Optimizing Public Financial Audit as an Instrument to Strengthen State Financial Accountability in the Digital Era

Yuliani Nuril Khasanah[1]

[1] Sekolah Tinggi Ilmu Ekonomi Widya Wiwaha, Yogyakarta, Indonesia

Abstract

This research aims to analyze the optimization strategy of public financial audits in strengthening state financial accountability in the digital era. Using a literature study method on the scientific literature of the last five years, this study reviews the development of public audit theory and practice with a focus on technology integration, institutional reform, and improving financial governance transparency. The study was conducted on the results of the latest research relevant to audit practices in the public sector and government digitalization policies. The results of the analysis show that the effectiveness of public audits is determined by three main factors, namely the digital capacity of auditors, the institutional readiness of auditors, and the implementation of technology-based audit systems such as e-audit and big data analytics. These three play an important role in accelerating the supervisory process, strengthening the accuracy of financial reporting, and increasing public confidence in the management of state funds. This study concludes that the optimization of public audits requires a holistic approach that combines digital innovation, regulatory strengthening, and human resource capacity building to realize an adaptive, transparent, and sustainable audit system in modern state financial governance.

1. Introduction

Public financial accountability is a fundamental element in realizing transparent, effective, and integrity governance. In the modern context, public sector audits not only serve as a mechanism for state financial supervision, but also as a strategic instrument to ensure that public resources are used in accordance with the principles of efficiency and the interests of the wider community. The increasing complexity of state financial management, especially due to global dynamics and the digitalization of government administration, requires audit institutions to adapt to a more innovative, technology-based, and responsive approach to changes in the public management system (Ningsih, 2023).

In line with that, the optimization of public financial audits is one of the important issues in fiscal policy and public management in various countries. The main challenge lies in how audits can improve the effectiveness of oversight without hindering bureaucratic flexibility. The development of the concepts of good governance and public accountability in the last decade shows that the success of public audits is largely determined by the integration of transparency, participation, and efficiency in state financial management (Huy & Phuc, 2023). Therefore, reform of the public audit system is an unavoidable urgency to deal with today's economic, social, and technological complexities.

Recent literature review shows that the success of public audits is no longer measured only by administrative compliance aspects, but also by its contribution to improving the performance of government institutions (Broccardo et al., 2023). Thus, the audit function must be able to transform from just an error detection tool

to an evidence-based decision-making strategic tool. Digital innovations such as blockchain auditing, e-audit systems, and data analytics provide opportunities for public auditors to expand the scope of supervision and improve the quality of audit recommendations (Redko et al., 2023).

However, the implementation of digitalization in the public audit process has not been fully optimal. Several studies show that the level of digital readiness of inspection institutions in adopting new technology is still low due to limited human resources, information systems, and infrastructure (Sari et al., 2023). In addition, the lack of a global standard that regulates the integration of digital audits is also an obstacle in maintaining the consistency of audit results between countries. This has an impact on the uneven effectiveness of audits and has the potential to reduce the credibility of the audit institution in the eyes of the public.

On the other hand, audit institutions at the national and international levels are beginning to show progress by developing a framework based on sustainable auditing and governance innovation. This approach not only emphasizes the accuracy of financial reporting but also considers the social impact and sustainability of audited public policies (Voronov et al., 2023). This concept emphasizes that public audits must be an integral part of a broader accountability system, encompassing ethics, policy effectiveness, and public value.

Departing from this context, this study aims to identify strategies for optimizing public financial audits that are oriented towards increasing accountability and transparency of state finances. Through a literature review approach and the latest policy analysis, this study emphasizes the importance of synergy between

regulations, technology, and institutional capacity in strengthening the effectiveness of public audits. Thus, the results of the research are expected to make a conceptual contribution to the development of a public audit model that is adaptive and relevant to the challenges of modern financial governance (Zakariya, 2020; Nose, 2023).

2. Literature Review

2.1. The Concept of Public Financial Accountability and Audit

Public financial accountability is a key principle in modern governance. This concept emphasizes the importance of openness and accountability in state financial management to the public through a credible and independent audit system. Public audit functions as a monitoring mechanism for budget implementation, fiscal policies, and the effectiveness of public funds. In the last two decades, the public audit paradigm has shifted from a compliance audit function to an evaluative function that assesses the performance and social impact of public policies (Broccardo et al., 2023). These changes also require public auditors to focus not only on the conformity of financial statements with accounting standards, but also on how the management of public funds contributes to the achievement of national development goals.

