A Systematic Literature Review of Internal Auditing in Public Sector Finance

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Abstract

This study reviews the literature from the past 10 years, from 2015 to 2024, on public sector financial internal auditing (IA) and addresses three interrelated research questions (RQ): How has research on public sector IA evolved? What are the main focuses and critiques of the public sector IA literature? What is the future direction for public sector IA research?. We adopted a systematic literature review approach and analyzed 78 peer-reviewed journal articles. We evaluated five criteria to identify the development of public sector IA research (RQ1), namely level of government, academic discipline, number of countries, geographic region, and MSCI country classification. Similarly, we used four criteria to present the focus and critique of the literature (RQ2), namely, type of organizational respondents, research instruments, theories, and research themes examined. Finally, we used two criteria to propose new directions for future research (RQ3), namely, directions generated from RQ1 and RQ2 and directions highlighted by the 10 most cited studies in the IA literature (i.e., from the 78 identified papers). We observed a rise in publications up to 2023, most of which focused on single-country studies, particularly in emerging markets. Furthermore, we noted that IA has been studied at all levels of government, most frequently at the local government level. While we identified several research themes in the literature, most studies emphasized "governance" and "operational effectiveness" using quantitative analysis, often without reference to any theoretical framework. By analyzing these key features, we critically interpret the challenges and skepticism that may arise among researchers. Finally, considering the implications of this research stream and analyzing the most influential studies, we recommend new research paths such as cross-country and market comparisons to provide further evidence at international and regional levels, and studies on the influence of cultural, institutional, and demographic characteristics in IA. Our results will assist researchers, practitioners, and consultants in identifying key issues related to internal auditing. This study offers a systematic literature review of public sector internal auditing. Furthermore, it develops insights, critical reflections, and pathways for future research in this field.

Keywords: Internal Audit, Function of Internal Audit, Public Financial Sector, Government Level, Systematic Literature Review

1. Introduction

Numerous publications on internal auditing (IA) in the private sector have been produced by audit standard setters such as the Institute of Internal Auditors Global (IIA Global), practitioners, academics, and the business community. In practice, IA is designed to add value and improve organizational performance. Therefore, IA provides a strong foundation for effective governance and accountability (see, for example: Coetzee & Erasmus, 2017; Erasmus & Coetzee, 2018; Hay & Cordery, 2018).

Similarly, research on IA in the public financial sector has been growing due to the increasing need to measure outputs, outcomes, and performance evaluations at various levels of government—from local (such as cities or districts), regional (provinces or states), national (central government), to international levels (multilateral cooperation or international organizations) (IIA, 2011; de Geus et al., 2020).

Key studies such as those by Alzeban & Gwilliam (2014) and Vinnari & Skærbæk (2014) demonstrate how IA plays a vital role in the effectiveness of public governance. Following the publication of the Internal Audit Capability Model (IA-CM) by the IIARF (2009), new research trajectories have continued to emerge, encouraging various public organizations to evaluate the roles and structures of their internal audit units (Van Rensburg & Coetzee, 2011).

Likewise, IA has been examined in the context of factors influencing its effectiveness, such as professional competence, auditor independence, management support, and relationships with external auditors (Taiwo, 2019; Erasmus & Coetzee, 2022). IA is considered a crucial mechanism for supporting the efficiency of public organizations and ensuring transparent and accountable public financial management (Gustavson & Sundström, 2018; Alias et al., 2019).

Despite the wide range of publications, there is still a lack of a comprehensive systematic review of the public sector IA literature that incorporates perspectives from both developing and developed countries. Against this backdrop, we organize the existing literature into a structured and integrated framework to provide a holistic overview of the development of IA research in the public sector.

In this study, we conduct a Systematic Literature Review (SLR) of public sector internal auditing research from 2020 to 2024, with three main contributions:

In summary, our study addresses three research questions:

RQ1. How has research on public sector internal auditing (IA) evolved?

This question explains how research on public sector IA has developed thematically and geographically.

RQ2. What are the main focuses and critiques of the public sector IA literature?

This question analyzes the focus and critiques in the literature based on theories, methods, and themes.

RQ3. What is the future direction for public sector IA research?

This question formulates a potential and strategic research agenda for the future.

This approach follows the PRISMA guidelines: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Moher et al., 2009), and is inspired by recent studies such as Busalim & Hussin (2016), de Geus et al. (2020), and Lopes & Farias (2020)

2. Research Methods

In 2009, the Institute of Internal Auditors (IIA Global), through the IIA Research Foundation (IIARF), introduced the Internal Audit Capability Model (IA-CM), which can be considered the first comprehensive framework aimed at enhancing the effectiveness of the Internal Audit Function (IAF) in the public sector (Coetzee & Erasmus, 2017). This universal model has attracted the attention of both academics and practitioners due to its flexibility, making it applicable across various jurisdictions and usable as a tool for institutionalizing and strengthening public sector internal audit capabilities (see also: Erasmus & Coetzee, 2022; Nguyen, Doan & Le, 2021).

2.1. Review Protocol

To minimize research bias, as recommended by Tranfield et al. (2003) and Kitchenham (2004) in every systematic review, we developed a review protocol that includes the formulation of research questions, search strategy, study selection, quality assessment, data extraction, and synthesis. This guideline is supported by procedures outlined in methodological literature such as Kitchenham & Charters (2007) and is reinforced by recent SLR studies (Tsalavoutas et al., 2020; Massaro et al., 2021). We also ensured that the design of this protocol allows for replication and transparency of the research process, in accordance with the principles of rigor and relevance in accounting and public sector research (Yin, 2018). Figure 1 presents our study review protocol.

2.2. Literature Search Strategy

The search strategy was conducted through a two-step approach to identify, review, and analyze public sector internal audit literature, as applied in Street & Hermanson (2019), de Geus et al. (2020), and Nguyen et al. (2021), as illustrated in Figure 1.

The first step was to determine the main databases, namely Scopus, Web of Science, and Google Scholar, based on publication quality and indexing coverage (similar to the approach used by Nguyen et al., 2021). Boolean keywords such as "Internal Audit" AND "Public Finance" were used to narrow the search. The initial results yielded 5,936 documents, which were then filtered by excluding non-relevant publications (such as conference proceedings, book chapters, and non-English articles), resulting in 88 articles used for analysis.

We also excluded duplicate papers, retaining a final set of 74 papers. In the second step, we examined the most cited articles to identify additional relevant studies not captured in the first step. We used two alternative impact metrics: total citations (i.e., the ten papers with the highest citation count) and citations per year (CPY) (the ten papers with the highest CPY index), which serves as a metric that reduces bias toward older studies. Through this process, we identified four additional studies, resulting in a final set of 78 studies conducted across all levels of government (international, national, regional, and local) from 2010 to 2024. For these papers, a data extraction table was created, recording the author, year of publication, country, level of government, sample size, research period, objectives, theory, key findings, and citations.

