



Analyzing Audit Follow-Up Performance: Comparison Before and During SIPTL Application Implementation

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ABSTRACT: This study examines the impact of the SIPTL system on the performance of local governments in Indonesia in addressing audit recommendations. Using a quasi-experimental approach, the research compares follow-up performance data before (2015-2016) and after (2017-2023) the SIPTL implementation. Paired sample t-tests reveal substantial improvements in the volume and compliance of follow-up actions, along with a significant reduction in unresolved recommendations during the SIPTL period. These findings indicate that the SIPTL system has enhanced the efficiency and effectiveness of audit processes, promoting better governance and accountability. The study highlights the potential of digital platforms like SIPTL to streamline public sector oversight and reduce financial irregularities, offering valuable insights for policymakers and system developers. By providing empirical evidence of SIPTL's sustained impact on governance, this research contributes to the broader discourse on leveraging information systems for improved public sector accountability.

KEYWORDS: SIPTL system, audit follow-up performance, local governments, quasi-experimental design, governance and accountability, public sector oversight.

1. INTRODUCTION

1.1 The Role of the Audit Board of the Republic of Indonesia (BPK)

The principles of transparency and accountability are fundamental to contemporary governance, especially in developing nations, as they enhance public trust and optimize resource allocation. In Indonesia, the Audit Board of the Republic of Indonesia (BPK) serves as the financial watchdog, established by Law Number 15 of 2006. BPK conducts audits of government agencies and provides findings and recommendations to address inefficiencies and non-compliance in financial management (Yamin et al., 2022).

BPK's mission focuses on ensuring sound financial management practices among government entities. Through systematic audits, BPK evaluates local governments' financial activities, identifying areas for improvement. Abdullah et al., (2022) note that BPK's examinations aim to assess the fairness of financial statements, compliance with accounting standards, and the effectiveness of internal controls. Mainingrum et al. (2023) further emphasize that effective audit practices correlate with improved financial management and governance outcomes, highlighting the importance of BPK's recommendations.

BPK categorizes its recommendations into four types of follow-up compliance: (1) Follow-up in accordance with recommendations, (2) Follow-up not in accordance with recommendations, (3) Recommendations not yet followed up, and (4) Recommendations that cannot be followed up for valid reasons (BPK Regulation No. 2 of 2017). Local governments must act on these recommendations within 60 days of the audit report issuance. Non-compliance may lead to sanctions, but BPK emphasizes transparency and accountability to foster compliance, which enhances the quality of financial reporting within local governments (Nurhadianto & Sugiri, 2022).

The audit process is crucial for identifying issues and providing actionable recommendations that improve governance outcomes. The follow-up process, where entities implement corrective measures based on these recommendations, is essential for achieving intended improvements. Without proper follow-up, the value of an audit diminishes, increasing opportunities for fraud and inefficiencies. To address these challenges, BPK introduced the Sistem Informasi Pemantauan Tindak Lanjut (SIPTL) in 2017, a web-based system designed to automate and streamline monitoring of follow-up actions (Yatun, 2021).



1.2 Introduction of the Sistem Informasi Pemantauan Tindak Lanjut (SIPTL)

Before SIPTL, the audit follow-up process faced significant inefficiencies, as government entities submitted physical documentation for follow-up actions, resulting in delays and increased human error. This reliance on manual processes led to many audit recommendations remaining unaddressed for extended periods, diminishing BPK's oversight impact (Furqan et al., 2020; Yamin et al., 2022).

SIPTL automates the follow-up process, allowing government entities to submit reports online and monitor progress in real time. Key features include real-time data updates, which enable BPK and audited entities to track follow-up actions without in-person meetings, thus reducing administrative burdens (Djaisin, 2021). SIPTL also includes automated notifications and reminders to keep entities aware of deadlines and outstanding recommendations, promoting accountability (Yatun, 2021). Additionally, SIPTL facilitates remote collaboration, allowing auditors and government officials to engage in virtual meetings, a capability that proved valuable during the COVID-19 pandemic.

The pandemic exacerbated existing inefficiencies by restricting in-person interactions, underscoring the urgent need for a streamlined system to monitor follow-up actions effectively. These challenges highlighted the necessity for innovations in audit processes, paving the way for SIPTL to enhance remote communication and improve the efficiency of tracking audit recommendations (Samuel Onimisi Dawodu et al., 2023).

1.3 Theoretical Framework: Stewardship Theory and Agency Theory

The effectiveness of audit follow-ups and systems like SIPTL can be analyzed through Stewardship Theory and Agency Theory, which provide insights into public sector governance dynamics. Stewardship Theory posits that government officials act as stewards committed to serving the public interest (Asrori et al., 2020). In this context, SIPTL enables local governments to fulfill their stewardship responsibilities by ensuring timely and effective responses to audit recommendations. This integration aligns with the principles of Stewardship Theory, emphasizing trust and collaboration between government entities and the public (Torfing & Bentzen, 2020).