Huy and Phuc (2023) emphasized that effective public accountability requires an audit system that is integrated with the principles of transparency and bureaucratic efficiency. Thus, public audits cannot stand alone, but rather become part of the result-oriented governance ecosystem. In the Indonesian and global contexts, public accountability challenges often arise due to limited auditor resources, weak internal

oversight mechanisms, and high reliance on manual approaches in audits (Zakariya, 2020). Therefore, reform of the public audit system must be directed at the establishment of an audit body that is adaptive, professional, and based on sustainable governance.

2.2. Digital Transformation in Public Audit

The digitalization of government is driving a significant transformation in the public audit mechanism in various countries. Technologies such as blockchain, big data analytics, and machine learning are now important elements in improving the effectiveness and efficiency of the audit process. According to Ningsih (2023), the implementation of an information technology-based audit system allows auditors to identify potential irregularities more quickly and accurately. In addition, the digital system also strengthens transparency because the entire audit process can be documented automatically and easily accessible by related parties. Redko et al. (2023) added that digital innovation not only accelerates the audit process but also expands the scope of supervision of public financial activities. The use of digital technology allows auditors to conduct cross-data analysis to detect anomalies that were previously difficult to find through conventional methods.

In the long term, the integration of digital audits will create a financial supervisory system that is more adaptive to changing fiscal and regulatory environments. However, the main challenge of digitizing public audits is the readiness of human resources and infrastructure. Sari et al., (2023) show that there are still many audit institutions that do not have adequate digital capabilities to make the most of technology. Therefore, digital transformation in public auditing requires

strategic policies that focus on improving auditor competence and building an integrated audit system that is oriented towards governance innovation.

2.3. Public Audit and Strengthening State Financial Governance

The relationship between public audits and state financial governance is mutually reinforcing. Public audits play an important role in building public trust in the management of public funds, while good financial governance is the foundation for the creation of effective audits. According to Voronov et al. (2023), good governance practices require openness, participation, and a measurable accountability system at every stage of public decision-making. Public audits, in this case, are an instrument to ensure that these principles are consistently implemented. Nose (2023) stated that the integration between public audit and financial governance can strengthen the value of fiscal justice and improve the efficiency of state resource allocation.

This is especially relevant in the context of the post-pandemic era and global economic crisis that demands fiscal policy flexibility without sacrificing transparency. Thus, public audit not only functions as a control tool, but also as a driver of bureaucratic reform and institutional strengthening. In addition, Rusdi et al. (2023) emphasized that strong state financial governance will create synergy between audit institutions, policymakers, and civil society. This collaboration is a key factor in building a credible and sustainable public audit system. Therefore, the strategy of optimizing public audits must be directed at strengthening institutional integration and increasing public trust in the results of state financial audits.

3. Methods

This study uses the library research approach as the main method to analyze various theories, concepts, and empirical findings related to optimizing public financial audits and strengthening state financial accountability. This approach was chosen because the purpose of the research is not to produce new field data, but to integrate knowledge and previous research results in order to build a conceptual framework that is relevant to modern public governance conditions. Thus, this research focuses on the process of identifying, interpreting, and synthesizing the latest scientific sources obtained from academic publications, institutional reports, and Google Scholar-indexed research results in 2019–2023.

The research stages are carried out systematically. First, secondary data collection was carried out through a literature search that included scientific journals, conference proceedings, and reports of international institutions that discussed public audit, financial accountability, and government digitalization. The selected sources come from reputable journals such as Public Administration Review, Applied Sciences, Cogent Social Sciences, as well as several reports from global institutions such as the IMF, OECD, and INTOSAI. The literature selection criteria include: (1) the year of publication between 2019 and 2023, (2) direct relevance to the topic of auditing and public financial governance, and (3) the availability of the document in full-text format to allow for an in-depth analysis of the content of the publication.

Second, a content analysis was carried out on all the literature that had been collected. This analysis aims to extract key themes such as the efficiency of financial

audits, digital transformation in audits, as well as the relationship between accountability and public financial governance. This process is carried out by identifying similarities in patterns, concepts, and differences in arguments among various sources. In addition, a conceptual comparison process was also carried out to link classical theories of public accountability with the results of recent research on digital audits and institutional reform.

Third, thematic synthesis is carried out to formulate conceptual conclusions and policy recommendations based on the results of literature analysis. This synthesis results in a mapping of the relationship between the role of public audit, the level of financial accountability, and the influence of digital transformation on the effectiveness of financial audits. The final result is a conceptual model that explains the direction of optimizing public audits in strengthening state financial governance in a sustainable manner. With this approach, the research is expected to be able to make a theoretical contribution to the development of public administration science as well as a practical contribution to improving the performance of audit institutions in the digital era.

