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Review Article

Risk-Based Internal Oversight of Local Government Finance: A Literature Review on Fraud Prevention and Control

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Abstract: Local governments manage substantial public resources under conditions of decentralization, fiscal complexity, and heightened accountability demands, making them particularly vulnerable to financial mismanagement and fraud. In this context, risk-based internal oversight has increasingly been promoted as a governance-oriented alternative to traditional compliance-based supervision. This literature review article examines how risk-based internal oversight is conceptualized, operationalized, and linked to fraud prevention and control in the management of local government finance. The study addresses a central problem in the existing literature: the fragmentation of analytical perspectives across risk-based internal auditing, fraud risk management, internal control systems, public financial management, and public accountability, which has limited a comprehensive understanding of how internal oversight contributes to safeguarding public funds. The primary objective of this article is to synthesize and integrate these strands of literature to clarify the role of risk-based internal oversight as a systemic governance mechanism for fraud prevention and control at the subnational level. Methodologically, the study employs an integrative literature review approach, drawing on peer-reviewed journal articles and authoritative institutional publications indexed in major academic databases over the past decade. A structured search, screening, and thematic synthesis process was applied to identify patterns, convergences, and divergences across conceptual, empirical, and policy-oriented studies. The findings indicate a clear shift from compliance-oriented inspection toward risk-based internal oversight that prioritizes high-risk financial processes—particularly procurement, grants, and asset management—where fraud risks are most pronounced. The synthesis further shows that effective fraud prevention depends on the alignment of risk-based oversight with fraud risk management practices, robust internal control systems (including SPIP).

Keywords: Risk-Based Internal Oversight; Risk-Based Internal Audit; Fraud Risk Management; Fraud Prevention and Control; Internal Control Systems (SPIP).

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1. Introduction

Local government finance has become a focal arena for contemporary public governance because decentralization, expanding service mandates, and increasingly complex fiscal instruments have amplified both operational risk and accountability expectations. Across jurisdictions, subnational governments manage significant proportions of public spending through procurement, grants and subsidies, capital projects, and asset-intensive service delivery, all of which create dense control environments that are difficult to monitor using periodic, compliance-oriented routines alone. Comparative evidence on local government audit regimes indicates that public audit and oversight are subject to fragmentation, evolving regulatory space, and political pressures—conditions that can erode assurance capacity precisely when fiscal stress and performance demands intensify (Ferry, Midgley, & Ruggiero, 2023). In this context, internal oversight is increasingly expected to operate as a strategic governance function that strengthens risk management, improves control quality, and supports decision-making rather than merely verifying rule compliance. The renewed emphasis on integrated assurance is also reflected in the Institute of Internal Auditors' articulation of the Three Lines Model, which positions governance, risk management, and internal control as shared responsibilities across organizational roles, with internal audit providing independent assurance and advisory support (Institute of Internal Auditors [IIA], 2020). For Indonesia, these dynamics intersect with the formal mandate of government internal control (SPIP), which frames internal control as a government-wide process to ensure effectiveness, efficiency, reliability of reporting, safeguarding of assets, and compliance—objectives that are directly aligned with the oversight challenges faced by local governments (Government of Indonesia, 2008).

Fraud risk in local government finance represents a persistent threat to public value because it undermines fiscal integrity, distorts policy priorities, and weakens citizen trust in public accountability systems. Global evidence on occupational fraud consistently shows that organizations—including public entities—experience substantial losses and that fraud schemes often exploit weaknesses in controls, oversight gaps, and governance failures (Association of Certified Fraud Examiners [ACFE], 2024). In subnational settings, fraud vulnerabilities frequently cluster around procurement and contract management, grants and transfers, revenue administration, and public asset stewardship—domains where discretion, information asymmetry, and fragmented accountability can create opportunities for manipulation. At the same time, public-sector audit institutions may not always function as unequivocal anti-corruption forces; qualitative evidence from public audit organizations highlights how oversight can be constrained, co-opted, or embedded in institutional dynamics that inadvertently sustain corruption risks rather than reduce them (Lino, Carvalho, Aquino, & Steccolini, 2022). These realities expose the limitations of traditional oversight approaches that rely heavily on periodic inspections, post-event audits, and checklist compliance reviews. Such approaches can be slow to detect emerging risks, poorly targeted to high-exposure processes, and insufficiently adaptive to fast-changing operational contexts. Consequently, strengthening fraud prevention and control in local government finance increasingly requires oversight models that are risk-sensitive, data-informed, and integrated with internal control and governance arrangements rather than operating as episodic, stand-alone audit interventions (Ferry et al., 2023; IIA, 2020).

Risk-Based Internal Oversight—often operationalized through Risk-Based Internal Auditing (RBIA)—has therefore gained prominence as a governance response to fraud risk and control complexity in the public sector. Conceptually, RBIA reframes internal audit and oversight from uniform coverage toward prioritized assurance over the "risk universe," aligning audit planning and resource allocation with the organization's most material risks and control weaknesses. Empirical evidence from public-sector contexts suggests that RBIA implementation is shaped by management empowerment, the role expectations placed on internal auditors, the maturity of risk management systems, and the availability of risk-focused training—factors that directly affect whether risk-based oversight becomes a strategic governance mechanism or remains a formalistic label (Mujalli, 2024). Importantly, RBIA is not a substitute for fraud risk management; rather, it can be designed to test, challenge, and improve fraud risk controls embedded in operational processes. In Indonesian local government settings, this integration is structurally anchored in SPIP, which defines internal control as a continuous process carried out by leadership and staff to provide reasonable assurance over effectiveness, efficiency, reporting reliability, asset safeguarding, and regulatory compliance (Government of Indonesia, 2008). Complementarily, internationally recognized internal control frameworks emphasize that effective internal control requires coherent components and principles—risk assessment and control activities among them—providing a conceptual bridge for linking risk-based oversight and fraud control design (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013). Thus, RBIA-oriented oversight, fraud risk management/control, and SPIP-aligned internal control can be theorized as mutually reinforcing pillars for safeguarding local government finance.

Prior research provides valuable but still fragmented insights into how risk-based oversight, fraud control, and internal control co-evolve in public finance environments, particularly at the local government level. Comparative studies of local government audit and oversight highlight institutional diversity and the ways audit scope, independence, and regulatory arrangements vary across countries, complicating the transfer of "best practices" and the development of universally applicable models (Ferry et al., 2023). Within fraud-focused streams, scholarship has increasingly examined how analytics and continuous monitoring can enhance detection and prevention, especially in high-risk transactional domains such as procurement. For example, studies applying continuous monitoring and audit methodologies to government procurement data demonstrate how exception detection and anomaly analysis can support more timely investigative targeting and control improvement (Wang & Vasarhelyi, 2024). Likewise, systematic work on fraud analytics in public-sector transactions indicates growing interest in data-driven anti-fraud programs, while also noting uneven adoption, methodological heterogeneity, and varying institutional readiness across contexts (Alfian, 2023). Technology-oriented audit literature further underscores that big data and analytics tools can reconfigure audit work and the organization of assurance activities, but their governance implications depend on sociotechnical conditions, professional judgment, and control integration (Salijeni, Samsonova-Taddei, & Turley, 2021). Together, these streams suggest that effective fraud prevention and control in local government finance is not solely a technical question; it is a governance and capacity problem shaped by institutional design, oversight architecture, and the maturity of internal control and risk management systems.

Despite this growing body of work, the literature remains insufficiently integrated in ways that directly inform policy and operational design for local government internal oversight. First, RBIA studies often focus on determinants of adoption and internal audit role expectations without systematically mapping how RBIA mechanisms translate into specific fraud risk control designs along the PFM cycle (Mujalli, 2024). Second, fraud analytics and continuous monitoring studies provide promising tools and use cases but do not always connect technological enablers to internal control theory and public-sector governance architectures, including the division of responsibilities emphasized by the Three Lines Model (Alfian, 2023; IIA, 2020; Wang & Vasarhelyi, 2024). Third, public audit scholarship demonstrates that oversight organizations can face constraints and institutional dynamics that blunt anti-corruption effects, highlighting the need to theorize not only "what should work" but also "under what governance conditions oversight can work" (Lino et al., 2022). Fourth, in Indonesia, SPIP provides a formal internal control mandate, yet cross-study synthesis that explicitly aligns SPIP's control objectives with RBIA logic and fraud risk management practices in local governments is still limited (Government of Indonesia, 2008). Accordingly, this review positions itself to address a distinct gap: developing an integrated, policy-relevant conceptual synthesis linking risk-based internal oversight (RBIA/RBIO), fraud risk management/control, and internal control (including SPIP), with enabling perspectives from the Three Lines Model and data-enabled assurance literature.