Conversely, Agency Theory focuses on the relationship between principals (the public) and agents (government officials), highlighting the potential for agents to prioritize their interests over those of the principals (Furqan et al., 2020). In this framework, auditors serve as intermediaries ensuring that agents meet their obligations. SIPTL enhances this oversight by providing auditors with real-time access to follow-up data, enabling them to monitor compliance with audit recommendations. By improving efficiency and transparency, SIPTL mitigates agency problems, such as moral hazard and adverse selection, which can lead to neglect of public interests (de Widt et al., 2022).

1.4 Literature Review on Audit Follow-Up and Digital Platforms

Numerous studies underscore the importance of audit follow-up in enhancing public sector governance. Research by Setyaningrum & Azhar (2015) indicates that entities actively pursuing audit recommendations are more likely to receive favorable audit opinions, suggesting that robust follow-up mechanisms are critical for improved financial management. He et al. (2022) emphasize the necessity of efficient follow-up processes for enhancing financial reporting quality. Addressing audit findings demonstrates a commitment to good governance and transparency, leading to improved public services and reduced corruption levels (Indriani et al., 2024; Setyaningrum & Azhar, 2015).

Research has established a link between executing audit recommendations and achieving better audit opinions (Setyaningrum et al., 2013) as well as decreasing financial losses (Indra et al., 2022). Conversely, failure to act on recommendations can lead to adverse selection and moral hazard. By implementing these recommendations, governments reaffirm their dedication to accountability. The monitoring of follow-up actions by BPK is crucial for the overall effectiveness of the audit process, highlighting the importance of timely and comprehensive action on audit recommendations.

Technological solutions have proven essential for improving audit follow-up processes. Digital platforms enhance audit efficiency by reducing delays and improving data accuracy (Okfitasari et al., 2022). Tracking systems that monitor the implementation of audit recommendations are vital for timely follow-up (Alotaibi & Alnesafi, 2023). These systems automate administrative tasks, improve transparency, and promote accountability in government actions. The rise of e-governance has streamlined workflows and reduced inefficiencies in public administration (Noviani & Muda, 2022).

The introduction of SIPTL in Indonesia aligns with global trends in public sector innovation, addressing traditional



auditing challenges such as delayed follow-ups and data inaccuracies. SIPTL provides real-time monitoring and an accessible platform for government organizations to submit follow-up reports, enhancing response times and accountability (Djaisin, 2021). By centralizing data and offering automated notifications, SIPTL fosters collaboration between auditors and government entities, reducing human error and allowing for continuous monitoring of key performance indicators related to governance and financial management.

The COVID-19 pandemic underscored the need for such platforms, as remote collaboration became essential for maintaining public sector operations (Yatun, 2021). The diffusion of innovation theory offers a lens to examine the adoption of systems like SIPTL, explaining how innovations spread within organizations (Yamin et al., 2022). The adoption of SIPTL reflects a response to the growing emphasis on accountability and transparency, leading to a transformation of governance practices. Its successful implementation in Indonesia has the potential to inspire similar systems in other public administration sectors (Lutfi & Alqudah, 2023).

The Technology Acceptance Model (TAM) further elucidates SIPTL's influence, suggesting that perceived usefulness and ease of use drive technology adoption. SIPTL's ability to streamline the audit follow-up process enhances its perceived usefulness, while its user-friendly interface encourages effective use by government entities (Noor et al., 2023).

Recent studies have focused on enhancing digital platforms to improve audit efficiency and financial management. BPK has invested resources to strengthen these systems. For instance, Zhang (2023) examined the role of digital transformation in financial management, highlighting that systems like SIPTL can significantly enhance compliance with audit recommendations through real-time updates and automated notifications. This aligns with findings from Liu & Wu (2024) which emphasize the importance of digital financial systems for improving overall efficiency.

Research by Otuma O. Andako (2023) indicates that digital platforms in audit processes facilitate the execution of recommendations and ensure ongoing monitoring for effectiveness. This study concluded that systems like SIPTL are instrumental in preventing recurring financial management issues by requiring regular updates on follow-up actions, enabling auditors to verify the accuracy of corrective measures. Koskelainen et al. (2023) further support this by demonstrating that organizations using real-time monitoring systems experience improvements in audit follow-up performance and overall efficiency. Despite these advancements, challenges remain in implementing digital audit platforms like SIPTL. The success of such systems is influenced by the technological readiness of the implementing entities. In Indonesia, some local governments struggle with SIPTL adoption due to insufficient infrastructure and technical expertise, limiting the system's overall impact (Koskelainen et al., 2023).