2.3. *Table*

Tabel. 1 Results of analysis of research question 1 on 5 criteria

A. Government level in IA studies		C. Number of countries	
A1. International level	8 (10%)	C1. Single country	44 (56%)
A2. National level (ministries)	24 (31%)	C2. Multi country	10 (13%)
A3. National level (agencies)	4 (5%)	C3. N/A	24 (31%)
A4. Regional level	19 (24%)	Total	78
A5. Local government level	6 (8%)		
A6. Multi-level studies	17 (22%)		
Total	78		

B. Academic discipline		D. Geographic area	
B1. Accounting	22 (28%)	D1. Europe	18 (23%)
B2. Ethics, CSR, management	10 (13%)	D2. Asia	14 (18%)
B3. International business and area studies	3 (4%)	D3.Oceania	5 (6%)
B4. Finance	5 (5%)	D4. Africa	9 (12%)
B5. Public sector	20 (26%)	D5. America	10 (13%)
B6. Economics	4 (5%)	D6. Worldwide	6 (8%)
B7. Social sciences	6 (8%)	D7. N/A	16 (21%)
B8. Information management	2 (3%)	Total	78
B9. Psychology	1 (1%)		
B10. Management development and education	3 (4%)		
B11. N/A	2 (3%)		
Total	78		

E. Number of studies per countries classified according to the MSCI									
E1. Developed	No.	E2. Emerging	No.	E3. Frontier	No.	E4. Standalone	No.	E5. Other	No.
USA	5	Malaysia	10	Nigeria	3	Kosovo	1	n.d.	19
UK	4	Vietnam	6	Bangladesh	1	Palestine	1	Total	19 (24%)
Germany	2	Brazil	2	Kenya	1	Zimbabwe	1		
Canada	2	India	2	Sri Lanka	1	Iran	2		
Australia	3	Indonesia	4	Total	6 (8%)	Total	5 (6%)		
Finland	2	China	2						
Iceland	2	South Africa	2						
Sweden	3	Total	20 (26%)						
Norway	2								
Japan	3								
Total	28 (36%)								

Classification: Accounting (B1); Ethics, CSR, and Management (B2); International Business and Area Studies (B3); Finance (B4); Public Finance (B5); Economics (B6); Social Sciences (B7); Information Management (B8); Psychology (B9); and Management Development and Education (B10) [4].

These findings indicate that although internal audit is a cross-disciplinary topic, the majority of research approaches remain strongly rooted in the fields of accounting and public financial management (Tsalavoutas et al., 2020; Massaro et al., 2021).

Table 2. Results of analysis of research question 2 on 4 criteria

F. Type of organizational respondent		G. Research instrument1	
F1. Internal auditors	10 (12,8%)	G1. Case/field study/interviews	14,25 (18,3%)
F2. Internal auditors and managers	6 (7,7%)	G2. Content analysis/ historical analysis	4,1 (5,3%)
F3. Internal auditors and accountants	2 (2,6%)	G3. Survey/ questionnaire/ other empirical	47,3 (60,6%)
F4. Head of internal audit unit	3 (3,8%)	G4. Commentary/normative/ policy	1,2 (1,5%)
F5. Other	42 (53,8%)	G5. Viewpoint/conceptual/general review	11,15 (14,3%)
F6. N/A	15 (19,2%)	Total	78
Total	78		
H. Theories[2]		I. Number of theories	
H1. Agency theory	9.9 (12.7%)	I1. 1 theory	26 (33.3%)
H2. Institutional theory	4.25 (5,4%)	I2. 2 theories	8 (10,3%)
H3. Accountability theory	2.1 (2,7%)	I3. >2 theories	4 (5,1%)
H4. Resource-based theory	2.3 (2,9%)	I4. No theory	40 (51,3%)
H5. Political theory	2,0 (2,6%)	Total	78
H6. Stakeholder theory	2.7 (3,5%)		
H7. Other	13.85 (17.8%)		
H8. No theory	40.9 (52.4%)		
Total	78		

Note(s): 1. Following Van Helden (2005) and Schmidt and Gunther (2016) , if two research instruments are referred, each counts for one-half, if three, each counts for one-third etc., 2. Following Van Helden (2005) and Schmidt and Gunther (2016) , if two theories are referred, each counts for one-half, if three, each counts for one-third etc. Also, we coded as "no theory", the papers that do not mention any theoretical foundation.

Table 3. Research themes used in previous IA studies

|	Subjects/ Research theme	Description/ Justification	Studies	Number (percentage)
1	K1. Governance	(1) Disclosure/ compliance (transparency and accountability), (2) the role of internal auditors to support public governance, (3) IA contribution to good governance, (4) Determinants of the presence of AC, (5) Adoption of private sector practices, (6) Relationship of CG theory with the value of auditing, (7) Protection of stakeholders, (8) Maintenance of legitimacy and trust	Van der Nest (2020), Ngwenya et al. (2020), Erasmus (2019), Akani & Ogoun (2018), Mzembe & Vyas-Doorgapersad (2017), Alzeban & Gwilliam (2014), Sarens et al. (2009), Arena et al. (2006), Mihret & Yismaw (2007), Lenz & Hahn (2015), Taba (2020), Dittenhofer (2001), Vadasi et al. (2019), Christopher et al. (2009)	14 (17.95%)
2	K2. Risk management	(1) Contribution of IA to risk management	Van der Nest (2020), Erasmus (2019), Akani & Ogoun (2018), Alzeban (2015), Alzeban & Gwilliam (2014), Sarens et al. (2009), Arena et al. (2006), Mihret & Yismaw (2007), Lenz & Hahn (2015), Taba (2020), Dittenhofer (2001)	11 (14.10%)
3	K3. Operational effectiveness	(1) Determinants/factors influencing IA effectiveness, (2) recommendations to strengthen the IAF, (3) Reasons for malfunctioning, (4) Recommendations for efficient activity, (5) Impact of internal auditors' competency on IA quality, (6) Scope of IA work in public organizations, (7) Problems facing IA in the public sector, (8) Deficiencies of internal control, (9) Internal audit capability model	Van der Nest (2020), Erasmus (2019), Akani & Ogoun (2018), Alzeban (2015), Alzeban & Gwilliam (2014), Sarens et al. (2009), Arena et al. (2006), Mihret & Yismaw (2007), Lenz & Hahn (2015), Taba (2020), Christopher et al. (2009), Dittenhofer (2001), Vadasi et al. (2019)	13 (16.67%)
4	K4. Service delivery by institution	(1) Municipal decision-making, (2) Improve the performance of institution's activities, (3) Factors that impact on successful performance management, (4) Improvement in financial performance, (5) IA and organisational change	Erasmus (2019), Akani & Ogoun (2018), Taba (2020), Dittenhofer (2001)	4 (5.13%)
5	K5. Forensic investigations	(1) Fraud prevention, (2) Fraud detection, (3) Identify corruption and unethical practices, (4) Maintenance of public money	Van der Nest (2020), Erasmus (2019), Akani & Ogoun (2018), Christopher et al. (2009), Vadasi et al. (2019)	5 (6.41%)
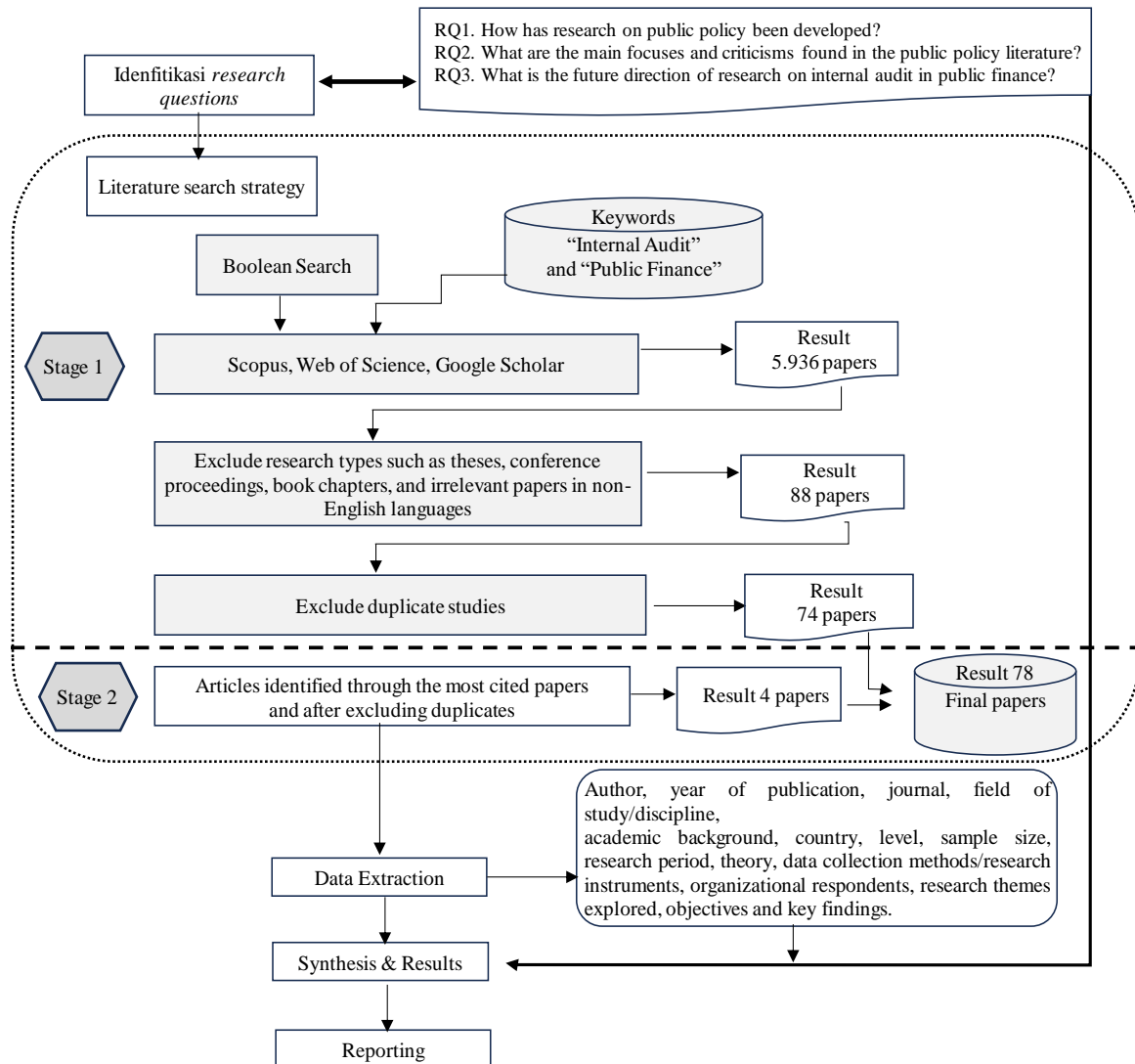
2.4. Figure