This article therefore aims to consolidate and advance the state of knowledge by offering an integrative, systematic-informed literature review on risk-based internal oversight of local government finance for fraud prevention and control. Specifically, the review synthesizes peer-reviewed studies and reputable policy/standard references to (i) map dominant fraud risks and control weaknesses across local government financial processes, (ii) identify how RBIA/RBIO approaches are operationalized in public-sector settings and what enables or constrains their effectiveness, and (iii) develop a coherent conceptual framework that links RBIA mechanisms with fraud risk control and SPIP-aligned internal control principles (COSO, 2013; Government of Indonesia, 2008; Mujalli, 2024). Methodologically, the study adopts a systematic-integrative review design, drawing literature from indexed databases (e.g., Scopus and Web of Science) and structured keyword strategies, followed by staged screening, eligibility assessment, and thematic synthesis. The remainder of the article is organized as follows: after establishing the theoretical foundations, the Materials and Methods section details the search strategy and synthesis procedures; the Results section reports thematic findings; the Discussion integrates these findings into a conceptual and policy argument; the Comparison section situates the synthesis within state-of-the-art international debates and cross-context differences; and the Conclusion summarizes contributions, policy implications for local government finance oversight, and directions for future research (Ferry et al., 2023; IIA, 2020).

2. Literature Review

Risk-Based Internal Oversight in Local Government Finance

Risk-Based Internal Oversight (RBIO), commonly operationalized through Risk-Based Internal Auditing (RBIA), represents a paradigm shift from traditional compliance-oriented supervision toward a governance approach that prioritizes assurance based on the relative significance of organizational risks. Conceptually, RBIO is grounded in risk management theory and internal control logic, emphasizing the identification, assessment, and prioritization of risks that threaten the achievement of public objectives, particularly in complex financial environments. Unlike traditional internal oversight—which typically relies on cyclical inspections, uniform coverage, and rule-based compliance checks—RBIO aligns audit planning and oversight intensity with a structured "risk universe," thereby directing limited supervisory resources to high-risk processes, transactions, and entities (Mujalli, 2024). This approach is especially relevant in local government finance, where decentralization, discretion in expenditure decisions, and fragmented accountability increase exposure to financial mismanagement and fraud. From a theoretical standpoint, RBIO reinforces the shift in public administration from procedural control to performance- and risk-oriented governance, positioning internal oversight as a strategic mechanism for safeguarding public value rather than merely detecting ex post violations (Institute of Internal Auditors [IIA], 2020). Consequently, RBIO is increasingly framed as an integral component of modern public financial governance, capable of enhancing both preventive control and managerial decision-making.

The conceptual development of Risk-Based Internal Oversight in the public sector has been closely linked to broader reforms in internal auditing standards, public sector risk management, and governance frameworks. Internationally, the evolution of RBIO has been shaped by professional guidance from bodies such as the Institute of Internal Auditors, which advocates risk-based planning and assurance as core functions of internal audit within the Three Lines Model of governance (IIA, 2020). In public-sector contexts, RBIO extends beyond a technical audit method and becomes embedded in institutional arrangements involving inspectorates, internal supervisory bodies, and executive management. Studies on public audit systems highlight that RBIO is increasingly expected to support strategic governance by aligning oversight priorities with policy risks, fiscal pressures, and service delivery challenges faced by subnational governments (Ferry, Midgley, & Ruggiero, 2023). In Indonesia, this development intersects with the formal mandate of the Government Internal Control System (SPIP), which requires internal oversight bodies to conduct risk assessment and monitoring as continuous processes rather than episodic checks (Government of Indonesia, 2008). Thus, RBIO in the public sector is not merely an imported audit technique but a governance-oriented adaptation that responds to institutional complexity, regulatory demands, and evolving accountability expectations at the local government level.

Empirical and conceptual studies provide growing evidence that risk-based approaches to internal oversight can enhance the effectiveness of supervision and contribute to improved control quality in local government finance. Research examining the implementation of RBIA in public organizations suggests that risk-based planning improves audit relevance, focuses attention on systemic vulnerabilities, and strengthens management engagement with internal audit findings (Mujalli, 2024). Comparative analyses of local government audit regimes further indicate that jurisdictions adopting more risk-sensitive oversight frameworks tend to exhibit greater adaptability in responding to fiscal stress and governance risks, although outcomes vary depending on institutional capacity and political context (Ferry et al., 2023). In addition, studies on continuous auditing and monitoring in government procurement demonstrate that risk-based oversight supported by data analytics can detect anomalies and control failures more timely than traditional periodic audits, thereby enhancing preventive capabilities (Wang & Vasarhelyi, 2024). However, the literature also cautions that RBIO effectiveness depends on enabling conditions such as auditor competence, management support, and access to reliable risk information. Without these conditions, risk-based frameworks risk becoming symbolic rather than transformative, offering limited improvement over compliance-driven oversight practices.

Risk-Based Internal Oversight is also closely intertwined with the strengthening of internal control systems and organizational risk management in the public sector. Internal control theory emphasizes that effective control is a continuous, organization-wide process designed to provide reasonable assurance over the achievement of objectives related to operations, reporting, compliance, and asset safeguarding (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013). RBIO operationalizes this logic by testing the design and effectiveness of controls in areas assessed as high risk, thereby reinforcing the feedback loop between risk assessment, control activities, and monitoring. In the Indonesian context, SPIP explicitly integrates risk assessment and internal supervision as core elements of government control, positioning RBIO as a practical mechanism for translating formal control requirements into targeted oversight actions (Government of Indonesia, 2008). Moreover, the literature links RBIO to broader accountability outcomes, suggesting that risk-focused oversight can enhance financial reporting reliability, reduce control failures, and support performance-oriented accountability when embedded within robust governance arrangements (Ferry et al., 2023). Thus, RBIO serves as a bridge between internal control systems, risk management practices, and the pursuit of accountable and efficient local government finance.

Despite broad agreement on the potential value of Risk-Based Internal Oversight, the literature reveals important conceptual and empirical gaps that warrant further synthesis. While many studies converge on the view that RBIO enhances audit relevance and efficiency, they diverge on the mechanisms through which risk-based approaches translate into tangible reductions in financial irregularities or fraud, particularly in decentralized government settings (Mujalli, 2024). Some strands emphasize technical factors—such as risk assessment tools and audit analytics—whereas others highlight institutional dynamics, including auditor independence, capacity constraints, and political influence on oversight priorities (Ferry et al., 2023; Lino et al., 2022). Additionally, RBIO research often remains analytically separated from fraud risk management and internal control literatures, resulting in fragmented explanations of how risk-based oversight contributes to fraud prevention rather than merely detection. This fragmentation underscores the need for an integrative perspective that situates RBIO within a broader framework encompassing fraud risk management, internal control (including SPIP), and governance architecture. Addressing these conceptual gaps provides the foundation for the subsequent discussion on fraud prevention and control, as well as the role of supporting theories such as the Three Lines Model, public accountability, and administrative capacity.

Fraud Risk Management and Fraud Control in Local Government Finance

Fraud in the public sector is commonly defined as intentional acts of deception or abuse of authority designed to obtain unlawful benefits or to cause losses to public resources. Unlike private-sector fraud, which is primarily driven by profit maximization and shareholder-related incentives, fraud in local government finance is embedded within political–administrative structures and often involves misuse of delegated authority, regulatory discretion, and public trust. Empirical and institutional evidence shows that fraud in subnational governments frequently manifests through procurement manipulation, grant and subsidy abuse, asset misappropriation, payroll irregularities, and revenue leakage, all of which are facilitated by fragmented accountability, complex administrative procedures, and asymmetric information between political principals, administrators, and citizens (Association of Certified Fraud Examiners [ACFE], 2024; Lino, Carvalho, Aquino, & Steccolini, 2022). Furthermore, public-sector fraud tends to generate multidimensional harm: beyond direct financial losses, it undermines fiscal credibility, distorts policy outcomes, and erodes the legitimacy of public institutions. These characteristics distinguish public-sector fraud as a governance problem rather than merely an operational anomaly, thereby necessitating risk-based, system-wide approaches to prevention and control that go beyond reactive investigation or punitive enforcement (Organisation for Economic Co-operation and Development [OECD], 2017).

Fraud Risk Management (FRM) has emerged as a structured framework for addressing fraud as an identifiable and manageable organizational risk rather than an exceptional event. Conceptually aligned with enterprise risk management and internal control theory, FRM involves a cyclical process comprising fraud risk identification, fraud risk assessment, risk response design, and continuous monitoring. International guidance emphasizes that fraud risks should be explicitly identified across organizational processes, assessed in terms of likelihood and impact, and integrated into broader risk registers to ensure strategic visibility (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2017). In the context of local government finance, fraud risk identification typically focuses on high-discretion and high-value processes such as procurement, capital expenditure, transfers, and asset management. Risk assessment then evaluates exposure based on control weaknesses, transaction complexity, and governance vulnerabilities. Importantly, FRM requires that management—not only auditors—own and manage fraud risks, with internal oversight bodies providing assurance on the adequacy and effectiveness of controls. Continuous monitoring is central to FRM, as static assessments quickly become obsolete in dynamic fiscal environments. As such, FRM reframes fraud prevention as an integral component of routine financial governance rather than a specialized function triggered only after misconduct is suspected (COSO, 2017; OECD, 2017).