1.5 SIPTL Implementation and Limitation

The implementation of SIPTL provides valuable lessons for enhancing governance in areas where real-time monitoring and digital platforms can improve local government performance in following up on audit recommendations. This is particularly relevant in sectors such as public procurement, healthcare, and education, where effective resource management is critical (Cordery & Hay, 2019). SIPTL has significantly improved Indonesia's audit follow-up processes by enhancing timeliness, quality, and efficiency, thereby strengthening transparency and accountability within the public sector (Danu et al., 2023).

Digital platforms like SIPTL are crucial for enhancing local government performance in following up on audit recommendations, ensuring effective implementation and responsible management of public resources. SIPTL promotes accountability and continuous improvement, establishing a benchmark for audit follow-up processes and providing insights for broader application. Sustained investment in technology, capacity building, and cybersecurity is essential to maintain progress and strengthen governance frameworks in Indonesia (Ahmad et al., 2023).

Despite the increasing use of digital platforms in public sector governance, the specific, sustained impacts of these systems on long-term audit compliance remain underexplored, particularly in decentralized contexts like Indonesia. Prior research has emphasized technology's role in improving governance efficiency by streamlining processes and enhancing data accessibility (Danu et al., 2023). However, few studies have examined the effectiveness of such platforms over extended periods, particularly regarding their impact on local governments with varying administrative capacities and technological infrastructures (Van Puyvelde et al., 2016). Existing literature primarily focuses on immediate outcomes, such as reduced paperwork and increased transparency, without assessing the capacity of digital tools like SIPTL to address ongoing compliance issues or maintain consistent audit follow-up performance over time.



Additionally, a significant limitation of SIPTL is its reliance on human participation. While the system automates many follow-up processes, it requires active involvement from government officials to input data and track progress. Research indicates that without proper training and incentives, some officials may not fully utilize the system, undermining its effectiveness (Rumasukun, 2024).

Concerns regarding the long-term sustainability of SIPTL are also significant. Regular updates and maintenance are essential to ensure functionality and security, especially given the growing concern over cybersecurity. Protecting SIPTL from cyberattacks is vital for maintaining public trust and the integrity of the audit process (Furqan et al., 2020). Continuous investment in system upgrades and cybersecurity measures is crucial for sustaining its effectiveness (Ahmad et al., 2023).

Despite these challenges, SIPTL represents a substantial advancement in public sector governance, offering valuable insights for other countries seeking to enhance their audit processes. By leveraging technology, SIPTL has improved the timeliness and quality of follow-up actions while fostering a culture of accountability and transparency within Indonesia's local governments. Its capabilities for real-time data, automated notifications, and remote collaboration position it as a model for digital governance in the public sector (Han & Xie, 2023).

1.6 Research Gaps and Objectives of the Study

This study explores how the SIPTL system has affected the performance of local governments in following up on audit recommendations in Indonesia, specifically examining how SIPTL has reduced delays and resolved incomplete follow-up actions. This study represents a new scientific inquiry that aims to fill existing gaps in the literature regarding the long-term impacts of digital platforms on audit compliance, particularly in decentralized contexts like Indonesia. Unlike previous studies that primarily focused on immediate outcomes, such as the efficiency of audit processes or the reduction of paperwork, this study delves deeper into the sustained effectiveness of SIPTL over time and its implications for governance in regions with varying technological capacities.

This study addresses the analytical gap by evaluating SIPTL's long-term impact on audit follow-up effectiveness across Indonesia's diverse regional contexts. It examines how SIPTL supports compliance in areas with varying technological resources, offering insights into how digital platforms can enhance accountability and reduce disparities in governance practices. By comparing audit performance metrics before and after SIPTL implementation, this study contributes a unique perspective to the literature on digital governance, offering empirical evidence of SIPTL's role in sustaining audit compliance within Indonesia's decentralized administrative structure (Indriani et al., 2024).

The existing research gap highlights the need for a better understanding of digital platform performance in different governance environments over time, which is crucial for developing effective governance solutions across regions (Furqan et al., 2020; Indriani et al., 2024). This understanding is particularly important for policymakers and practitioners aiming to optimize audit follow-up effectiveness and ensure accountability in public sector operations.

In Indonesian governance, ensuring accountability and timely audit follow-up among local governments has been a persistent challenge due to diverse administrative capacities and regional variations in technological infrastructure (Furqan et al., 2020). The introduction of SIPTL in 2017 represents a significant shift in the approach to audit follow-up, addressing inefficiencies that have historically limited the effectiveness of BPK recommendations (Yatun, 2021). Despite SIPTL's design to improve the timeliness, quality, and consistency of follow-up actions, there is limited research on its effectiveness across regions with differing access to technological resources and expertise.