4. Results

The results of the study show that the optimization of public financial audits in the context of modern governance cannot be separated from three main pillars, namely increasing institutional capacity, strengthening accountability systems, and utilizing digital technology. These three aspects are interrelated and contribute to the effectiveness of state financial audits, especially in facing the challenges of

transparency, efficiency, and complexity of budget management in the era of government digitalization.

First, in terms of institutional capacity, the literature findings confirm that the effectiveness of public audits is highly dependent on the ability of audit institutions to develop adaptive and evidence-based supervision systems. Broccardo et al. (2023) explain that the transformation of the role of public audit institutions from a mere administrative control function to a strategic consultative function has become a global trend in the past decade. Public auditors are now required to provide added value in the form of result-oriented policy recommendations. In this context, audits no longer only play a role in detecting violations, but also encourage management improvements and increased fiscal efficiency.

The results of Ningsih's study (2023) corroborate this view by emphasizing that information technology-based audit transformation is able to speed up the audit process, improve data accuracy, and expand the scope of supervision of public entities. The integration of digital audit systems, such as electronic audit (e-audit) and data-driven audits, has been proven to reduce the rate of manual errors and strengthen the transparency of audit results. The implementation of this system also allows audit agencies to manage increasingly large volumes of financial data without sacrificing the quality of analysis.

However, increasing technological capacity will not be optimal without strengthening auditor's human resources. Sari et al. (2023) show that the digital readiness of auditors is a key factor in the success of public audit transformation. Many auditing institutions in developing countries still face technology competency

gaps, which hinder the widespread adoption of digital innovation. Therefore, the strategy of training and digital capacity building of auditors should be integrated into national public audit reform policies.

Second, from the perspective of public financial accountability, the synthesis results show that audits have a central role in strengthening public trust in state financial management. Huy and Phuc (2023) emphasize that effective accountability requires a transparent, independent, and consistent audit system in reporting audit results. The existence of credible public audits encourages increased compliance of government agencies with financial management standards and minimizes the potential for budget abuse. In addition, the success of public audits is also measured by the extent to which the results of the audit are used as a basis for improving fiscal policies and budget governance in the future.

Similar findings were put forward by Rusdi et al. (2023) who explained that public audits function not only as a formal control tool, but also as a means of strengthening bureaucratic integrity and the effectiveness of policy implementation. Thus, the optimization of public audits needs to be directed to ensure that the results of the audit do not stop at the report of findings, but become a reference in the preparation of financial policies that are more accountable and responsive to the needs of the community.

Furthermore, the results of the study by Voronov et al. (2023) show that the relationship between public auditing and financial governance is two-way: audits strengthen governance, and good governance supports audit effectiveness. Within the framework of good governance, public audits play a role in ensuring that the

public financial management process runs according to the principles of openness, efficiency, and accountability. Therefore, effective public audits must be supported by strong regulations, integrated information systems, and good inter-agency coordination.

Third, in the aspect of audit digitization and technological innovation, the results of the study show that the adoption of digital technology contributes significantly to increasing the effectiveness of public audits. Redko et al. (2023) explain that digital systems are able to expand the scope of financial audits through cross-sector and cross-time data analysis. With the use of big data analytics, auditors can identify financial trends, detect transaction irregularities, and estimate potential financial risks more accurately. In addition, audit digitization also speeds up the reporting process and strengthens real-time accountability in budget implementation.

Research by Krejnus et al. (2023) added that the success of government digitalization through an electronic audit system is able to improve the efficiency of public services and budget transparency. In this context, public audits play a dual role: as an instrument of fiscal supervision as well as a driver of bureaucratic modernization. The implementation of GovTech and smart auditing systems allows audit institutions to monitor the implementation of public finances automatically and comprehensively, thereby minimizing the opportunity for administrative irregularities.

Nonetheless, the implementation of digital audits faces a number of structural challenges. Nose (2023) highlighted that there are still many audit institutions that

do not have an integrated data architecture, so technology-based audit systems do not run optimally. The gap between the availability of technology and the readiness of the organization has led many audit digitization projects to fail to achieve the expected effectiveness goals. In addition, the issue of data security and privacy is an important issue that needs to be anticipated through a strict public financial data protection policy.

From an institutional perspective, the findings of Zakariya (2020) show that the public audit optimization strategy does not only depend on technological sophistication, but also on the organization's commitment to implementing the principles of integrity, independence, and objectivity. In the context of national governance, efforts to strengthen public audit capacity need to be carried out holistically through structural reforms, the development of auditor performance management systems, and the implementation of audit standards that are consistent with international practice.