Figure 1. Literature flow diagram for article writing using the PRISMA framework
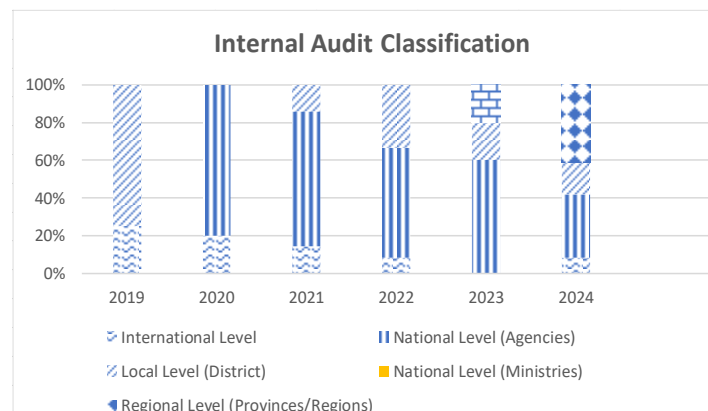

Figure 2. Classification of IA Publications in Public Finance by Year

3. Results and Discussions

3.1. Research Question 1: How has research on internal audit in public finance been developed?

The aim of this research question is to synthesize and expand the current understanding of internal audit (IA) in the public finance sector. Specifically, we aim to trace how this topic has evolved, the key themes that have emerged, and the direction of research over the past five years. This understanding will be valuable for researchers, practitioners, and policymakers in identifying critical issues related to the effectiveness of public sector IA.

To address this question, we analyzed the distribution of studies from 2020 to 2024. As shown in Figure 2, the number of studies increased significantly in 2022 and 2023, reflecting growing academic interest in strengthening public sector governance through internal auditing (Nguyen et al., 2021; Erasmus & Coetzee, 2022). Although there was a slight decline at the onset of the pandemic (2020–2021), the overall trend remains positive.

Furthermore, there is a consistent tendency among researchers to follow similar thematic "paths," such as audit effectiveness, institutional influences, and auditors' technical capacity (Lopes & Farias, 2020; Massaro et al., 2021).

3.1.1. Level of Government.

This study also classified articles based on the level of government examined in each study, namely: International Level (A1), National Level – Ministries (A2), National Level – Agencies (A3), Regional Level (A4), Local Government Level (A5), and Multi-level (A6). This classification is important as each level has different organizational structures, mandates, and audit complexities (Johannesdottir et al., 2018; de Geus et al., 2020). As shown, IA has been studied across all levels of government, with the local government level being the most frequently addressed.

The results indicate that the national level – ministries (A2) is the most frequently studied (about 31%), highlighting the growing need for transparent governance at the ministerial level. The regional level (A4) accounts for 24% of the studies, while the national level – agencies (A3) and local government level (A5) are the least studied. Multi-level approaches (A6) have also received significant attention in recent studies (Nguyen et al., 2021).

3.1.2. Academic Disciplines

To understand the theoretical perspectives present in the literature, we categorized the reviewed articles into ten academic disciplines based on the guidelines of the Academic Journal Guide (CABS, 2018).

3.1.3. Number of Countries.

This criterion evaluates whether each article uses data from a single country (C1) or from more than one country (C2). This approach was previously adopted in systematic studies by Guthrie et al. (2012), Massaro et al. (2021), and Tsalavoutas et al. (2020). Our analysis shows that the majority of articles (44 out of 78) are single-country studies. Only two articles used a multi-country approach, and one study did not explicitly mention its data source.This confirms that researchers tend to explore the unique institutional, social, and cultural environments of individual countries in order to gain a deeper understanding of internal audit practices in public finance (Nguyen et al., 2021; Erasmus & Coetzee, 2022).

3.1.4. Geographical Region

Similar to the previous criterion, this classification was adopted by Guthrie et al. (2012), Dumay et al. (2016), de Geus et al. (2020), and Tsalavoutas et al. (2020). This criterion identifies the geographical location or region where the research was conducted. Specifically, we categorized the studies into six regions: Europe (D1), Asia (D2), Oceania (D3), Africa (D4), the Americas (D5), and Global (D6).

The results show that Europe was the most studied region (18 out of 78 studies), followed by Asia (14 studies) and the Americas (10 studies). Oceania showed low representation. These findings are consistent with recent literature emphasizing that developing and frontier markets offer fertile ground for understanding public sector audit dynamics (Alias et al., 2019; Massaro et al., 2021).