To effectively guide this study and ensure clarity in addressing the identified problem, the study establishes several key objectives. First, it aims to evaluate the impact of SIPTL on the speed at which local governments respond to audit recommendations issued by BPK. Second, the study seeks to assess SIPTL's role in improving the quality of adherence to these recommendations. Finally, it aims to determine how SIPTL has influenced the rate of unresolved audit findings over time. Collectively, these objectives provide a structured framework for analyzing SIPTL's performance and addressing potential biases in problem formulation, thereby ensuring that the study's conclusions are relevant and actionable for policymakers. This structured focus is essential for providing actionable insights for stakeholders who seek to optimize audit follow-up processes in Indonesia and similar decentralized governance structures.



1.7 Hypotheses Development

The introduction of SIPTL is anticipated to significantly enhance the number of follow-up actions taken by local governments in Indonesia. This expectation is grounded in the premise that digital platforms streamline processes, facilitating more efficient management of audit recommendations. Prior research supports the assertion that digital solutions can lead to increased engagement and responsiveness among government entities (Susanto et al., 2018). The TAM posits that perceived usefulness and ease of use are critical factors influencing technology adoption (Sulistiyo, 2023). In the context of SIPTL, its user-friendly interface and real-time data capabilities are likely to enhance local governments' perception of the system's usefulness, motivating them to increase their follow-up actions. Furthermore, the automated reminders and notifications provided by SIPTL are designed to keep entities accountable, thereby fostering a culture of compliance and proactive engagement with audit recommendations (Ansell & Miura, 2020). Consequently, it is reasonable to expect a notable increase in follow-up actions as a direct result of SIPTL's implementation.

Moreover, the implementation of SIPTL is expected to lead to a marked improvement in adherence to audit recommendations. The platform's design emphasizes real-time tracking and accountability, which aligns with the principles outlined in Agency Theory. This theory highlights the importance of monitoring mechanisms to ensure that agents (government officials) act in the best interests of the principals (the public) (Amali et al., 2022). By providing auditors with immediate access to follow-up data, SIPTL enhances oversight capabilities, thereby reducing the likelihood of non-compliance with audit recommendations. Research indicates that effective follow-up mechanisms are crucial for improving financial management practices and governance outcomes (ELKhashin & Saleeb, 2020). Additionally, the integration of digital platforms in governance has been shown to enhance transparency and accountability, which are essential for ensuring that recommendations are not only issued but also acted upon (Garrett et al., 2021). Therefore, it is anticipated that the percentage of follow-up actions completed in accordance with the recommendations will significantly improve during the SIPTL period.

Finally, the implementation of SIPTL is expected to decrease the percentage of audit recommendations that remain unaddressed. This expectation is supported by the notion that digital platforms, such as SIPTL, facilitate better communication and collaboration between auditors and government entities, thereby reducing the backlog of unresolved recommendations (Mensah, 2020). The Diffusion of Innovation Theory further elucidates this phenomenon, positing that innovations perceived as beneficial and easy to use will be adopted more widely, leading to improved outcomes (Azalan et al., 2022). In the case of SIPTL, its automated features and real-time updates are likely to encourage local governments to prioritize the resolution of audit findings, thus minimizing the number of recommendations that go unaddressed. Empirical studies have shown that effective monitoring systems can significantly enhance compliance rates and reduce the incidence of unresolved audit findings (Prabhawa & Prasajo, 2021). Consequently, it is reasonable to predict a significant drop in the percentage of recommendations that have not yet been followed up during the SIPTL period.

Grounded in the theoretical framework and prior studies, the hypotheses are as follows:

- H1 : There has been a notable increase in the number of follow-up actions during the SIPTL period compared to the pre-SIPTL period.
- H2 : The percentage of follow-up actions completed in accordance with the recommendations has shown significant improvement during the SIPTL period.
- H3 : The percentage of recommendations that have not yet been followed up has significantly dropped during the SIPTL period.

2. RESEARCH METHODOLOGY

This study used a quasi-experimental approach to analyze the influence of the SIPTL system on how effectively local governments across Indonesia follow up on audit recommendations. The research compares performance metrics from the pre-SIPTL period (2015-2016) to the during-SIPTL period (2017-2023) to assess the system's effectiveness in improving audit follow-up processes. Additionally, data from 2019 to 2023 were incorporated to examine the long-term impacts of SIPTL implementation.