Fraud Control constitutes the operationalization of FRM through coordinated preventive, detective, and corrective mechanisms designed to reduce fraud opportunity, increase detection probability, and ensure accountability when fraud occurs. Preventive controls aim to deter fraud ex ante through strong internal control design, ethical leadership, segregation of duties, and transparency mechanisms, while detective controls focus on identifying anomalies and red flags through audits, reviews, and data analytics (ACFE, 2024). Corrective controls, in turn, encompass investigative procedures, sanctions, recovery of losses, and systemic remediation. In local government settings, the effectiveness of these controls is closely tied to the strength of internal oversight institutions, such as inspectorates and internal audit units, which are responsible for testing control effectiveness and advising management on risk mitigation. However, studies on public-sector audit organizations caution that internal oversight bodies may face institutional constraints—including limited independence, resource shortages, and political interference—that weaken their ability to enforce fraud controls consistently (Lino et al., 2022). Consequently, fraud control mechanisms cannot be viewed in isolation; they must be embedded within governance arrangements that clarify roles, support professional judgment, and align oversight incentives with public accountability objectives.

Empirical research increasingly demonstrates a positive relationship between the systematic implementation of FRM, strengthened internal oversight, and improved fraud prevention outcomes in the public sector, albeit with contextual variation. Studies examining risk-based internal auditing in public organizations find that when fraud risks are explicitly incorporated into risk assessment and audit planning, internal audit functions are better positioned to detect control failures and advise on preventive improvements (Mujalli, 2024). Systematic reviews of fraud analytics further suggest that data-driven monitoring enhances the timeliness and scope of fraud detection, particularly in transaction-intensive domains such as procurement and grants management, which are highly relevant for local governments (Alfian, 2023). Nevertheless, the literature also indicates that technical tools alone are insufficient; organizational capacity, management commitment, and institutional culture significantly mediate the effectiveness of FRM and fraud control initiatives. In jurisdictions with weak administrative capacity or fragmented oversight structures, FRM frameworks risk being implemented symbolically, producing formal compliance without substantive risk reduction (Ferry, Midgley, & Ruggiero, 2023). These findings highlight the need to situate FRM within broader public governance and capacity-building strategies.

From a synthesis perspective, the literature reveals both convergence and fragmentation in how Fraud Risk Management and Fraud Control are conceptualized and linked to Risk-Based Internal Oversight. On the one hand, there is broad agreement that FRM provides the substantive content—identifying what fraud risks exist and how they should be mitigated—while RBIO offers the methodological and institutional mechanism for prioritizing oversight attention based on those risks (COSO, 2017; Mujalli, 2024). On the other hand, many studies treat FRM and RBIO as parallel but analytically separate domains, resulting in limited theorization of how risk-based oversight can systematically test, reinforce, and adapt fraud controls across the public financial management cycle. Moreover, empirical research often emphasizes detection outcomes without adequately examining preventive governance effects or long-term accountability impacts. This fragmentation points to a conceptual gap: the need for an integrated framework that positions FRM and fraud control within risk-based internal oversight architectures, supported by internal control systems (such as SPIP), the Three Lines Model, and digital monitoring tools. Addressing this gap is essential for advancing both theory and practice in the governance of local government finance and provides the foundation for subsequent discussion on the role of risk-based oversight in fraud prevention.

Internal Control Theory (SPIP) in Local Government Finance

Internal control in the public sector is best understood as a governance mechanism designed to provide reasonable assurance that public organizations achieve objectives related to operational effectiveness, reliable financial reporting, safeguarding of public assets, and compliance with laws and regulations. In internal control theory, controls are not merely procedural checklists; they constitute an integrated system of policies, processes, behaviors, and information flows that shape how public resources are planned, executed, recorded, and monitored. A widely used conceptual anchor is the COSO internal control framework, which defines internal control as a process effected by an entity's board, management, and personnel, and operationalizes it through interrelated components such as control environment, risk assessment, control activities, information and communication, and monitoring (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013). In public administration, this systemic understanding is particularly salient because public organizations face layered accountability relationships and political–administrative constraints that can weaken control design or enforcement. Moreover, in local government finance—where procurement, grants, transfers, and asset management generate high transaction volumes and discretionary decision points—internal control functions as a first-order defense against irregularities and a foundational platform for managerial accountability. Consequently, internal control theory provides a necessary analytical lens to connect risk governance, administrative capacity, and fraud prevention outcomes in decentralized fiscal systems (Ferry, Midgley, & Ruggiero, 2023).

Within Indonesia, the Government Internal Control System (Sistem Pengendalian Intern Pemerintah—SPIP) formalizes internal control theory into a nationwide governance mandate applicable to central and local governments. SPIP is codified in Government Regulation No. 60/2008, which frames internal control as a continuous process carried out by leaders and employees to provide reasonable assurance over effectiveness and efficiency, reliability of financial reporting, safeguarding of state/regional assets, and compliance (Government of Indonesia, 2008). SPIP aligns conceptually with COSO-style thinking while adapting it to Indonesia's public administration setting, including the role of government internal supervisory apparatuses (APIP) and the expectation that controls operate across organizational units and service sectors. Empirical work at the subnational level demonstrates that SPIP is often operationalized through formalized procedures and information systems supporting financial reporting processes, but performance may still be constrained by uneven human resource development, limitations in access governance to financial information systems, and weak automated follow-up monitoring (Amelia & Halim, 2021). These findings underscore that SPIP is not simply a regulatory artifact; it is an institutional architecture whose effectiveness depends on implementation fidelity, managerial commitment, and the maturity of control practices across local government units. Accordingly, SPIP provides both the normative benchmark and the practical institutional context for analyzing internal control capacity in local government financial governance.

A central analytical advantage of SPIP—and internal control theory more broadly—is its explicit integration with risk management and its relevance for fraud prevention. Fraud risk management frameworks emphasize that fraud should be treated as a manageable organizational risk requiring systematic identification, assessment, and ongoing monitoring; internal control systems provide the operational infrastructure for translating these risk assessments into preventive and detective measures (COSO, 2013). In local government finance, where fraud schemes often exploit weak segregation of duties, inadequate authorization, insufficient documentation, and limited monitoring, internal control functions as a preventive barrier that reduces opportunity, while detective controls increase the probability of timely detection through review and monitoring routines. The importance of this preventive–detective logic is consistent with cross-sector evidence on occupational fraud, which highlights how control weaknesses and governance gaps are repeatedly leveraged to perpetrate and sustain fraud (Association of Certified Fraud Examiners [ACFE], 2024). Recent empirical evidence from Indonesian subnational contexts supports this relationship: the combined presence of SPIP practices and procedural standardization (SOP) is associated with stronger fraud prevention in the management of village funds, illustrating how internal control elements can operationalize anti-fraud objectives at the transaction level (Wahyuni, Mattoasi, & Monoarfa, 2024). From a governance perspective, the core issue is not whether controls exist formally, but whether SPIP-enabled controls are sufficiently risk-sensitive, consistently executed, and monitored in ways that anticipate evolving fraud risks across the public financial management cycle.

The literature further suggests that effective internal control/SPIP can strengthen key governance outcomes in local government finance—particularly accountability, transparency, and financial reporting quality—though results vary with institutional conditions. For example, evidence from public organizations indicates that SPIP-aligned practices can support more reliable financial statement preparation and documentation, especially when embedded in standardized information systems and accompanied by clear procedures (Amelia & Halim, 2021). Studies focusing on legislative bodies also emphasize that SPIP implementation is relevant beyond executive agencies, reinforcing the idea that internal control is a governance-wide responsibility rather than a finance-office function alone (Astiti & Agustin, 2024). However, comparative research on local government audit and oversight highlights that the broader regulatory and institutional environment—such as fragmentation of oversight roles and varying audit regimes—can shape how internal control contributes to accountability in practice (Ferry et al., 2023). This implies that SPIP effectiveness should be evaluated not only through compliance indicators, but also through its capacity to reduce control failures, improve follow-up and remediation, and reinforce financial accountability across organizational boundaries. In short, SPIP is a necessary but not sufficient condition for robust local financial governance; it requires complementary capacity, oversight integration, and managerial ownership to translate formal control frameworks into measurable accountability improvements.

Synthesizing these strands, SPIP should be positioned as the control infrastructure that enables Risk-Based Internal Oversight (RBIO/RBIA) and fraud prevention to function coherently in local government finance. Conceptually, RBIO can be interpreted as the assurance and advisory mechanism that tests whether SPIP controls are properly designed and operating effectively in high-risk areas, while SPIP provides the baseline control environment and monitoring system that makes risk-based prioritization meaningful (Government of Indonesia, 2008; COSO, 2013). Yet the literature also points to persistent implementation challenges: uneven control maturity across local government entities, limited analytical capability to translate control assessments into risk-ranked priorities, and the risk of "symbolic compliance" where documentation exists but monitoring and remediation are weak (Ferry et al., 2023; Mujalli, 2024). A further research gap concerns integration: many studies examine SPIP as a compliance system or RBIA as a planning approach, but fewer explain how SPIP maturity interacts with RBIO mechanisms (risk universe definition, risk-based planning, follow-up governance) to produce stronger fraud control outcomes across procurement, transfers, and asset management. Addressing these gaps requires moving beyond isolated assessments toward integrated models linking SPIP maturity, risk-based oversight design, and fraud risk governance—an integration that becomes the analytical bridge to the subsequent sections on fraud control mechanisms and enabling governance theories.