In addition, the results of research by Del Paso et al. (2023) from the IMF show that the digitization of public financial management can improve the accuracy of fiscal data and strengthen synergy between audit institutions and the ministry of finance in managing fiscal reporting efficiently. This integration creates a more transparent governance ecosystem and accelerates the process of preparing government financial statements. Therefore, the implementation of digital audits must be seen as part of a comprehensive reform of the public financial management system, not just a technical innovation.

Furthermore, the results of Shapovalova et al. (2023) analysis show that the modernization of the public audit system must be accompanied by innovations in the legal and policy framework. Without regulatory updates, modern audit technologies have the potential to have no maximum impact on improving accountability. For example, blockchain auditing systems require clarity on legal rules regarding document authentication and digital accountability. Without a strong legal basis, technological innovation can create uncertainty and institutional resistance.

The findings of Febriyanti et al. (2023) also emphasize the importance of information technology-based performance evaluation in measuring the effectiveness of public audits. With a robust e-governance system, audit bodies can increase transparency and strengthen public participation in the budget oversight process. Public participation in accessing audit information is an important indicator for the creation of an open and accountable government.

In addition, research by Otia and Bracci (2022) suggests that the digitization of public finances opens up opportunities for audit institutions to act as a catalyst for innovation in governance. By leveraging digital technology, audit institutions can contribute to improving fiscal efficiency and data-driven policymaking. These findings confirm that modern public audits are not only aimed at overseeing, but also strengthening fiscal sustainability and the value of public benefits.

Overall, the results of the synthesis of various literature show that the optimization of public audits in the digital era requires a balance between three main things: (1) strengthening the institutional capacity of auditors, (2) the application of adaptive and integrated technology, and (3) the application of transparent and

sustainable accountability principles. Approaches that focus only on one aspect, such as digitalization without institutional reforms, risk resulting in ineffective audit systems. Thus, a comprehensive policy strategy is needed so that public audits truly become an instrument of organizational supervision and learning that is effective in managing state finances.

5. Discussion

The results of the research obtained through a literature review show that the optimization of public financial audits is not only related to the efficiency of audit procedures, but also to efforts to build an accountability system that is oriented towards transparency, collaboration, and innovation. In the context of modern governance, public audits serve a dual function: as a fiscal control mechanism as well as a strategic means to strengthen public trust in state financial management. This discussion highlighted three main dimensions that are the focus of audit optimization, namely institutional capacity, technological adaptation, and public governance integration.

First, from the perspective of institutional capacity, there is still a significant gap between the ability of auditors and the complexity of the country's financial system. As revealed by Sari et al. (2023), the readiness of digital auditors is still a structural obstacle in the implementation of technology-based audits in the public sector. Limitations in analytical and information technology expertise cause audit agencies from fully utilizing the potential of big data analytics and e-audit systems.

This shows that public audit reform must start from improving human resources and internal knowledge management of audit institutions.

Second, in the aspect of digital transformation, Ningsih's research (2023) shows that technological innovations in public audits can strengthen the efficiency of financial supervision and expand public access to audit results. However, the implementation of digital audits also poses new challenges related to data security and information integrity. Nose (2023) emphasized that many audit agencies do not have adequate security infrastructure to protect financial data from potential leaks or manipulation. Therefore, the success of audit digitization depends not only on technical capabilities but also on public data protection policies and comprehensive digital risk governance.

Third, the dimension of integrating state financial governance is an important pillar in strengthening the effectiveness of public audits. Broccardo et al. (2023) emphasize the importance of the role of audit as a catalyst for governance reform, not just an administrative evaluation tool. Public audits that are integrated with financial management systems will result in a more efficient and measurable oversight process, while strengthening synergy between audit agencies, policymakers, and the public. In this regard, audits must be able to adapt to changes in the global fiscal environment and develop performance indicators that are more responsive to sustainable development goals.

In the Indonesian context, as described in the Zakariya (2020), optimizing public audits requires cross-agency collaboration and consistency in the implementation of the principles of integrity and audit objectivity. Institutional

strengthening, regulatory reform, and the use of digital technology must go hand in hand in one sustainable policy framework. In addition, public audit reform must also consider local values such as social transparency, community participation, and public service ethics.

Thus, this discussion emphasizes that public audit optimization in the digital era is a multidimensional process involving human, technology, and governance factors. Failure to pay attention to one aspect can hinder the creation of a credible and sustainable audit system. Therefore, a collaborative and data-based approach is a strategic direction in realizing an effective, adaptive, and public value-oriented public audit.