The study's framework, illustrated in Figure 1, outlines the process of comparing follow-up actions, compliance with recommendations, and unresolved audit issues across the two periods.

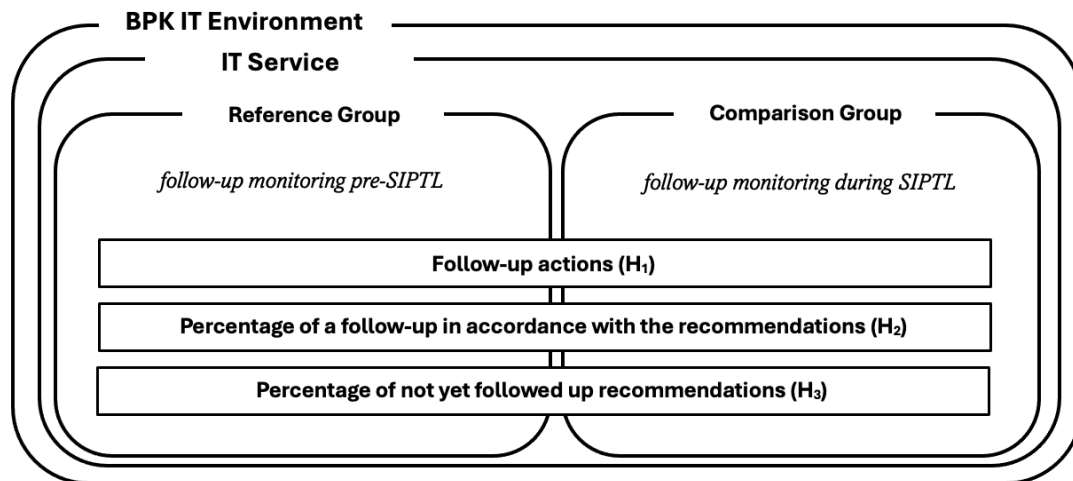


Figure 1. Research Framework

BPK’s Summary of Semester Audit Reports (IHPS) served as the primary data source for the study, providing detailed information on audit findings, recommendations, and the actions local governments undertook. This data encompassed audit findings, financial impacts, recommendations, and the actions taken in response. The selected period allowed the researchers to investigate both the immediate and sustained effects of SIPTL on audit follow-up practices.

For this study, the population consisted of all Indonesian local governments as outlined by the Decree of the Minister of Home Affairs Number 100.1.1-6117 of 2022. This covered 551 local governments, including 37 provincials, 416 district, and 98 city governments. A purposive sampling method identified 520 local governments, comprising 32 provincials, 397 district, and 91 city governments, selected based on the completeness and availability of audit recommendation follow-up data from 2015 to 2023. Additionally, the sample was chosen to ensure regional diversity, with representation from local governments across western, central, and eastern Indonesia. Data quality was assessed, and any inconsistencies were addressed through data cleaning and imputation techniques.

The study examined the variables of follow-up actions, adherence to recommendations, and unresolved audit recommendations. Follow-up actions referred to the number of steps local governments took to address audit findings. Adherence to recommendations was measured by the percentage of follow-up actions that complied with BPK’s recommendations, while unresolved audit recommendations reflected the proportion of recommendations that remained unresolved. To assess the impact of SIPTL on these variables, paired sample t-tests were conducted. This approach allowed for a direct comparison between pre-SIPTL and during-SIPTL data, providing a thorough evaluation of follow-up activity, compliance with recommendations, and unresolved audit issues.

3. RESULTS AND DISCUSSION

The implementation of SIPTL has markedly improved the audit follow-up performance of local governments in Indonesia. Statistical analysis reveals significant enhancements across key metrics, including an increase in follow-up actions, improved adherence to audit recommendations, and a notable reduction in unresolved recommendations during the SIPTL period (2017–2023) compared to the pre-SIPTL period (2015–2016). These results underscore SIPTL’s effectiveness in promoting accountability, efficiency, and governance within the public sector, making a strong case for the adoption of technology-driven solutions in audit oversight.

3.1 Descriptive Statistics

Table 1 presents the descriptive statistics comparing follow-up performance before and after the introduction of the SIPTL. The findings indicate substantial improvements across key performance indicators, underscoring the positive influence of the system on follow-up actions.



The average number of follow-up actions increased by 17.29%, rising from 73.52 prior to SIPTL implementation to 86.23 during its operation. This increase suggests that local governments became more proactive in addressing audit recommendations following the introduction of the SIPTL system. The enhanced follow-up actions can be attributed to SIPTL’s automated monitoring and notification features, which likely facilitated more timely responses from government entities.