Three Lines Model and Risk-Based Internal Oversight in Local Government Finance

The Three Lines Model—formerly known as the Three Lines of Defense—originated as a governance framework to clarify roles and responsibilities in risk management, internal control, and assurance. Articulated and updated by the Institute of Internal Auditors, the model distinguishes three complementary functions: the first line (operational management) owns and manages risks through day-to-day controls; the second line (risk management, compliance, quality assurance) supports and monitors risk management and control activities; and the third line (internal audit/inspectorate) provides independent and objective assurance on the effectiveness of governance, risk management, and controls (Institute of Internal Auditors [IIA], 2020). In public-sector contexts, external oversight bodies (e.g., supreme audit institutions) are often positioned outside the three lines, reinforcing accountability through independent scrutiny. The model's core rationale lies in reducing role ambiguity, preventing duplication, and ensuring that assurance is proportionate to risk. For local governments managing complex financial flows—procurement, grants, transfers, and asset management—the Three Lines Model provides an organizing logic that aligns managerial accountability with independent assurance, thereby enabling risk-based prioritization rather than uniform compliance checks. Importantly, the model emphasizes coordination and informationsharing, not silos, positioning governance as a system of interdependent functions rather than discrete control units (IIA, 2020).

Within public-sector governance, the Three Lines Model contributes to mitigating information asymmetries and clarifying accountability relationships that are endemic to decentralized administrations. Local governments typically operate with fragmented responsibilities across departments and agencies, increasing the risk that material financial risks and control failures remain obscured. By delineating ownership (first line), oversight support (second line), and independent assurance (third line), the model enhances transparency regarding who is responsible for identifying risks, who monitors controls, and who evaluates effectiveness. Comparative studies of local government audit and oversight regimes demonstrate that clearer role delineation is associated with more coherent governance arrangements and reduced overlap between control and assurance functions, albeit with variation across institutional contexts (Ferry, Midgley, & Ruggiero, 2023). Moreover, the model supports coordination across functions by encouraging structured interaction—such as risk reporting from the first and second lines to internal audit—thereby improving the quality of assurance planning and follow-up. In governance terms, the Three Lines Model reframes internal oversight from a policing function to a collaborative assurance system that balances managerial responsibility with independent scrutiny, a balance that is essential for sustaining public trust and accountability in local government finance.

A growing body of literature synthesizes how the Three Lines Model can be integrated with Risk-Based Internal Oversight (RBIO/RBIA) to strengthen fraud prevention and control. Conceptually, the model provides the institutional architecture within which risk-based approaches operate: the first line identifies and manages operational and fraud risks; the second line consolidates risk information, sets policies, and monitors compliance; and the third line uses this risk intelligence to prioritize assurance activities toward high-exposure areas (Mujalli, 2024). Empirical research suggests that when internal audit planning explicitly leverages risk assessments generated by the first and second lines, audit coverage becomes more targeted and relevant, enhancing the likelihood of detecting systemic control weaknesses rather than isolated errors (Wang & Vasarhelyi, 2024). In this configuration, RBIO functions as the methodological engine of the third line, translating organizational risk profiles into prioritized assurance engagements, while the Three Lines Model ensures that such prioritization is grounded in shared risk ownership and coordinated monitoring. This integration is particularly salient for local governments, where resource constraints necessitate selective oversight and where fraud risks are concentrated in specific financial processes rather than uniformly distributed.

Despite its conceptual appeal, the implementation of the Three Lines Model in local government settings faces persistent challenges that can undermine its effectiveness for fraud prevention. Empirical studies highlight frequent role overlap between management, compliance units, and internal audit, leading to blurred accountability and duplicated controls (Ferry et al., 2023). Capacity constraints—such as limited risk management expertise, inadequate data infrastructure, and shortages of qualified internal auditors—further weaken the model's operationalization, especially in smaller or resource-constrained municipalities. Research on public-sector audit organizations also documents tensions related to internal audit independence, where political or administrative pressures may compromise the third line's ability to challenge management effectively, thereby diluting assurance value (Lino, Carvalho, Aquino, & Steccolini, 2022). Organizational culture and political–bureaucratic dynamics can exacerbate these issues by discouraging risk escalation or treating internal oversight as a compliance burden rather than a governance asset. Collectively, these challenges suggest that formal adoption of the Three Lines Model does not automatically translate into improved fraud control; effectiveness depends on contextual enablers, including leadership commitment, professional capacity, and safeguards for audit independence.

Synthesizing the literature, the Three Lines Model can be positioned as a governance scaffold that connects Fraud Risk Management (FRM) and Internal Control systems (including SPIP) with Risk-Based Internal Oversight in local government finance. FRM provides the substantive identification and assessment of fraud risks; SPIP and internal control frameworks supply the control infrastructure; and the Three Lines Model organizes responsibilities and information flows across these elements to support coherent oversight. However, existing studies often examine these components in isolation, leaving a research gap regarding their integrated operation—specifically, how variations in line maturity and coordination affect risk-based assurance quality and fraud outcomes across the public financial management cycle. Addressing this gap requires comparative and longitudinal research that examines interaction effects among the three lines, control maturity, and risk-based oversight design. Such integration also provides a conceptual bridge to subsequent discussions on Public Financial Management and Public Accountability, where the effectiveness of governance arrangements ultimately manifests in improved financial integrity, transparency, and trust in local government institutions.

Public Financial Management and Public Accountability in Local Government Finance

Public Financial Management (PFM) refers to the institutional arrangements and managerial practices through which governments mobilize, allocate, spend, account for, and oversee public resources in pursuit of policy objectives. In local governments, the PFM cycle typically spans planning and prioritization, budgeting and appropriation, budget execution (including procurement and contract management), accounting and financial reporting, and oversight through internal and external assurance mechanisms. The analytical significance of PFM lies in its dual character: it is both a technical system of fiscal operations and a governance framework that structures discretion, controls, and information flows across public organizations. Local governments face distinctive PFM challenges because decentralization multiplies spending units and service delivery points, increases heterogeneity in administrative capacity, and creates complex intergovernmental fiscal relations that complicate accountability. Comparative evidence on local government audit and oversight regimes shows that institutional arrangements for assurance and control vary substantially across jurisdictions, generating uneven regulatory "spaces" in which fiscal risks and control failures can persist (Ferry, Midgley, & Ruggiero, 2023). In this setting, PFM vulnerabilities often concentrate in high-discretion, high-volume processes such as procurement, grants and transfers, and asset management—areas in which the quality of internal control and oversight architecture strongly conditions fiscal discipline, allocative efficiency, and operational integrity. Consequently, strengthening PFM at the local level requires not only procedural reforms but also governance-oriented strategies that integrate risk management, internal controls, and assurance functions into a coherent system (Ferry et al., 2023; Government of Indonesia, 2008).

Public accountability is a foundational principle of public sector governance that complements PFM by defining who must justify decisions, to whom, through what information, and with what consequences. In local government finance, accountability extends beyond financial compliance to encompass administrative accountability (adherence to procedures and performance expectations) and political accountability (responsiveness to citizens and representative institutions). Public accountability is therefore inseparable from transparency and trust: the credibility of budget decisions, the legitimacy of spending priorities, and the perceived integrity of fiscal management all depend on whether financial information is reliable and whether accountability mechanisms function effectively. The public-sector audit literature cautions that accountability is not guaranteed merely by having audit organizations or formal reporting obligations; rather, accountability outcomes are mediated by institutional dynamics that shape oversight independence, the enforceability of findings, and the incentives to act on control weaknesses (Lino, Carvalho, Aquino, & Steccolini, 2022). Similarly, governance frameworks underscore that accountability is produced through systems of internal control and risk management that create traceability, document decision rights, and enable ongoing monitoring of compliance and performance (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013). Within Indonesia, SPIP codifies this governance logic by requiring continuous internal control processes aimed at safeguarding assets, ensuring reliable reporting, and promoting effective and efficient operations—objectives that directly support financial and administrative accountability in local government contexts (Government of Indonesia, 2008).