3.1.5. Number of Studies per Country Classified by MSCI

To strengthen the analysis, we used the market classification from the Morgan Stanley Capital International (MSCI) index, dividing countries into five categories: developed countries (E1), emerging markets (E2), frontier markets (E3), standalone markets (E4), and others (E5).

Out of the 78 studies, the majority were conducted in developed and emerging markets (approximately 62%). The most frequently studied countries included: the United States (5 studies), Malaysia (10 studies), and Vietnam (6 studies).

These findings support the results of Sarens & Abdolmohammadi (2011) and align with recent trends highlighting the importance of institutional context in developing countries for understanding public sector audit effectiveness (Nguyen et al., 2021; Erasmus & Coetzee, 2022).

However, there remains a lack of empirical evidence from frontier and standalone countries such as Nigeria and Iran, which presents opportunities for future research.

3.2. Research Question 2: What are the focus areas and criticisms in the literature on internal audit in public finance?

This subsection outlines the main focus areas and critical perspectives within the literature on internal audit (IA) in the public finance sector, as identified through our systematic analysis. We evaluated four main dimensions, with the results summarized in Table 2. To avoid cognitive overload, we only include selected references, following an approach consistent with prior literature reviews in the field.

3.2.1. Types of Respondent Organizations

The classification of respondent organizations follows approaches in recent literature such as de Geus et al. (2020), Street & Hermanson (2019), and Nguyen et al. (2021). Specifically, we classified organizational respondents into the following types: internal auditors (F1), internal auditors and managers (F2), internal auditors and accountants (F3), heads of internal audit units (F4), others (F5), and not applicable (N/A; F6). The majority of studies used the internal auditor perspective (10/78) or internal auditor and manager (6/78). However, some studies reflected the views of heads of internal audit units (3/78) and internal auditors and accountants (2/78), while others presented perspectives classified as "others" (42/78), and several studies did not define their samples (15/78).

This illustrates that researchers employed various types of respondents in examining internal audit in public finance to gain insights from different perspectives. Most studies used the internal auditor perspective (e.g., Alias et al., 2019), though more recent studies also involved heads of units and managers. The selection of respondents with substantive and relevant knowledge of public sector audit systems helped ensure data reliability and accurately answer the research questions (Saunders et al., 2019).

3.2.2. Research Instruments

This criterion captures the research instruments used, based on Guthrie et al. (2012) and Dumay & Garanina (2013). We classified our reviewed studies as follows: case studies/fieldwork/interviews (G1), content/historical analysis (G2), surveys/questionnaires/other empirical work (G3), commentary/normative/policy studies (G4), and conceptual/general review papers (G5).

Following Van Helden (2005) and Schmidt & Gunther (2016), if an article used multiple research instruments (i.e., mixed methods), we assigned equal weights in the calculation process. For example, if a paper used two research instruments, each was weighted as one-half; if it used three, each counted as one-third, and so on. As shown in Table 2, the most commonly used research method was survey/questionnaire/other empirical research, with questionnaires being the dominant tool.

Next were case studies/fieldwork/interviews and conceptual/general viewpoints with 47.3 and 14.25 studies, respectively. Recent studies suggest that surveys and fieldwork remain the dominant approaches (Nguyen et al., 2021), while mixed methods or triangulation approaches are still underutilized (Trotman & Wright, 2021). This indicates an opportunity to improve validity by integrating both qualitative and quantitative approaches.

3.2.3. Theoretical Framework

Most reviewed studies relied on a single dominant theory, particularly agency theory and institutional theory (Erasmus & Coetzee, 2022). However, approximately 40 out of 78 studies did not explicitly use a theoretical framework, which may limit the depth of analysis and conceptual contribution of the studies (Beck & Stolterman, 2016). Research without theoretical grounding also risks yielding descriptive findings that lack testable or extendable scholarly narratives.

More specifically, we allocated dominant theories into eight categories: agency (H1), institutional (H2), accountability (H3), resource-based (H4), political (H5), stakeholder (H6), others (H7), and no theory (H8). In cases where multiple theories were used, we assigned equal weights. For example, in an article using two theories, each was counted as one-half; for three theories, each as one-third, and so on.

We also classified the number of theories used as follows: single theory (I1), two theories (I2), more than two (I3), and no theoretical approach (I4). As shown in Table 2, the majority of studies used only one theory (28/78), with agency theory being the most dominant (10.58/78). However, it is noteworthy that nearly half of the studies avoided referencing any theory (40/78), either directly or implicitly (e.g., Mu'Azu, 2012; Emmanuel et al., 2013; Jones & Bowrey, 2013; Alzeban & Gwilliam, 2014).

This presents a significant limitation, as it may hinder the explanation of findings. While theory does not change research objectives, it contributes to "positioning" the research within existing scholarship (see Beck & Stolterman, 2016). For example, where papers are largely descriptive, they do not contribute to theoretical advancement or deeper understanding of the issues studied.

Overall, theories in the reviewed studies were applied either as tools (to explain IA), as references (to derive information about IA), or as knowledge contributions (see Beck & Stolterman, 2016).

3.2.4. Research Themes

Although all analyzed studies focused on internal audit (IA) within public financial management, each addressed different research questions and themes. To structure systematic thematic categories, we adapted the framework from Coetzee and Erasmus (2017) and built a categorization scheme based on each study's objectives and key findings. To reduce potential bias in theme allocation, two independent researchers conducted separate coding and then discussed to reach a final consensus.

As a result, we identified six major research themes in the existing literature: governance (K1), risk management (K2), operational effectiveness (K3), service delivery (K4), forensic investigations (K5), and wasteful and unnecessary expenditure (K6).

Based on the analysis of 78 articles, operational effectiveness (13 studies; 16.67%) and governance (14 studies; 17.95%) emerged as the two most dominant themes. This suggests that academic and policy focus over the past two decades has mainly been on improving bureaucratic efficiency and strengthening transparency and public financial accountability (Alias et al., 2019; Nguyen et al., 2021).

Other significant themes include IA's contribution to risk management (11 studies; 14.10%), its role in enhancing institutional performance and service delivery (4 studies; 5.13%), fraud detection and prevention through forensic investigations (5 studies; 6.41%), and preventing waste and unnecessary spending (3 studies; 3.85%). This distribution reflects a multidimensional approach in public sector IA research, which not only considers internal auditor performance but also its impact on financial governance, institutional integrity, and public service outcomes. These findings are detailed in Table 3.

3.2.4.1. Governance

Between 2009 and 2025, 14 out of 78 studies (17.95%) explicitly explored the relationship between internal audit (IA) and public sector governance. These studies emphasize IA's role in strengthening governance mechanisms by enhancing transparency, accountability, and internal/external control systems.

For example, de Geus et al. (2020) highlight that organizational citizenship behavior in the public sector can be improved through strategic and proactive IA practices. Lopes and Farias (2020) show that effective internal control systems, as part of governance structures, can encourage collaborative innovation among public agencies. These findings support the notion that IA is not merely a control tool but a vital link in strengthening the principal-agent relationship within public organizations.

Practices that most support transparency and accountability, according to the literature, include: increased auditor independence, audit committees (ACs), periodic risk assessments and internal controls, and firm sanctions against irregularities and fraud (Reinstein et al., 2014). In this context, IA functions as an early warning system for public managers and policymakers. Several studies also emphasize that IA's strategic value in governance is enhanced when positioned as an advisory, not just supervisory, function.

