptance, that is, evaluates the effectiveness and acceptability of e-audit systems from a behavioral standpoint, considering elements such as perceived utility and usability. Studies in these areas could offer a thorough comprehension of the variables influencing audit procedures and results.

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APPENDICES

Appendix 1. Distribution of Articles Based on Journal

Journal	Number of articles	%
Asian Journal of Accounting Research	3	8.33
Problems and Perspectives in Management	3	8.33
Cogent Business and Management	3	8.33
International Journal of Law and Management	2	5.56
Journal of Governance and Regulation	2	5.56
Investment Management and Financial Innovations	2	5.56
Australasian Accounting, Business and Finance Journal	2	5.56
International Journal of Business and Society	2	5.56
International Journal of Applied Business and Economic Research	2	5.56
International Journal of Economics and Management	2	5.56
Corporate Ownership and Control	1	2.78
Quality - Access to Success	1	2.78
International Journal of Business Information Systems	1	2.78
Academy of Accounting and Financial Studies Journal	1	2.78
International Journal of Economic Research	1	2.78
International Journal of Entrepreneurship	1	2.78
Jurnal Pengurusan	1	2.78
International Journal of Accounting	1	2.78
Public Money and Management	1	2.78
International Journal of Public Administration	1	2.78
Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration	1	2.78
International Journal of Scientific and Technology Research	1	2.78
Asian Journal of Business and Accounting	1	2.78
Total	36	100

Appendix 2. Distribution of Articles Based on Main Data Analysis Techniques

Analysis Technique	2015	2016	2017	2018	2019	2020	2021	2022	Total
Analysis of variate (ANOVA)								1	1
Confirmatory factor analysis (CFA)								1	1
Content analysis		1				1			2
Linear regression		1	1				2		4
Logistic regression				1	1	1			3
Multiple linear regression	1			3	1			1	6
OLS regression						1			1
Panel data analysis				1					1
Partial least square (PLS)		2	1	1		2			6
Path analysis					1				1
Pooled and split regression						1			1
Random-effect regression								1	1
Structural equation modeling (SEM)			2				3	1	6
Triangulation								1	1
Unbalanced panel data Regression						1			1
Total	1	4	4	6	3	7	5	6	36

Appendix 3. Distribution of Articles Based on Theory

Theory	2015	2016	2017	2018	2019	2020	2021	2022	Total
Institutional theory				2				1	3
Innovation diffusion theory			1						1
Agency theory		2	1	3	2	3	2	5	18
Attitude, behavior, and learning theory						1			1
Attribution theory							1		1
Cognitive dissonance theory								1	1
Disclosure theory							1		1
Economic regulation theory								1	1
Framework of financial disclosure management behavior hypothesis					1				1
Fraud diamond theory								1	1
Fraud triangle theory				1				1	2
Goal setting theory			1						1
Inverted U shape theory							1		1
Learning organization theory					1				1
Legitimacy theory				1					1
Neo-institutional theory						1			1
Normative public choice theory							1		1
Positive public choice theory							1		1
Resource dependence theory						1			1
Signaling theory								1	1
Stakeholder theory						1			1
Stewardship theory		1	1						2
Technology acceptance model			1						1
DeLone and Mclean information systems success model			1						1
The Demand hypothesis and the opportunistic behavior hypothesis					1				1
Theory of planned behavior			1				1		2
Total		3	7	7	5	7	8	11	48