A growing body of literature links PFM quality and accountability mechanisms to the prevalence and persistence of fraud risks in subnational governments. Fraud in local government finance frequently exploits precisely those points where PFM systems are weakest: discretionary decision-making under weak control environments, fragmented information systems, limited monitoring capacity, and constrained enforcement. Global evidence on occupational fraud demonstrates that control weaknesses and governance gaps are recurring enablers of fraud schemes, translating into direct financial losses and broader damage to institutional legitimacy (Association of Certified Fraud Examiners [ACFE], 2024). Empirical work on public-sector audit organizations further indicates that oversight may sometimes be constrained, co-opted, or embedded in political–administrative dynamics that dilute anti-corruption impacts, thereby weakening the accountability function of audit and control systems (Lino et al., 2022). From a PFM perspective, this implies that fraud is not simply an isolated criminal act; it is an indicator of systemic failures in control design, monitoring, and accountability enforcement across the budget cycle. Evidence from fraud analytics scholarship also reinforces this systemic view: studies synthesize that fraud detection and prevention capabilities are closely tied to the quality of transactional data, the governance of control processes, and the institutional capacity to convert red flags into corrective actions (Alfian, 2023). Thus, the PFM–accountability–fraud nexus is best conceptualized as a governance problem in which integrity outcomes depend on the alignment of fiscal processes, internal controls, and assurance mechanisms.

Within this governance problem space, internal oversight—particularly when designed as Risk-Based Internal Oversight (RBIO)—is increasingly framed as a strategic lever for strengthening PFM and public accountability. Risk-based approaches aim to allocate limited oversight resources toward the financial processes and entities that pose the highest risks to fiscal integrity and policy objectives, rather than dispersing attention evenly across all units. Evidence on RBIA implementation in the public sector suggests that risk-based planning improves the relevance of assurance engagements and strengthens alignment between oversight activity and organizational risk profiles, but effectiveness depends on enabling conditions such as management support, auditor competence, and access to reliable risk information (Mujalli, 2024). Moreover, research on continuous audit and monitoring in government procurement demonstrates that risk-sensitive oversight supported by monitoring methodologies can improve timeliness in identifying anomalies and control breakdowns in transaction-intensive environments, thereby reinforcing preventive and detective dimensions of fiscal accountability (Wang & Vasarhelyi, 2024). At the system level, this implies that RBIO can operationalize accountability by translating risk intelligence into targeted assurance over high-exposure PFM domains—procurement, grants, and asset stewardship—where fraud risks are concentrated and where improvements in control effectiveness yield the largest integrity gains. In short, RBIO strengthens accountability not only by detecting noncompliance, but by testing whether PFM control infrastructures are risk-responsive and whether remedial actions are governed and sustained (Mujalli, 2024; Wang & Vasarhelyi, 2024).

Synthesizing these perspectives, PFM and public accountability are best treated as the outcome domain against which Fraud Risk Management (FRM), internal control (including SPIP), and the Three Lines Model jointly operate. FRM provides the logic for identifying and prioritizing integrity threats; SPIP and COSO-type internal control frameworks provide the control infrastructure for prevention and detection; and the Three Lines Model organizes role clarity and information flows among operational management, risk/compliance functions, and internal audit to deliver coherent assurance (COSO, 2013; Government of Indonesia, 2008; Institute of Internal Auditors [IIA], 2020). However, the literature still contains salient research gaps. First, many studies examine PFM reforms, internal controls, RBIA adoption, or fraud analytics in isolation, leaving limited evidence on how integrated "packages" of governance arrangements influence accountability outcomes in local governments. Second, cross-country work highlights the diversity of local audit regimes and institutional constraints, suggesting that the effectiveness of RBIO in strengthening accountability is contingent on governance conditions—independence safeguards, capacity maturity, and follow-up enforcement—yet these contingencies are under-theorized and under-tested in subnational contexts (Ferry et al., 2023; Lino et al., 2022). Third, technology-enabled oversight is often evaluated in terms of detection capability, while its longer-term effects on accountability practices (e.g., transparency, corrective action, trust) remain empirically thin (Alfian, 2023; Wang & Vasarhelyi, 2024). These gaps justify an integrative review that explicitly connects RBIO with PFM and accountability outcomes, thereby building a policy-relevant framework for fraud prevention and control in local government finance.

Administrative Capacity and Digital Government in Risk-Based Internal Oversight

Administrative capacity is a foundational determinant of how effectively local governments design, operate, and sustain internal oversight arrangements. In the public administration literature, administrative capacity is typically conceptualized as a multi-dimensional construct encompassing (i) human resources (skills, professionalism, integrity, and training), (ii) organizational structures (role clarity, coordination, and authority lines), (iii) process capability (standard operating procedures, workflow discipline, and follow-up mechanisms), and (iv) institutional competence (strategic leadership, learning, and adaptive governance). In decentralized settings, these capacities are unevenly distributed across jurisdictions, producing differentiated "risk governance" outcomes even under similar regulatory frameworks (Haque et al., 2021). For local government finance, administrative capacity directly conditions the credibility of risk assessment, the quality of internal controls, and the ability of internal audit/inspectorate functions to implement risk-based plans consistently. Comparative evidence on local government audit and oversight regimes indicates that the regulatory "space" for audit and assurance is shaped by institutional design and capacity constraints, which in turn influence the reliability of fiscal governance and the effectiveness of assurance functions (Ferry et al., 2023). From a risk-based oversight perspective, capacity is therefore not a peripheral "implementation detail" but a causal mechanism: weak competence and fragmented organizational routines increase the likelihood that high-risk financial processes—procurement, transfers, grants, and asset management—remain under-controlled and under-scrutinized, sustaining vulnerability to fraud and financial irregularity (Ferry et al., 2023).

Digital government initiatives increasingly operate as an enabling infrastructure for risk-based internal oversight, particularly through integrated financial management information systems, interoperable data architectures, and analytics-driven monitoring. The digital government literature emphasizes that data, when governed as a strategic asset, can support evidence-based decision-making, improve traceability, and strengthen accountability—provided that institutional arrangements for data governance, privacy, and integrity are robust (OECD, 2020; OECD, n.d.). International assessments of digital government underscore its role in building effective, inclusive, and accountable institutions, including through improved public sector transparency and service integrity (United Nations, 2024). In the oversight domain, digital tools shift monitoring from episodic reviews toward more continuous and risk-sensitive surveillance of transactions and controls. A major implication for local government finance is that digitalization can transform high-volume transaction environments—especially procurement and expenditure processing—into auditable data streams that support anomaly detection and targeted investigation (World Bank, 2020). Empirical work on continuous audit and monitoring in government settings shows how data-based methodologies can identify control failures and unusual patterns more promptly than traditional periodic audits, thereby reinforcing preventive and detective capacity in high-risk financial processes (Wang & Vasarhelyi, 2024). Conceptually, digital government thus becomes a governance enabler for risk-based internal oversight by improving information quality, reducing opacity, and expanding the feasible scope of risk-based assurance.

The literature increasingly suggests that the relationship between administrative capacity, digitalization of financial processes, and the effectiveness of fraud risk management and internal control is synergistic rather than additive. Where administrative capacity is high, digital systems are more likely to be implemented with strong process discipline, reliable data standards, and meaningful follow-up, enabling oversight to translate risk signals into corrective action. Conversely, where capacity is limited, digitalization can produce "automation without assurance," in which systems generate data but institutions cannot interpret, govern, or act on it effectively. Empirical and review evidence on fraud analytics in the public sector indicates that data-driven approaches can strengthen fraud detection and prevention, but outcomes depend on organizational readiness, analytical competence, and governance of controls around data pipelines (Alfian, 2023). Studies on big data technologies in auditing likewise emphasize that analytics can reconfigure audit work and control testing, yet the assurance benefits are mediated by sociotechnical factors—how technology, professional judgment, and organizational routines co-produce effective oversight (Salijeni et al., 2021). In developing-country settings, the adoption of computer-assisted audit tools and techniques (CAATTs) has been linked to organizational and capability factors that shape whether internal audit units can operationalize data-enabled oversight (Awuah et al., 2022). For Indonesia specifically, evidence on government internal supervisory contexts highlights the practical relevance of analytics for fraud prevention, while also implying the importance of capability development to realize impact (Sidauruk, 2024). The emerging synthesis is clear: capacity determines whether digital government strengthens fraud control substantively or remains a formal modernization layer with limited integrity dividends.

However, the same literature also underscores substantial constraints that can weaken technology-enabled, risk-based oversight in local governments. First, human capital gaps—limited expertise in risk analytics, audit technology, and data interpretation—constrain the ability of inspectorates/internal audit units to convert digital traces into actionable assurance (Awuah et al., 2022; Sidauruk, 2024). Second, organizational resistance and path-dependent routines can sustain compliance-driven oversight cultures that treat risk-based methods as documentation exercises rather than strategic prioritization tools (Haque et al., 2021). Third, infrastructure and interoperability limitations (fragmented information systems, poor data quality, weak master data governance) can produce unreliable risk signals and hinder continuous monitoring. Fourth, technology risks—including access control weaknesses, cybersecurity exposure, and algorithmic opacity—introduce new integrity vulnerabilities, potentially shifting fraud opportunities into digital interfaces if controls are not designed and monitored appropriately (OECD, 2020; World Bank, 2020). Fifth, political–bureaucratic dynamics can reduce oversight independence and weaken enforcement of follow-up actions even when digital evidence of anomalies is available, diluting governance effects (Ferry et al., 2023). These constraints imply that digitalization does not automatically produce stronger integrity outcomes; rather, it can amplify both strengths and weaknesses of administrative capacity and governance arrangements, making data governance and institutional safeguards central to effective risk-based oversight.