Roussy (2013), Barasa (2015), and Ferry et al. (2017) argue that auditors with autonomy can support top management in evidence-based decision-making. This is reinforced by Hay and Cordery (2018), who link audit value to corporate governance theory, where audit functions are crucial for balancing power and accountability in public organizations. However, IA's governance potential is often hindered by institutional barriers such as weak internal controls and limited human resources within audit units. Mu'Azu (2012) stresses that lack of staffing and independence can weaken IA effectiveness, directly affecting governance quality. Therefore, strengthening institutional capacity and developing adaptive, cross-functional internal control systems are crucial for effectively safeguarding public and stakeholder interests..

3.2.4.2. Risk Management

A total of 11 out of 78 articles (14.10%) in this review addressed the role of internal audit (IA) in supporting risk management in public finance. These studies highlight that IA effectiveness is closely tied to its ability to help organizations identify, assess, and mitigate risks, particularly under regulatory uncertainty, fiscal pressures, and increasing operational complexity.

Early studies such as Dittenhofer (2001) and Mihret & Yismaw (2007) demonstrated that strengthening internal control systems and supporting risk management practices are integral to effective IA. This role is further affirmed in more recent studies like Arena et al. (2006), Sarens et al. (2009), and Lenz & Hahn (2015), which emphasize that IA must develop risk-based approaches to add real value, especially in strategic decision-making.

Alzeban & Gwilliam (2014) and Alzeban (2015) found that audit effectiveness in aiding risk management is influenced by auditor independence, professional competence, and top management's commitment to risk governance. These studies underline that IA backed by strong management support is better positioned to perform a consultative function in risk management.

Furthermore, Akani & Ogoun (2018) and Erasmus (2019) illustrate how IA can act as a catalyst in designing and evaluating risk management systems aligned with public value. Meanwhile, Taba (2020) and Van der Nest (2020) emphasize the importance of integrating risk management into institutional policies and procedures to support long-term planning and achievement of strategic goals in public sector organizations.

Overall, evidence from the literature indicates that IA is not just a monitoring function, but a strategic partner in strengthening public sector risk management. However, to achieve this effectiveness, a supportive institutional environment, adequate internal control systems, and continuous resource allocation and training for internal auditors are essential.

3.2.4.3. Operational Effectiveness

Operational effectiveness is the most dominant theme in the internal audit literature for the public sector, with 13 out of 78 studies (16.67%) addressing this issue. The primary focus within this theme is how the internal audit (IA) function contributes to the efficiency and effectiveness of operational processes, resource utilization, and the achievement of organizational goals.

Early studies, such as Dittenhofer (2001) and Mihret & Yismaw (2007), emphasized that effective internal auditing directly contributes to improving operational efficiency by ensuring that organizational procedures are optimally executed and aligned with policies. Arena et al. (2006) and Sarens et al. (2009) continued this notion by highlighting the importance of IA's role in assessing and enhancing the effectiveness of internal controls and supporting management in continuous improvement.

Alzeban & Gwilliam (2014) and Alzeban (2015) found that the effectiveness of internal auditing in supporting operations greatly depends on factors such as independence, technical expertise, and a constructive relationship with management. These findings are reinforced by Christopher et al. (2009), who emphasized the importance of communication between internal auditors and public institution leadership in accelerating operational improvements and enhancing accountability.

Other studies, such as Erasmus (2019), Akani & Ogoun (2018), and Taba (2020), showed that internal audit plays a critical role in detecting inefficiencies, promoting process innovation, and improving budget allocation through risk-based reporting. Lenz & Hahn (2015) and Van der Nest (2020) added that the contribution of IA to operational effectiveness increases significantly when the function transforms into a strategic partner rather than merely a compliance entity.

Vadasi et al. (2019) emphasized that internal audit findings actively followed up by management can create a positive feedback loop for unit performance and simultaneously strengthen stakeholder trust.

Overall, the literature shows that value-added, operations-oriented internal audit can be a crucial managerial tool for continuous improvement, bureaucratic efficiency, and more effective and targeted public service delivery.

3.2.4.4. Service Delivery by Institutions

The theme of service delivery by institutions appears in 4 out of 78 studies (5.13%) and highlights the role of internal audit (IA) in supporting improvements in the quality and effectiveness of public services. The main focus in this theme is the contribution of IA to enhancing accountability, efficient resource utilization, and better planning and decision-making in public service provision.

A classic study by Dittenhofer (2001) emphasized the importance of internal audit in improving institutional effectiveness, particularly in resource management and strengthening control systems. Meanwhile, Taba (2020) and Akani & Ogoun (2018) stressed that internal audit recommendations can enhance governance practices in service delivery, clarify operational responsibilities, and improve the reliability of information used in public service decision-making.

Erasmus (2019) added that internal auditing directly impacts the efficiency of government services, especially in environments facing fiscal constraints and political pressures. In this context, IA is not merely responsible for identifying procedural weaknesses but also helps institutions redesign service processes to become more responsive, measurable, and transparent.

Overall, these findings reinforce the view that strategic internal auditing can serve as a managerial support tool in providing more effective public services. By offering accurate and evaluative information, IA strengthens the

foundation of accountability, improves operational efficiency, and promotes data-driven decision-making in public service delivery.

3.2.4.5. Forensic Investigations

The theme of forensic investigation in the context of internal audit appears in 5 out of 78 studies (6.41%) and has become increasingly relevant in addressing the rising complexity and fraud risks in the public sector. The main focus of this theme is the role of internal auditors in detecting, analyzing, and reporting indications of fraud or irregularities that may harm state finances and erode public trust.

Christopher et al. (2009) and Vadasi et al. (2019) highlighted that forensic investigations by internal auditors go beyond transactional reviews to include in-depth understanding of data manipulation patterns and resource misuse practices. Van der Nest (2020) emphasized the importance of strengthening the investigative capabilities of auditors, especially in public environments prone to moral hazard and weak internal oversight.

Erasmus (2019) and Akani & Ogoun (2018) identified that the effectiveness of forensic investigations is heavily influenced by auditor independence, top management support, and the presence of a supportive regulatory framework. The absence of these elements can undermine auditors' ability to uncover irregularities objectively and comprehensively.

In general, these studies confirm that internal audit with a forensic approach adds value in detecting potential fraud, improving financial transparency, and strengthening public accountability systems. Therefore, forensic investigative capacity should become an integral part of the internal audit function in the public sector to proactively prevent state losses and enhance stakeholder trust.

3.2.4.6. Cost Inefficiency and Wasteful Expenditures.

Although mentioned in only 3 out of 78 studies (3.85%), the theme of cost inefficiency and wasteful expenditures emerges as a critical topic in evaluating the contribution of internal audit to public financial management. Research by Erasmus (2019), Akani & Ogoun (2018), and Vadasi et al. (2019) highlights how weaknesses in internal control systems can lead to waste, inefficient budget allocations, and failures in achieving fiscal objectives.

Erasmus (2019) emphasizes that internal audit plays a key role in monitoring expenditure effectiveness and identifying areas of waste, especially in complex public sector organizations. Akani & Ogoun (2018) reinforce this by stating that proactive internal auditors can prevent cost duplication and reduce the potential misuse of funds by continuously assessing budget implementation efficiency.

Meanwhile, Vadasi et al. (2019) stress that the effectiveness of internal audit in minimizing unnecessary spending heavily depends on audit quality, auditor independence, and organizational compliance with audit recommendations. These three studies agree that strengthening the internal audit function can help public organizations avoid financial losses and improve budget efficiency.