Moreover, the proportion of follow-up actions that aligned with the recommendations saw a notable increase of 7.36%, climbing from 67.75% to 75.11%. This improvement indicates that SIPTL not only boosted the quantity of follow-up actions but also enhanced their quality, ensuring that these actions were more closely aligned with the audit recommendations provided by BPK.

Additionally, the implementation of SIPTL resulted in a dramatic 51.5% reduction in the percentage of unfollowed recommendations, decreasing from 9.11% to 4.49%. This reduction is significant, as unresolved recommendations can lead to inefficiencies and a lack of accountability within local governments. The real-time tracking capabilities of SIPTL likely played a crucial role in this decrease, enabling local governments to monitor their progress more effectively and ensuring that audit findings were addressed in a timely manner.

These results, summarized in Table 1, reflect a significant enhancement in the follow-up processes following the introduction of SIPTL. The data clearly demonstrates the system's effectiveness in improving both the quantity and quality of follow-up actions, thereby contributing to better governance and accountability within Indonesia's local government framework.

Table 1. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
Follow-up actions pre-SIPTL	1.040	.00	546.00	73,5173	49,0823
Follow-up actions during SIPTL	1.040	4.00	963.00	86,2250	74,8860
Percentage of a follow-up in accordance with the recommendations pre-SIPTL	1.040	.01	.98	.6775	.1785
Percentage of a follow-up in accordance with the recommendations during SIPTL	1.040	.18	1.00	.7511	.1360
Percentage of not yet followed-up recommendations pre-SIPTL	1.040	.00	.97	.0911	.1312
Percentage of not yet followed-up recommendations during SIPTL	1.040	.00	.69	.0449	.0672
Valid N (listwise)	1.040				

3.2 Statistical Analysis

To assess the impact of SIPTL on audit follow-up performance, paired sample t-tests were conducted. This statistical method was chosen to compare the means of two related samples—pre-SIPTL and during-SIPTL data—allowing for an evaluation of the differences in follow-up actions, adherence to recommendations, and unresolved recommendations between the two periods. The paired t-test is particularly effective in identifying significant differences in performance by analyzing the same entities over time, making it ideal for this study's longitudinal focus.

The significance level (p-value) was set at 0.05 for hypothesis testing. If the p-value was less than 0.05, the result was considered statistically significant, indicating a meaningful difference between the pre- and during-SIPTL periods. If the p-value was greater than 0.05, the null hypothesis—indicating no significant difference—was retained. The results from the paired t-tests, as presented in Table 2.



Table 2. Paired Samples Test Results

		t	df	Sig. (2-tailed)	Hypothesis Conclusion
H ₁	Follow-up actions pre-SIPTL - Follow-up actions during SIPTL	-3.7421	1.039	.0002	Supported
H ₂	Percentage of a follow-up in accordance with the recommendations pre-SIPTL - Percentage of a follow-up in accordance with the recommendations during SIPTL	-14,5735	1.039	.0000	Supported
H ₃	Percentage of not yet followed-up recommendations pre-SIPTL - Percentage of not yet followed-up recommendations during SIPTL	11,2108	1.039	.0000	Supported

3.3 Hypothesis Testing of H1

The number of follow-up actions recorded during the SIPTL period increased by 17.29%, rising from an average of 73.52 actions in the pre-SIPTL period to 86.23. A paired sample t-test confirmed the statistical significance of this improvement ($t = -3.7421$, $p = 0.0002$). This increase can be attributed to SIPTL's automated monitoring and notification features, which streamlined processes and ensured timely responses by government entities. These findings align with the TAM, which posits that perceived usefulness and ease of use are critical factors influencing technology adoption (Sulistiyo, 2023). SIPTL's user-friendly interface and real-time updates likely enhanced its perceived utility among local government officials, motivating them to increase their engagement with the audit follow-up process. Supporting studies, such as (Ansell & Miura, 2020), further affirm the role of digital platforms in promoting proactive governance by reducing administrative burdens and increasing efficiency.

3.4 Hypothesis Testing of H2

The quality of follow-up actions improved significantly during the SIPTL period, evidenced by a 7.36% increase in the percentage of actions compliant with audit recommendations, rising from 67.75% pre-SIPTL to 75.11% during its implementation. Statistical analysis using a paired sample t-test confirmed the significance of this improvement ($t = -14.5735$, $p = 0.0000$). This enhancement indicates that SIPTL not only increased the volume of follow-up actions but also improved their alignment with audit recommendations. The real-time tracking and accountability mechanisms embedded in SIPTL ensured that actions taken were consistent with the auditors' recommendations.