Integrating these strands, administrative capacity and digital government should be conceptualized as cross-cutting enablers that condition how Risk-Based Internal Oversight operates within the broader governance architecture of local government finance. Under the Three Lines Model, capacity and digital infrastructure shape information flows from operational management (first line) and risk/compliance functions (second line) to internal audit/inspectorate (third line), thereby influencing the feasibility of risk-based planning and the quality of assurance evidence (Institute of Internal Auditors [IIA], 2020; OECD, 2020). Within the PFM cycle, digital systems can strengthen traceability and transaction integrity, while capacity determines whether controls are designed risk-sensitively and whether corrective actions are implemented and sustained—directly linking oversight to public accountability outcomes (United Nations, 2024; Ferry et al., 2023). Yet the research base remains fragmented in ways that motivate further synthesis: (i) many studies examine audit analytics, RBIA adoption, or digital government separately, leaving limited evidence on their combined causal pathways; (ii) the interaction between capacity maturity and the effectiveness of technology-enabled risk prioritization is under-tested in local government contexts; and (iii) few studies provide comparative designs that explain why similar digital tools produce divergent integrity outcomes across jurisdictions (Alfian, 2023; Salijeni et al., 2021). Addressing these gaps is essential to build a policy-relevant framework for institutional readiness and governance design in adopting technology-supported, risk-based internal oversight for fraud prevention and control.

3. Materials and Method

This study adopts an integrative literature review approach to synthesize and conceptualize knowledge on risk-based internal oversight of local government finance for fraud prevention and control. An integrative review is appropriate because the research objective extends beyond aggregating empirical findings to developing a coherent conceptual understanding that bridges multiple theoretical streams—Risk-Based Internal Oversight/Audit, Fraud Risk Management, Internal Control (including SPIP), Public Financial Management, and public sector governance. Compared with a narrowly defined systematic review, the integrative approach allows the inclusion of diverse study designs (conceptual, qualitative, quantitative, and mixed-methods), professional standards, and policy-oriented analyses that are essential for addressing governance and oversight questions in the public sector. This choice is consistent with established methodological guidance emphasizing integrative and narrative–systematic reviews as suitable designs for theory building, policy synthesis, and cross-disciplinary integration in management and public administration research (Tranfield, Denyer, & Smart, 2003; Snyder, 2019; Xiao & Watson, 2019). Accordingly, the review is structured to balance methodological rigor with analytical flexibility, enabling the identification of patterns, relationships, and conceptual gaps relevant to local government finance oversight.

The literature search was conducted using multiple scholarly databases to ensure comprehensive coverage and academic credibility. Primary databases included Scopus and Web of Science as leading sources of peer-reviewed international journals, complemented by DOAJ and SINTA to capture relevant open-access and nationally indexed studies, particularly those addressing public sector contexts in developing countries. Google Scholar was used selectively to identify additional peer-reviewed articles and authoritative institutional publications not fully indexed elsewhere. The search covered publications from 2015 to 2025, with priority given to studies from the last five years to reflect recent developments in risk-based oversight, fraud control, and digital governance. Keyword combinations were constructed iteratively using Boolean operators, including terms such as "risk-based internal oversight" OR "risk-based internal audit", "fraud risk management" OR "fraud control", "internal control" OR "government internal control system (SPIP)", and "local government finance" OR "subnational public finance". This strategy was designed to capture literature spanning oversight methodologies, governance frameworks, and public financial management practices.

Clear inclusion and exclusion criteria guided the selection of studies to ensure relevance and quality. Included publications comprised peer-reviewed journal articles, high-quality review papers, and authoritative institutional reports addressing public sector oversight, internal control, fraud prevention, and local government finance. Studies were required to have a clear connection to public sector or governmental contexts; purely private-sector analyses without transferable governance implications were excluded. Non-peer-reviewed opinion pieces, editorials, and blog posts were excluded unless issued by recognized international organizations (e.g., OECD, COSO, IIA, ACFE) with established relevance to public financial governance. The selection process followed a staged procedure: initial identification through database searches; title and abstract screening to remove duplicates and clearly irrelevant records; full-text assessment for conceptual and empirical relevance; and final inclusion based on alignment with the review's analytical framework. This transparent, stepwise procedure aligns with best practices in structured literature review methodology (Booth, Sutton, & Papaioannou, 2016; Kitchenham et al., 2009).

The analysis and synthesis of the selected literature were conducted using a combination of thematic analysis, conceptual mapping, and comparative synthesis. First, thematic analysis was employed to identify recurrent concepts, arguments, and empirical findings related to risk-based oversight, fraud risk management, internal control systems, and accountability. Second, conceptual mapping was used to organize these themes into higher-order categories and to examine relationships among theoretical constructs, such as the linkage between SPIP maturity, risk-based audit practices, and fraud prevention outcomes. Third, comparative synthesis enabled cross-study comparison across contexts, methods, and governance settings, highlighting convergences, divergences, and contextual contingencies. This multi-layered synthesis approach facilitated the development of an integrated analytical framework rather than a descriptive summary of individual studies, consistent with recommendations for theory-oriented literature reviews in public administration and management research (Braun & Clarke, 2006; Snyder, 2019).

To enhance validity and credibility, several measures were applied throughout the review process. Source triangulation across databases and publication types reduced the risk of systematic omission, while explicit inclusion/exclusion criteria and transparent selection procedures enhanced replicability. Analytical rigor was supported by iterative coding and cross-checking of themes to minimize researcher bias and over-interpretation. Nonetheless, the study acknowledges inherent limitations. As an integrative review, the synthesis is interpretive and depends on the quality and scope of available literature; publication bias and uneven geographic representation of studies may influence conclusions. Moreover, the review does not statistically aggregate effect sizes, limiting causal inference. These limitations are addressed by adopting a cautious interpretive stance and emphasizing conceptual patterns and policy-relevant insights rather than definitive empirical generalizations. Overall, the methodological design provides a robust and transparent foundation for synthesizing knowledge on risk-based internal oversight and fraud prevention in local government finance.

4. Results and Discussion

Results

The literature reviewed in this study comprises a substantial body of peer-reviewed journal articles, systematic and integrative reviews, and authoritative institutional publications focusing on public sector oversight, internal audit, fraud risk management, and local government finance. Across the reviewed corpus, most studies are situated within subnational or local government contexts, reflecting the heightened fiscal discretion and governance risks associated with decentralization. Geographically, the literature spans both developed and developing countries, with a notable concentration of empirical studies from Europe, emerging economies in Asia, and selected African and Latin American contexts. Methodologically, the literature is heterogeneous: it includes conceptual and theoretical analyses, qualitative case studies of local governments or audit institutions, quantitative survey-based studies on internal audit effectiveness, and systematic reviews addressing fraud analytics and public sector oversight. Substantively, the dominant focus of the literature is on the transition from compliance-oriented supervision toward risk-based and governance-oriented internal oversight, often framed within broader debates on public financial management reform and public accountability (Ferry, Midgley, & Ruggiero, 2023; Mujalli, 2024). Fraud appears as a cross-cutting theme, commonly discussed in relation to procurement, grants, transfers, and asset management, where discretion and transaction volume intersect. Across studies, internal oversight is consistently positioned as a central institutional mechanism linking internal control systems, risk management, and accountability outcomes, although the degree of empirical depth varies considerably. Overall, the reviewed literature reflects an expanding but fragmented knowledge base, with converging attention to risk-based approaches and fraud prevention, yet significant variation in analytical focus, institutional settings, and methodological rigor (Alfian, 2023; Lino et al., 2022).

A major cluster of findings concerns the application of Risk-Based Internal Oversight (RBIO) or Risk-Based Internal Auditing (RBIA) in local government finance. Across studies, RBIO is consistently described as a planning and assurance approach that prioritizes oversight activities according to assessed risks rather than uniform coverage of organizational units or programs. The literature shows that RBIO is most frequently applied to high-exposure financial processes, notably procurement, capital expenditure, grants and subsidies, and revenue administration, where fraud risks and control failures are perceived to be concentrated (Mujalli, 2024). Comparative studies reveal considerable variation in implementation: in some contexts, RBIO is embedded within formal risk management frameworks and supported by structured risk registers, while in others it remains largely procedural, driven by compliance with audit standards rather than strategic risk prioritization (Ferry et al., 2023). Several studies report that RBIO adoption is associated with changes in audit scope, timing, and resource allocation, with greater emphasis on system-level controls and governance risks rather than transaction-by-transaction testing. However, the literature also documents uneven maturity across local governments, influenced by administrative capacity, leadership support, and the availability of risk information. Importantly, RBIO is rarely presented as a standalone technique; instead, it is described as operating in conjunction with internal control systems and management risk processes, although the depth of this integration varies widely across institutional settings (Mujalli, 2024).