The limited number of studies explicitly addressing this topic indicates that the issue of wasteful and inefficient spending remains relatively underexplored in the literature. This presents a potential research gap that needs to be further investigated, especially in light of increasing fiscal pressure in the public sector across various countries.

3.3. Research Question 3: What Is the Future of Public Sector Internal Audit (IA) Research?

Future research on public sector internal audit (IA) should follow two key approaches. First, findings from research questions RQ1 and RQ2 reveal that many previous studies remain single-country focused, lack theoretical application, and concentrate heavily on operational themes. Second, the most-cited studies provide important recommendations for the future of this field.

3.3.1. Directions Based on RQ1 and RQ2 Analysis

First, most previous research involves only a single country, lacking cross-country or cross-market comparisons. Cross-country studies can help understand the variation in IA effectiveness that may be influenced by national characteristics such as regulations, culture, and institutional structures. There is also limited evidence from studies conducted in developed and standalone countries based on the MSCI index. Therefore, we believe that comparative studies across countries and markets can offer key insights, helping researchers build a cohesive understanding of IA differences in national public finance and identify whether such differences are attributable to country-specific factors.

Second, only a small number of studies explore the role of IA at regional and international levels. This gap is important considering the different roles and responsibilities across government levels. New research that focuses on cross-border IA practices could provide insights into harmonization and global best practices.

For example, why is it important to learn from IA at the regional and international levels? Are there countries implementing IA at the regional level? We suggest initiating a new research stream that addresses these overlooked issues to help consolidate IA research for future comparative work.

Third, around half of the reviewed studies do not use an explicit theoretical framework. Triangulation and theory integration approaches—such as agency, institutional, and accountability theories—should be applied more often to enhance the validity and richness of analysis. In addition, greater emphasis should be placed on commentary/normative/policy research instruments and the use of multiple methods (e.g., triangulation frameworks) to structure data and enable cross-checking of results. Such approaches will also help the academic community gain clearer insights into relevant disciplines and professional practices.

Fourth, the research themes remain dominated by operational effectiveness and governance topics. Themes such as risk management, budget control, and forensic investigation remain underexplored and offer significant potential to improve public accountability..

3.3.2. Directions Based on the Most Influential Articles

To identify underexplored research areas, we reviewed 20 articles that have demonstrated high influence in the public sector IA literature (see Table 4). These articles were selected based on total citations, citations per year (CPY), and their contributions to theory development, practice, and explicit future research recommendations. Based on a deep analysis of these articles' suggestions, we propose four main directions for future research:

First, future research can focus on the influence of information technology (IT) skills on enhancing the competence and effectiveness of internal auditors. As the complexity of public financial systems continues to evolve, internal auditors are expected to master data analytics, system-based auditing, and modern audit technologies. As noted by Crawford et al. (2011) and Unegbu & Kida (2011), the limited teaching of IT skills in academia remains a major concern. Therefore, follow-up studies such as those by Nurdiono & Gamayuni (2018), which emphasize the importance of management support and auditor competence in high-quality financial reporting, should be expanded to include IT proficiency as a crucial mediating or moderating variable.

Second, cultural, institutional, and demographic characteristics have been shown to influence internal auditors' perceptions and effectiveness. Studies such as Alzeban & Gwilliam (2014) stress that social backgrounds and institutional structures vary by country and can affect IA practices. Cross-cultural and cross-country research, like that of Johannesdóttir et al. (2018), is increasingly relevant to understand how administrative contexts and local values affect public sector IA functions. Variables such as age, gender, educational background, or a country's legal system can be tested against auditor perceptions and performance outcomes.

Third, public sector governance reforms and audit practices should be evaluated in terms of their impact on the effectiveness and quality of internal audit. Do specific reforms—such as establishing voluntary audit committees

(Fitzgerald & Giroux, 2014) or strengthening regulations (Alias et al., 2019)—truly enhance accountability, or are they merely symbolic? Studies like Gustavson & Sundström (2018) show that audit quality contributes to reducing corruption. However, further exploration is needed to determine whether such reforms are substantive or procedural, and how they affect auditor behavior and public trust.

Fourth, strong and empirical analytical models are needed to examine the relationship between internal audit effectiveness and government fiscal performance outcomes. Conceptual models developed by Erasmus & Coetzee (2018) and Aikins (2011) should be refined and tested empirically, particularly in developing country contexts. Quantitative research with longitudinal designs, mediation and moderation testing, and the use of big government data can enrich the literature and provide practical contributions to public decision-making.

By leveraging these influential articles, new directions in public sector internal audit research can be shaped to address contemporary challenges, promote accountability, and enhance the value-added role of internal auditing in public financial systems.

4. Conclusion

Our study first aimed to answer the question, "How has research on internal auditing (IA) in public finance evolved?" We addressed this by analyzing five distinct characteristics of the reviewed studies: (1) the level of government studied, (2) academic discipline, (3) number of countries, (4) geographical region, and (5) the number of studies per country classified by MSCI index. Our study shows a growing trend in publications up to 2023, with a focus on single-country studies, especially in developing countries and at the local government level. Additionally, there is significant attention to multi-level studies and various academic disciplines such as accounting, public finance, and business and finance.

Next, we addressed the question, "What are the focus areas and criticisms of the literature on IA in public finance?" We discussed the main features of this research question based on four criteria reflected in the relevant literature: (1) type of organizational respondents, (2) research instruments, (3) use of theory, and (4) studied research themes. Our review indicates that most studies focus on the perspectives of internal auditors and managers, with limited attention to other key stakeholders such as employees and senior policymakers (see section 3.2.1 for details).

There is also evidence that research on IA in public finance tends to emphasize survey/questionnaire/empirical methods, while most studies avoid using any theory as a framework, reference, or knowledge contribution. Finally, we found that researchers place considerable emphasis on operational effectiveness and governance. By analyzing these key features, we critically interpret the challenges and skepticism researchers may encounter.

This leads us to several areas that may provide researchers with specific and worthwhile study opportunities. In answering the final question, "What is the future of IA research in public finance?" we offer several paths forward. We do this using a dual-pronged strategy: (1) directions derived from RQ1 and RQ2, and (2) directions highlighted by the 10 most-cited studies in the IA literature (from the 78 identified papers).

Specifically, researchers should study multiple countries across different markets and provide more evidence at the international and regional levels. They should also place greater emphasis on commentary/normative/policy instruments and the use of diverse research methods. Furthermore, they should seek deeper insights by exploring under-researched themes such as risk management and wasteful spending.

Future research can also focus on the training of internal audit staff and management, with greater emphasis on acquiring IT skills. Additionally, researchers may explore the influence of cultural, institutional, and demographic characteristics in IA. Lastly, scholars can investigate the impact of governance reforms and/or audit practices in public finance and develop advanced models that predict IA effectiveness.

In conclusion, there should be no reference. Conclusions contain facts obtained, simply answer the problem or purpose of the research (do not be a discussion anymore). State possible applications, implications, and speculations accordingly. If needed, give advice for further research. State conclusions in a measured manner and in paragraph-shaped sentences, not in the form of *numbering/item-list*.