This improvement supports Agency Theory, which emphasizes the importance of monitoring mechanisms to align the interests of agents (government officials) with those of principals (the public) (Amali et al., 2022). By providing auditors with immediate access to follow-up data, SIPTL enhances oversight capabilities, thereby reducing the likelihood of non-compliance with audit recommendations. The findings align with prior research indicating that effective follow-up mechanisms are crucial for improving governance outcomes (Cordella & Paletti, 2019). Studies by Luo et al. (2023) and Han & Xie (2023) further reinforce the notion that digital platforms can drive accountability and responsiveness in public administration, ultimately leading to better governance.

3.5 Hypothesis Testing of H3

Notably, the percentage of unresolved recommendations decreased by 51.5% during the SIPTL period, dropping from 9.11% pre-SIPTL to 4.49%. The paired t-test results confirmed the statistical significance of this reduction ($t = 11.2108$, $p = 0.0000$). This substantial decline demonstrates SIPTL's effectiveness in addressing long-standing inefficiencies in the audit follow-up process. By centralizing data and automating the tracking of pending issues, SIPTL ensured that unresolved recommendations were prioritized and addressed promptly. This finding aligns with the Diffusion of Innovation Theory, which suggests that innovations perceived as beneficial and easy to adopt are more likely to gain widespread acceptance and lead to improved outcomes (Azalan et al., 2022). Recent studies by Alotaibi & Alnesafi (2023) and Liu & Wu (2024) further emphasize the importance of robust tracking systems in enhancing compliance and reducing the backlog of unresolved audit recommendations.



3.6 Long-Term Impact of SIPTL

A series of further tests were carried out to examine the long-term effects of SIPTL, aiming to give a more thorough understanding of its sustained impacts. The results of these extended evaluations, along with data and analysis, are summarized and presented in Table 3.

Table 3. Implementation Insights

	2019	2020	2021	2022	2023
Follow-up actions	56,9019	64,4808	70,4442	57,1577	70,0519
Percentage of a follow-up in accordance with the recommendations	0,7542	0,7688	0,7866	0,7845	0,7900
Percentage of not yet followed-up recommendations	0,0575	0,0470	0,0390	0,0370	0,0411

The test results indicate that the improvements observed during the SIPTL period were not merely incremental but statistically significant, underscoring SIPTL's value in enhancing organizational performance within public sector governance. These findings reveal that SIPTL has led to notable improvements in audit follow-up compliance, with significant gains in both the timeliness and quality of responses from local governments. Through SIPTL's automated monitoring and notification features, local governments responded more promptly to BPK recommendations, a shift that increased compliance rates and reduced unresolved findings. This advancement aligns with prior studies, such as Furqan et al. (2020) which highlight the critical role of timely follow-ups in promoting effective public sector accountability.

A longitudinal analysis indicates that SIPTL's benefits extend beyond immediate process improvements; from 2019 to 2023, compliance rates and resolution of audit findings have remained high, highlighting SIPTL's role in fostering enduring accountability in local governments. This pattern shows that SIPTL not only automates processes but also embeds accountability as standard practice, supporting proactive compliance and transparency, aligning with Stewardship Theory, which emphasizes public servants as stewards of public resources (Asrori et al., 2020). SIPTL aids local governments in addressing audit recommendations promptly and effectively (Yusuf, 2020). The sustained high compliance rates from 2019 to 2023 reflect a significant cultural shift towards accountability within local governments, crucial in Indonesia's decentralized governance framework (Rahmasari & Setiawan, 2022). SIPTL enhances operational efficiency and reinforces public officials' commitment to fiduciary duties, fostering more accountable and transparent governance (Ullah et al., 2022). SIPTL's proactive compliance aligns with Stewardship Theory, suggesting that equipped public servants are more likely to serve public interests (Asrori et al., 2020). This is vital in Indonesia, where decentralized governance complexities require robust accountability and transparency mechanisms (Rahmasari & Setiawan, 2022; Yusuf, 2020). Thus, SIPTL significantly advances the public sector's capacity to manage audit follow-ups effectively, leading to better governance outcomes and increased public trust (Aswar, 2019).

However, a deeper regional analysis reveals that the impact of SIPTL varies significantly across Indonesia's diverse landscapes. In regions with robust digital infrastructure, such as parts of Java, the adoption of SIPTL was more seamless, resulting in higher compliance rates and quicker follow-up times. Conversely, areas with limited digital resources and technical capacity, particularly in rural and remote regions, experienced slower adoption and lower compliance rates, highlighting the uneven impact of SIPTL across the country (Hadi, 2018). Addressing these regional disparities is crucial for ensuring equitable access to the governance benefits provided by SIPTL. Targeted training and infrastructure investments are recommended to bridge this digital divide and maximize SIPTL's effectiveness nationwide (Ummah et al., 2022).