Another significant body of findings relates to Fraud Risk Management (FRM) and Fraud Control mechanisms in the public sector. The reviewed literature consistently conceptualizes fraud risk as a systemic governance issue rather than an isolated behavioral anomaly, emphasizing the role of organizational controls, oversight arrangements, and information systems in shaping fraud vulnerability (Association of Certified Fraud Examiners [ACFE], 2024). Across studies, FRM is commonly structured around stages of risk identification, risk assessment, control response, and monitoring, with particular attention to procurement and expenditure processes. Preventive controls—such as segregation of duties, authorization procedures, ethical standards, and transparency requirements—are the most frequently discussed mechanisms, followed by detective controls including internal audits, data analytics, and continuous monitoring (Alfian, 2023). Corrective controls, such as investigation, sanctioning, and recovery of losses, receive comparatively less empirical attention, often being treated as downstream consequences rather than integral components of FRM. The literature also shows that fraud control is closely linked to internal oversight capacity: studies highlight that internal audit and inspectorate functions play a key role in testing fraud controls, identifying red flags, and advising management on control improvements, although their effectiveness varies with independence and institutional support (Lino et al., 2022). Overall, the findings indicate that fraud control mechanisms are widely acknowledged in theory, but their practical articulation within integrated FRM frameworks remains uneven across local governments.

A further set of findings addresses the role of Internal Control Systems (including SPIP), the Three Lines Model, and broader Public Financial Management (PFM) and Public Accountability frameworks in supporting risk-based oversight. The literature consistently identifies internal control as the foundational infrastructure enabling risk identification, monitoring, and assurance. Studies drawing on COSO-aligned frameworks and SPIP highlight the importance of control environment, risk assessment, control activities, information and communication, and monitoring as mutually reinforcing components (Committee of Sponsoring Organizations of the Treadway Commission, 2013; Government of Indonesia, 2008). Empirical findings suggest that stronger internal control systems are associated with improved reliability of financial reporting and clearer accountability pathways, although results vary across organizational contexts. The Three Lines Model appears frequently as an organizing framework to clarify roles between operational management, risk/compliance functions, and internal audit, particularly in discussions of coordination and assurance planning (Institute of Internal Auditors, 2020). In the PFM literature, effective oversight is linked to improved budget credibility, expenditure control, and transparency, reinforcing financial and administrative accountability at the local level (Ferry et al., 2023). Across these strands, the literature shows convergence in recognizing that risk-based oversight effectiveness depends on the alignment of internal control maturity, role clarity, and governance arrangements, rather than on any single mechanism operating in isolation.

Synthesizing across the reviewed studies, several patterns and trends emerge without implying normative conclusions. First, there is a clear trend toward risk-oriented and governance-focused oversight, with declining emphasis on purely compliance-driven inspection models. Second, the literature consistently reports contextual variation: differences in administrative capacity, institutional design, and political–bureaucratic environments shape how risk-based oversight and fraud controls are implemented and experienced. Third, digitalization is increasingly present as an enabling factor, particularly through financial management information systems and audit analytics, although its integration with oversight practices is uneven and often capacity-dependent (Alfian, 2023; Wang & Vasarhelyi, 2024). Fourth, while many studies document positive associations between internal control, risk-based oversight, and accountability mechanisms, they also highlight fragmentation across analytical domains, with limited cross-study integration of RBIO, FRM, SPIP, and PFM perspectives. Finally, the literature reflects differences between jurisdictions with mature oversight institutions and those where oversight functions remain constrained by resources, skills, or independence, suggesting that institutional and capacity conditions systematically differentiate oversight outcomes across local governments (Ferry et al., 2023; Lino et al., 2022).

Discussion

The synthesized findings presented in the Results section collectively indicate that risk-based internal oversight has emerged as a pivotal governance mechanism in addressing the growing complexity and integrity risks of local government finance. Interpreted holistically, the literature suggests that the shift from compliance-oriented inspection toward risk-based oversight reflects a broader transformation in public sector governance—from rule adherence to risk-sensitive, performance-aware, and accountability-driven control. This transformation is not merely technical but institutional, as risk-based internal oversight redefines how internal audit and inspectorate functions contribute to financial governance by prioritizing high-risk processes and systemic vulnerabilities rather than uniformly reviewing all activities (Ferry, Midgley, & Ruggiero, 2023; Mujalli, 2024). The Results further show that fraud-related risks—particularly in procurement, grants, and asset management—constitute a recurring focal point of risk-based oversight, underscoring that fraud prevention is increasingly embedded within broader risk governance frameworks rather than treated as an isolated compliance issue. These findings enrich existing scholarship by empirically grounding the argument that risk-based internal oversight functions as a connective institutional layer, linking internal control systems, fraud risk management, and public financial accountability in decentralized government settings.

A central theoretical implication of the findings concerns the interdependence between Risk-Based Internal Oversight (RBIO), Fraud Risk Management (FRM), and Fraud Control mechanisms. The literature consistently shows that RBIO does not replace FRM; instead, it operationalizes FRM by translating identified fraud risks into prioritized assurance and monitoring activities. Preventive, detective, and corrective fraud controls—such as segregation of duties, internal audits, analytics-based monitoring, and follow-up enforcement—are most effective when embedded within a risk-based oversight logic that concentrates attention on areas of highest exposure (Association of Certified Fraud Examiners [ACFE], 2024; Alfian, 2023). This relationship supports a theoretical view of fraud as a systemic governance risk, aligning with enterprise risk management perspectives rather than behavioral or opportunistic explanations alone. Importantly, the Results reveal that while preventive and detective controls are widely discussed, corrective controls remain under-theorized and under-evaluated in relation to RBIO. This asymmetry suggests that the literature implicitly prioritizes risk anticipation and detection over institutional learning and remediation, raising questions about the long-term fraud deterrence capacity of current oversight models (Lino, Carvalho, Aquino, & Steccolini, 2022). Thus, the discussion advances the interpretation that RBIO strengthens fraud prevention primarily through risk prioritization and control testing, while its contribution to sustained fraud control depends on governance arrangements that ensure follow-up and enforcement.

When interpreted through Internal Control Theory and the SPIP framework, the findings reinforce the view that risk-based oversight is effective only insofar as it is anchored in mature internal control systems. Internal control provides the infrastructural conditions—control environment, risk assessment, control activities, information and communication, and monitoring—within which RBIO can meaningfully operate (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013; Government of Indonesia, 2008). The Results suggest that RBIO functions as an evaluative and adaptive mechanism, assessing whether SPIP-aligned controls are appropriately designed and functioning in high-risk areas. In this sense, RBIO is conceptually complementary to SPIP rather than an alternative to it. The Three Lines Model further clarifies this complementarity by delineating how responsibilities for risk ownership, monitoring, and independent assurance are distributed across organizational actors (Institute of Internal Auditors [IIA], 2020). However, the literature also highlights that role overlap, weak independence of internal audit, and limited coordination between the lines can dilute the effectiveness of risk-based oversight. This underscores a key governance insight: the effectiveness of RBIO is contingent not only on technical risk assessment tools but also on institutional role clarity and authority structures, which mediate how internal control information is generated, escalated, and acted upon.

The discussion of findings within the Public Financial Management (PFM) and Public Accountability frameworks reveals that RBIO has implications extending beyond internal audit effectiveness to broader fiscal governance outcomes. The Results show that risk-based oversight contributes to PFM by improving expenditure control, targeting high-risk budget execution processes, and reinforcing the credibility of financial reporting, particularly in decentralized contexts characterized by administrative heterogeneity (Ferry et al., 2023). From an accountability perspective, RBIO strengthens financial and administrative accountability by enhancing traceability and oversight focus, thereby supporting transparency and public trust. However, the literature also indicates that accountability gains are uneven and mediated by institutional environments. Where oversight findings are weakly enforced or politically constrained, RBIO may improve diagnostic capacity without yielding commensurate accountability outcomes (Lino et al., 2022). This suggests that RBIO's contribution to accountability is indirect and conditional, operating through its influence on information quality, control reliability, and managerial responsiveness rather than through automatic sanctioning effects. Theoretically, this reinforces accountability scholarship emphasizing that accountability is produced through governance systems and power relations, not solely through formal oversight mechanisms.

The Results also highlight administrative capacity and digital government as critical conditioning factors shaping the effectiveness of risk-based internal oversight. Capacity constraints—such as limited professional expertise, insufficient risk management skills, and fragmented organizational routines—emerge as recurrent explanations for uneven RBIO implementation across local governments (Haque et al., 2021; Ferry et al., 2023). Digital government initiatives, including financial management information systems and audit analytics, are increasingly presented as enablers of RBIO by improving data availability, transaction traceability, and anomaly detection (Alfian, 2023; Wang & Vasarhelyi, 2024). However, the literature cautions that digitalization does not automatically strengthen oversight; its effectiveness depends on data governance, analytical competence, and institutional willingness to act on risk signals. This finding supports a sociotechnical interpretation: technology amplifies existing governance capacities and weaknesses rather than substituting for them (Salijeni, Samsonova-Taddei, & Turley, 2021). Accordingly, RBIO should be understood as a capability-intensive governance practice, requiring investments in human capital, organizational learning, and digital infrastructure to translate risk-based insights into effective fraud prevention.