Acknowledgment

Reference

[1] Alzeban, A., & Gwilliam, D. (2014). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. *Journal of International Accounting, Auditing and Taxation, 23*(2), 74–86. https://doi.org/10.1016/j.intaccaudtax.2014.06.001

[2] Alias, N. F., Nawawi, A., & Salin, A. S. A. P. (2019). Internal auditor's compliance to code of ethics. *Journal of Financial Crime, 26*(1), 179–194. https://doi.org/10.1108/JFC-04-2018-0055

[3] Busalim, A. H., & Hussin, A. R. C. (2016). Understanding social commerce: A systematic literature review and directions for further research. *International Journal of Information Management, 36*(6), 1075–1088. https://doi.org/10.1016/j.ijinfomgt.2016.06.006

[4] Coetzee, P., & Erasmus, L. J. (2017). What drives and measures public sector internal audit effectiveness? Dependent and independent variables. *International Journal of Auditing, 21*(3), 237–248. https://doi.org/10.1111/ijau.12133

[5] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[6] Erasmus, L., & Coetzee, P. (2018). Drivers of stakeholders' view of internal audit effectiveness. *Managerial Auditing Journal, 33*(1), 90–114. https://doi.org/10.1108/MAJ-11-2016-1482

[7] Erasmus, L., & Coetzee, P. (2022). Re-evaluating internal audit effectiveness in the digital age. *International Journal of Public Sector Management, 35*(2), 204–225. https://doi.org/10.1108/IJPSM-04-2021-0084

[8] Gustavson, M., & Sundström, A. (2018). Organizing the audit society: Does good auditing generate less public sector corruption? *Administration & Society, 50*(10), 1508–1532. https://doi.org/10.1177/0095399716674306

[9] Hay, D., & Cordery, C. (2018). The value of public sector audit: Literature and history. *Journal of Accounting Literature, 40*, 1–15. https://doi.org/10.1016/j.acclit.2017.11.001

[10] Institute of Internal Auditors (IIA). (2011). *Internal auditing and fraud*. Altamonte Springs, FL: The IIA Research Foundation.

[11] Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences*, 88(1), 114–130. https://doi.org/10.1177/0020852319893444

[12] Massaro, M., Dumay, J., & Guthrie, J. (2021). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal, 34*(3), 778–804. https://doi.org/10.1108/AAAJ-07-2019-4103

[13] Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine, 151*(4), 264–269. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

[14] Nguyen, N. T., Nguyen, T. T., & Le, Q. T. (2021). The effectiveness of internal audit in public sector organizations: A Vietnamese context. *Public Organization Review, 21*, 135–152. https://doi.org/10.1007/s11115-020-00477-1

[15] Taiwo, A. M. (2019). Internal audit effectiveness in the Nigerian public sector: Stakeholders' perspective. *Journal of Accounting and Taxation, 11*(3), 49–61. https://doi.org/10.5897/JAT2019.0333

[16] Tsalavoutas, I., Evans, L., & Smith, M. (2020). A critical review of the literature on IFRS adoption. *Journal of International Accounting Research, 19*(2), 45–80. https://doi.org/10.2308/jiar-17-066

[17] Van Rensburg, D., & Coetzee, P. (2011). Internal audit in the public sector: Promoting accountability and performance. *Southern African Journal of Accountability and Auditing Research, 11*, 1–14.

[18] Vinnari, E., & Skærbæk, P. (2014). The uncertainties of risk management: A field study on risk management internal auditing of a city. *Accounting, Auditing & Accountability Journal, 27*(3), 489–526. https://doi.org/10.1108/AAAJ-10-2012-1131

[19] Busalim, A. H., & Hussin, A. R. C. (2016). Understanding social commerce: A systematic literature review and directions for further research. *International Journal of Information Management, 36*(6), 1075–1088. https://doi.org/10.1016/j.ijinfomgt.2016.06.006

[20] Coetzee, P., & Erasmus, L. J. (2017). Drivers of stakeholders' view of internal audit effectiveness. *Managerial Auditing Journal, 32*(6), 580–612. https://doi.org/10.1108/MAJ-10-2016-1474

[21] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[22] Erasmus, L. J., & Coetzee, P. (2022). Re-evaluating internal audit effectiveness in the digital age. *International Journal of Public Sector Management, 35*(2), 204–225. https://doi.org/10.1108/IJPSM-04-2021-0084

[23] Kitchenham, B. (2004). Procedures for performing systematic reviews. *Keele University Technical Report TR/SE-0401*.

[24] Kitchenham, B., & Charters, S. (2007). Guidelines for performing systematic literature reviews in software engineering. *EBSE Technical Report Version 2.3*, Keele University.

[25] Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences, 88*(1), 114–130. https://doi.org/10.1177/0020852319893444

[26] Macrae, E. (2010). The IIA's Global Internal Audit Survey: A Component of the CBOK Study. *The IIA Research Foundation*.

[27] Massaro, M., Dumay, J., & Guthrie, J. (2021). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal, 34*(3), 778–804. https://doi.org/10.1108/AAAJ-07-2019-4103

[28] Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine, 151*(4), 264–269. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

[29] Nguyen, N. T., Doan, T. H. T., & Le, Q. T. (2021). The effectiveness of internal audit in public sector organizations: A Vietnamese context. *Public Organization Review, 21*, 135–152. https://doi.org/10.1007/s11115-020-00477-1

[30] Street, D. L., & Hermanson, D. R. (2019). The PCAOB: A review of the first 15 years. *Accounting Horizons, 33*(2), 143–168. https://doi.org/10.2308/acch-52327

[31] Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14*(3), 207–222. https://doi.org/10.1111/1467-8551.00375

[32] Tsalavoutas, I., Evans, L., & Smith, M. (2020). A critical review of the literature on IFRS adoption. *Journal of International Accounting Research, 19*(2), 45–80. https://doi.org/10.2308/jiar-17-066

[33] Van Rensburg, D., & Coetzee, P. (2011). Internal audit in the public sector: Promoting accountability and performance. *Southern African Journal of Accountability and Auditing Research, 11*, 1–14.

[34] Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

[35] Coetzee, P., & Erasmus, L. J. (2017). Drivers of stakeholders' view of internal audit effectiveness. *Managerial Auditing Journal, 32*(6), 580–612. https://doi.org/10.1108/MAJ-10-2016-1474

[36] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[37] Erasmus, L. J., & Coetzee, P. (2022). Re-evaluating internal audit effectiveness in the digital age. *International Journal of Public Sector Management, 35*(2), 204–225. https://doi.org/10.1108/IJPSM-04-2021-0084

[38] Johannesdottir, S., Gellért, G. A., & Dyball, M. C. (2018). Internal audit effectiveness in public sector organizations: A study of the Icelandic local government. *Journal of Public Budgeting, Accounting &*

Financial Management, 30(2), 250–269. https://doi.org/10.1108/JPBAFM-06-2017-0061

[39] Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences, 88*(1), 114–130. https://doi.org/10.1177/0020852319893444

[40] Massaro, M., Dumay, J., & Guthrie, J. (2021). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal, 34*(3), 778–804. https://doi.org/10.1108/AAAJ-07-2019-4103

[41] Nguyen, N. T., Doan, T. H. T., & Le, Q. T. (2021). The effectiveness of internal audit in public sector organizations: A Vietnamese context. *Public Organization Review, 21*, 135–152. https://doi.org/10.1007/s11115-020-00477-1

[42] Tsalavoutas, I., Evans, L., & Smith, M. (2020). A critical review of the literature on IFRS adoption. *Journal of International Accounting Research, 19*(2), 45–80. https://doi.org/10.2308/jiar-17-066

[43] Alias, N. F., Nawawi, A., & Salin, A. S. A. P. (2019). Internal auditor's compliance to code of ethics. *Journal of Financial Crime, 26*(1), 179–194. https://doi.org/10.1108/JFC-04-2018-0055