The study's findings also highlight SIPTL's scalability and potential for broader application beyond audit follow-ups. The core principles underlying SIPTL—real-time monitoring, automated notifications, and centralized data management—can be adapted to other governance areas where consistent oversight is essential, such as public procurement, healthcare, and educational service delivery (Djaisin, 2021). By facilitating more effective management of audit recommendations, SIPTL serves as a model for digital governance reform, demonstrating how similar systems could enhance transparency, compliance, and accountability across various public sector domains, reinforcing public trust and promoting efficient resource management.

In summary, this structured analysis of SIPTL's impact underscores its critical role in transforming audit follow-up practices in Indonesia, while also identifying areas where additional support is necessary to optimize performance across diverse regions. Recognizing the system's long-term benefits and potential for broader application provides policymakers and



governance practitioners with actionable insights aimed at strengthening accountability within public sector management.

4. CONCLUSION

This study presents compelling empirical findings that highlight the SIPTL system's transformative impact on improving the efficiency, timeliness, and quality of audit follow-up actions across local governments in Indonesia. The findings demonstrate significant increases in the number of follow-up actions, improvements in the percentage of actions aligned with audit recommendations, and a substantial reduction in unresolved recommendations. By facilitating real-time monitoring and automating follow-up notifications, SIPTL has successfully addressed long-standing issues of delayed responses and incomplete follow-ups, significantly enhancing adherence to BPK recommendations. These results underscore SIPTL's essential role in promoting transparency and accountability in governance (Furqan et al., 2020) and strengthening public sector oversight, particularly in Indonesia's decentralized governance structure where consistent practices are challenging to achieve (Mainingrum et al., 2023).

This study validates the research hypothesis that SIPTL has led to an increase in follow-up actions, improved alignment with audit recommendations, and a decrease in unresolved findings, confirming its effectiveness in enhancing audit follow-up performance. By improving the responsiveness and compliance of local governments, SIPTL contributes to more robust governance frameworks and reinforces financial accountability. These findings align with previous research that demonstrates technology's role in strengthening institutional oversight and transparency, thereby enriching the literature on digital platforms in public administration (Hendri Wijaya, 2023).

To maximize SIPTL's impact, several targeted actions are recommended. Addressing regional disparities in SIPTL utilization is crucial for achieving equitable governance outcomes across Indonesia's diverse regions. Specifically, implementing targeted training programs in under-resourced areas can enhance local governments' technical capacity to effectively leverage SIPTL's monitoring and reporting capabilities, thereby reducing regional discrepancies in audit follow-up performance (Hari Setiabudi Husni et al., 2022). Furthermore, investing in digital infrastructure in remote or rural areas will bolster SIPTL's functionality and ensure that all regions can fully participate in the audit follow-up process (Larasati et al., 2022). Such investments not only facilitate better governance but also promote inclusivity in public service delivery, aligning with the broader goals of digital transformation in Indonesia (Viendyasari, 2020).

Beyond its immediate application in audit follow-ups, SIPTL's structure offers insights into how similar digital systems could be adapted to other governance areas. For example, sectors such as public procurement, healthcare, and education—where transparency and accountability are critical—could benefit from similar digital monitoring systems that track compliance in real-time and facilitate timely responses to recommendations. By expanding SIPTL's principles to other public sector domains, policymakers can foster a culture of accountability across multiple facets of government, aligning with broader governance reform goals and strengthening public trust (Djaisin, 2021). The scalability demonstrated by SIPTL's success highlights its potential as a model for other digital platforms aimed at optimizing governance and compliance.

In conclusion, SIPTL represents a milestone in Indonesia's journey toward digital governance, not only by streamlining the audit follow-up process but also by setting a precedent for the role of technology in enhancing government accountability. The lessons from SIPTL underline the importance of investing in similar digital tools to cultivate a transparent, responsive public sector capable of managing and addressing audit findings effectively (Indriani et al., 2024). As Indonesia continues to refine its governance structures, ongoing investments in capacity building, digital infrastructure, and cybersecurity will be essential for sustaining SIPTL's benefits and adapting its model to meet emerging governance challenges.

While this study offers promising results, it acknowledges certain limitations, including its focus on Indonesian local governments, which may limit the generalizability of findings. Additionally, SIPTL was considered as the primary independent variable, potentially overlooking factors such as organizational culture, resource constraints, and auditor expertise that could influence audit follow-up effectiveness. Future studies should investigate these factors, along with cross-cultural adaptability and the transferability of SIPTL to various administrative settings and sectors. Expanding research to cross-sectoral applications will further validate SIPTL's impact and enhance understanding of digital governance's transformative potential, positioning SIPTL as a model for similar reforms worldwide.



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