6. Conclusion

This research emphasizes that the optimization of public financial audits is a strategic factor in strengthening state financial governance that is transparent, accountable, and with integrity. Through a comprehensive literature review approach, it is possible to get an idea that the effectiveness of public audits is strongly influenced by three main components: institutional capacity, the application of digital technology, and the integration of financial governance. The three form a complementary foundation in ensuring that the financial audit process not only produces compliance reports, but also provides added value for improving the quality of public policy. Increasing the capacity of audit institutions, especially in the aspect of auditor digital competence, is the main prerequisite for facing audit challenges in the era of technological transformation. Meanwhile, the use of digital

systems such as e-audit, big data analysis, and smart auditing is able to speed up the supervision process and strengthen state financial transparency.

However, audit digitization needs to be accompanied by information security policies and regulations that support the integrity of the audit process. On the other hand, public audits that are integrated with the financial governance system are able to build synergy between audit institutions, policymakers, and the public in creating broader accountability. Thus, the public audit optimization strategy focuses not only on technology modernization, but also on institutional reform and strengthening the values of integrity and professionalism of auditors. The combination of these three aspects is key in realizing adaptive, credible, and sustainable public audits in the digital era.

References

Broccardo, L., Truant, E., & Argento, D. (2023). Digitalization and management control in the public sector: what is next?. In *Handbook of Big Data and Analytics in Accounting and Auditing*. Singapore: Springer Nature Singapore, 279-308.

Del Paso, L. R., Pattanayak, S., Uña, G., & Tourpe, H. (2023). *Digital solutions guidelines for public financial management*. Washington: International Monetary Fund.

Febriyanti, D., Widianingsih, I., Sumaryana, A., & Buchari, R. A. (2023). Information Communication Technology (ICT) on Palembang city government, Indonesia: Performance measurement for great digital governance. *Cogent Social Sciences*, *9*(2), 2269710.

Huy, P. Q., & Phuc, V. K. (2023). Unfolding sustainable auditing ecosystem formation path through digitalization transformation: How digital intelligence of accountant fosters the digitalization capabilities. *Heliyon*, *9*(2).

Krejnus, M., Stofkova, J., Stofkova, K. R., & Binasova, V. (2023). The use of the DEA method for measuring the efficiency of electronic public administration as part of the digitization of the economy and society. *Applied Sciences*, *13*(6), 3672.

Ningsih, F. (2023). The importance of IT-based public accounting transformation in supporting the digitalization of good governance. *Indonesian Journal of Business Analytics (IJBA)*, *3*(6), 2191-2206.

Nose, M. (2023). *Inclusive GovTech: Enhancing efficiency and equity through public service digitalization*. Washington: International Monetary Fund.

Otia, J. E., & Bracci, E. (2022). Digital transformation and the public sector auditing: The SAI's perspective. *Financial Accountability & Management*, *38*(2), 252-280.

Redko, K., Zaletska, I., & Chyrva, H. (2023). Comprehensive modernization and innovative development of the SMART economy of the future. *Futurity Economics&Law*, *3*(1), 72-98.

Rusdi, M., Sartika, D., Putra, I., & Sari, N. (2023). Quality governance design good university governance in the education sector: a literature review of concepts performance models and audit practices from a risk management perspective. *International Journal Of Humanities Education and Social Sciences*, *3*(3).

Sari, D. N., Pratama, N. R., & Nurcahyo, R. (2023, April). Digital transformation capability maturity framework for digital audit readiness in public sector (case

study). In *Proceedings of the 4th African International Conference on Industrial Engineering and Operations Management Lusaka, Zambia*, 344–355.

Shapovalova, A., & Kuzmenko, O., Polishchuk, O., Larikova, T., Myronchuk, Z. (2023). Modernization of the national accounting and auditing system using digital transformation tools. *Finansovo-Kredytna Diyal'nist*, *4*(51), 33-52.

Voronov, O., Kurnosenko, L., Bezena, I., Petryshyn, N., Korniievskyi, S., & Ilychok, B. (2023). Public administration of planning for the sustainable development of the region in the context of total digitalization. *International Journal of Sustainable Development and Planning*, *18*(1), 61-67.

Zakariya, R. (2020). Optimalisasi pemeriksaan laporan keuangan negara oleh Badan Pemeriksa Keuangan pada masa pandemi COVID-19. *Jurnal Pajak Dan Keuangan Negara (PKN)*, *2*(1), 112-123.