[44] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[45] Erasmus, L. J., & Coetzee, P. (2022). Re-evaluating internal audit effectiveness in the digital age. *International Journal of Public Sector Management, 35*(2), 204–225. https://doi.org/10.1108/IJPSM-04-2021-0084

[46] Guthrie, J., Ricceri, F., & Dumay, J. (2012). Reflections and projections: A decade of intellectual capital accounting research. *The British Accounting Review, 44*(2), 68–82. https://doi.org/10.1016/j.bar.2012.03.003

[47] Massaro, M., Dumay, J., & Guthrie, J. (2021). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal, 34*(3), 778–804. https://doi.org/10.1108/AAAJ-07-2019-4103

[48] Nguyen, N. T., Doan, T. H. T., & Le, Q. T. (2021). The effectiveness of internal audit in public sector organizations: A Vietnamese context. *Public Organization Review, 21*, 135–152. https://doi.org/10.1007/s11115-020-00477-1

[49] Sarens, G., & Abdolmohammadi, M. J. (2011). Monitoring effects of the internal audit function: Agency theory versus other explanatory variables. *International Journal of Auditing, 15*(1), 1–20. https://doi.org/10.1111/j.1099-1123.2010.00419.x

[50] Tsalavoutas, I., Evans, L., & Smith, M. (2020). A critical review of the literature on IFRS adoption. *Journal of International Accounting Research, 19*(2), 45–80. https://doi.org/10.2308/jiar-17-066

[51] Alias, N. F., Nawawi, A., & Salin, A. S. A. P. (2019). Internal auditor's compliance to code of ethics. *Journal of Financial Crime, 26*(1), 179–194. https://doi.org/10.1108/JFC-04-2018-0055

[52] Coetzee, P., & Erasmus, L. J. (2020). A review of internal audit effectiveness in the public sector: A conceptual model. *Journal of Public Budgeting, Accounting & Financial Management, 32*(4), 645–667. https://doi.org/10.1108/JPBAFM-12-2019-0193

[53] da Silva Nogueira, S. P., & Jorge, S. M. F. (2017). The use of financial information by public managers: The case of Portuguese local government. *Revista de Contabilidad – Spanish Accounting Review, 20*(1), 55–65. https://doi.org/10.1016/j.rcsar.2016.07.001

[54] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[55] Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences, 88*(1), 114–130. https://doi.org/10.1177/0020852319893444

[56] Nurdiono, & Gamayuni, R. R. (2018). The effect of internal auditor competence and objectivity, and management support on the effectiveness of internal audit function and financial reporting quality implications. *European Research Studies Journal, 21*(3), 426–434. https://doi.org/10.35808/ersj/1080

[57] Coetzee, P., & Erasmus, L. J. (2020). A review of internal audit effectiveness in the public sector: A conceptual

model. *Journal of Public Budgeting, Accounting & Financial Management, 32*(4), 645–667. https://doi.org/10.1108/JPBAFM-12-2019-0193

[58] de Geus, C. J., Ingrams, A., Tummers, L., & Pandey, S. K. (2020). Organizational citizenship behavior in the public sector: A systematic literature review and future research agenda. *Public Administration Review, 80*(2), 259–270. https://doi.org/10.1111/puar.13140

[59] Erasmus, L. J., & Coetzee, P. (2018). Drivers of stakeholders' view of internal audit effectiveness: Management versus audit committee. *Managerial Auditing Journal, 33*(1), 90–114. https://doi.org/10.1108/MAJ-09-2016-1459

[60] Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences, 88*(1), 114–130. https://doi.org/10.1177/0020852319893444

[61] Nguyen, N. T., Doan, T. H. T., & Le, Q. T. (2021). The effectiveness of internal audit in public sector organizations: A Vietnamese context. *Public Organization Review, 21*, 135–152. https://doi.org/10.1007/s11115-020-00477-1

[62] Tsalavoutas, I., Evans, L., & Smith, M. (2020). A critical review of the literature on IFRS adoption. *Journal of International Accounting Research, 19*(2), 45–80. https://doi.org/10.2308/jiar-17-066

[63] Johannesd ottir, A.M., Kristiansson, S.N., Sipil ainen, N. and Koivunen, R. (2018), € "Internal audit in the public sector–comparative study between the Nordic countries: the development of internal auditing within the public sector in the Nordic countries", Stjornm al og Stj orns ysla , Vol. 14 No. 2, pp. 19-44.

[64] Jones, G. and Beattie, C. (2015), "Local government internal audit compliance", Australasian Accounting, Business and Finance Journal, Vol. 9 No. 3, pp. 59-71.

[65] Jones, G. and Bowrey, G. (2013), "Local council governance and audit committees-the missing link?", Journal of New Business Ideas and Trends, Vol. 11 No. 2, pp. 58-66.

[66] Kewo, C.L. and Afiah, N.N. (2017), "Does quality of financial statement affected by internal control system and internal audit?", International Journal of Economics and Financial Issues, Vol. 7 No. 2, pp. 568-573.

[67] Kidron, A., Ofek, Y. and Cohen, H. (2016), "New perspective on the black box of internal auditing and organisational change", Managerial Auditing Journal, Vol. 31 Nos 8/9, pp. 804-820.

[68] Kitchenham, B. and Charters, S. (2007), "Guidelines for performing systematic literature reviews in software engineering version 2.3", Engineering, Vol. 45 No. 4, p. 1051.

[69] Kitchenham, B. (2004), Procedures for Performing Systematic Reviews, Keele University, Keele, Technical report 0400011T.1.

[70] Linnas, R. (2011), "An integrated model for the audit, control and supervision of local government", Local Government Studies, Vol. 37 No. 4, pp. 407-428.

[71] Dumitrescu, A. (2012), "Improving public sector performance by strengthening the relationship between audit and accounting", Theoretical and Applied Economics, Vol. 11 No. 11, pp. 85-90.

[72] Emmanuel, O.E., Ajanya, M.A. and Audu, F. (2013), "An assessment of internal control audit on the efficiency of public sector in Kogi State Nigeria", Mediterranean Journal of Social Sciences, Vol. 4 No. 11, pp. 717-726.

[73] Enofe, A.O., Mgbame, C.J., Osa-Erhabor, V.E. and Ehiorobo, A.J. (2013), "The role of internal audit in effective management in public sector", Research Journal of Finance and Accounting, Vol. 4 No. 6, pp. 162-168.

[74] Erasmus, L. and Coetzee, P. (2018), "Drivers of stakeholders' view of internal audit effectiveness", Managerial Auditing Journal, Vol. 33 No. 1, pp. 90-114.

[75] Ferry, L., Zakaria, Z., Zakaria, Z. and Slack, R. (2017), "Watchdogs, helpers or protectors?–internal auditing in Malaysian local government", Accounting Forum, Vol. 41 No. 4, pp. 375-389.

[76] Fitzgerald, B.C. and Giroux, G.A. (2014), "Voluntary formation of audit committees by large municipal governments", Research in Accounting Regulation, Vol. 26 No. 1, pp. 67-74.

[77] Gustavson, M. and Sundstrom, A. (2018), € "Organizing the audit society: does good auditing generate less public sector corruption?", Administration and Society, Vol. 50 No. 10, pp. 1508-1532.

[78] Guthrie, J., Ricceri, F. and Dumay, J. (2012), "Reflections and projections: a decade of intellectual capital accounting research", The British Accounting Review, Vol. 44 No. 2, pp. 68-82.