Synthesizing these interpretations, this literature review yields several policy and theoretical implications. From a policy perspective, the findings suggest that strengthening fraud prevention in local government finance requires an integrated governance approach that aligns RBIO, FRM, internal control systems (SPIP), and the Three Lines Model within the broader PFM and accountability architecture. Incremental reforms focused solely on audit methodologies or digital tools are unlikely to deliver sustained integrity gains without parallel investments in administrative capacity, role clarity, and enforcement mechanisms. From a theoretical standpoint, the review contributes by positioning RBIO as a meso-level governance mechanism that operationalizes risk and control theories within decentralized public finance systems. The review also identifies an agenda for future research, including comparative studies on RBIO effectiveness across institutional contexts, longitudinal analyses of how risk-based oversight influences fraud outcomes over time, and deeper examination of corrective and learning-oriented dimensions of fraud control. These directions can advance understanding of how risk-based internal oversight can move beyond diagnostic functions toward sustained improvements in public financial integrity.

5. Comparison

A central distinction emerging from the reviewed literature concerns the contrast between compliance-based internal oversight and risk-based internal oversight in local government finance. Compliance-based approaches are grounded in rule adherence, procedural verification, and periodic inspections, assuming that conformity with regulations is sufficient to ensure financial integrity. In contrast, risk-based internal oversight (RBIO/RBIA) rests on the assumption that fiscal risks are unevenly distributed across processes and entities, requiring prioritization and targeted assurance (Mujalli, 2024). The literature consistently shows that compliance-oriented oversight tends to emphasize ex post verification and uniform coverage, which can dilute attention from high-risk areas such as procurement, grants, and asset management (Ferry, Midgley, & Ruggiero, 2023). Risk-based approaches, by comparison, focus on identifying material risks—including fraud risks—and aligning oversight resources accordingly. This shift has implications for fraud prevention: while compliance-based oversight may detect procedural violations, risk-based oversight is more likely to address systemic vulnerabilities and control failures that enable fraud (Alfian, 2023). The comparison indicates that RBIO represents not merely a technical refinement but a different governance logic—one that frames oversight as a strategic, risk-sensitive function rather than a routine compliance exercise.

A second comparative dimension concerns the conceptual frameworks employed across studies and how they position internal oversight within public financial governance. Fraud Risk Management (FRM) frameworks conceptualize fraud as an organizational risk requiring structured identification, assessment, and response, often emphasizing preventive and detective controls (Association of Certified Fraud Examiners [ACFE], 2024). Internal Control frameworks, including COSO-aligned models and SPIP, emphasize system-wide processes that provide reasonable assurance over operations, reporting, and compliance (Committee of Sponsoring Organizations of the Treadway Commission, 2013; Government of Indonesia, 2008). The Three Lines Model focuses on role differentiation and coordination among management, risk/compliance functions, and internal audit (Institute of Internal Auditors, 2020), while Public Financial Management (PFM) frameworks situate oversight within the broader budget cycle and accountability architecture. The literature often treats these frameworks in parallel, with limited integration. Some studies privilege FRM or internal control as the primary lens, relegating internal audit to an operational role, whereas others foreground RBIA without fully embedding it within PFM or accountability frameworks (Mujalli, 2024; Ferry et al., 2023). This comparison highlights that existing research varies in how explicitly it theorizes the positioning of internal oversight relative to control systems and fiscal governance.

Comparative analysis across empirical and institutional contexts reveals substantial variation in how risk-based oversight operates in practice. Studies from countries with mature audit institutions and higher administrative capacity often report more structured RBIA implementation, clearer role separation under the Three Lines Model, and stronger linkage between risk assessment and audit planning (Ferry et al., 2023). In contrast, research from developing or capacity-constrained contexts highlights challenges such as limited risk management expertise, fragmented information systems, and constrained audit independence, which can reduce RBIO to a formalistic requirement rather than a substantive governance tool (Lino, Carvalho, Aquino, & Steccolini, 2022). Differences are also evident across levels of government: subnational governments face greater heterogeneity in capacity and political influence than central agencies, affecting the consistency of risk-based practices. Additionally, the literature shows uneven integration of digital tools across contexts; while some studies document advanced use of analytics and continuous monitoring, others report reliance on manual procedures with limited data exploitation (Alfian, 2023; Wang & Vasarhelyi, 2024). These contextual comparisons underscore that the effectiveness of RBIO is contingent on institutional design, administrative capacity, and governance environments.

The literature also exhibits distinct strengths and limitations when examined comparatively. A key strength is the growing recognition of fraud as a systemic governance risk and the corresponding emphasis on risk-based approaches to oversight. However, a recurring limitation is conceptual fragmentation: many studies focus narrowly on audit techniques, fraud analytics, or control compliance without integrating these elements into a comprehensive governance framework. Empirical studies frequently emphasize detection outcomes, while giving less attention to corrective mechanisms, organizational learning, and long-term fraud deterrence (Lino et al., 2022). Moreover, comparative insights across jurisdictions are often descriptive rather than analytical, limiting the ability to explain why similar reforms yield different outcomes. Another gap concerns the interaction between digitalization and administrative capacity; while technology is widely discussed as an enabler, fewer studies systematically assess how capacity conditions mediate its effectiveness for risk-based oversight (Alfian, 2023). This comparison suggests that existing literature provides valuable but partial insights, with limited synthesis across theoretical domains and institutional contexts.

Against this backdrop, the present literature review positions itself as an integrative contribution to the state of the art. Unlike prior studies that examine RBIO, FRM, internal control/SPIP, PFM, or accountability in isolation, this article explicitly compares and synthesizes these frameworks within a unified analytical structure. By juxtaposing compliance-based and risk-based oversight, integrating fraud risk management with internal control and the Three Lines Model, and situating these within the PFM–accountability nexus, the review clarifies how internal oversight functions as a governance mechanism rather than a standalone audit technique. This comparative synthesis adds value by highlighting interdependencies and conditional effects that are underexplored in existing research, particularly in decentralized local government contexts. In doing so, the article advances a more holistic understanding of how risk-based internal oversight can contribute to fraud prevention and financial integrity, thereby offering a clearer conceptual position and policy relevance relative to prior fragmented studies.

6. Conclusion

This literature review demonstrates a clear and consistent shift in public sector oversight scholarship from compliance-oriented inspection toward Risk-Based Internal Oversight (RBIO) as a central governance mechanism in local government finance. Across jurisdictions and institutional settings, the reviewed studies converge on the finding that financial risks—particularly fraud risks—are unevenly distributed across budget execution processes, with procurement, grants and subsidies, and asset management emerging as recurrent high-exposure domains (Ferry, Midgley, & Ruggiero, 2023; Mujalli, 2024). The synthesis further shows that RBIO is increasingly framed not as a standalone audit technique, but as a risk-sensitive approach that aligns internal oversight with material threats to fiscal integrity and public value. Fraud prevention and control are thus embedded within broader risk governance arrangements rather than treated as isolated compliance tasks. At the same time, the literature reveals substantial variation in the maturity and effectiveness of RBIO implementation across local governments, shaped by institutional capacity, governance design, and contextual constraints. Taken together, these findings underscore that RBIO represents both a technical and institutional transformation in how local governments seek to safeguard financial resources and maintain accountability.

From a theoretical standpoint, this article contributes by integrating multiple analytical frameworks—Risk-Based Internal Oversight, Fraud Risk Management (FRM), Internal Control Theory (including SPIP), the Three Lines Model, Public Financial Management (PFM), and Public Accountability—into a single, coherent conceptual synthesis. Prior research has tended to examine these perspectives in parallel or in isolation, resulting in fragmented explanations of how internal oversight contributes to fraud prevention in decentralized fiscal systems. By contrast, the present review positions RBIO as a meso-level governance mechanism that operationalizes fraud risk management through internal control infrastructures and role differentiation across the Three Lines Model, while situating these processes within the broader PFM and accountability architecture (Committee of Sponsoring Organizations of the Treadway Commission, 2013; Government of Indonesia, 2008; Institute of Internal Auditors, 2020). This integrative framing advances theoretical understanding by clarifying how risk prioritization, control design, assurance, and accountability interact systematically, thereby offering a more comprehensive explanation of oversight effectiveness in local government finance.

The findings also yield important practical and policy implications for local governments, inspectorates, and public finance policymakers. First, strengthening fraud prevention requires moving beyond procedural compliance toward risk-based prioritization that concentrates oversight resources on high-risk financial processes. Second, investments in RBIO methodologies should be aligned with improvements in internal control maturity, management risk ownership, and role clarity across the Three Lines Model to avoid symbolic or fragmented implementation. Third, the review highlights the importance of administrative capacity and digital governance as enabling conditions: data-driven monitoring and analytics can enhance risk-based oversight only when supported by skilled personnel, robust data governance, and effective follow-up mechanisms (Alfian, 2023; Wang & Vasarhelyi, 2024). For policymakers, these insights suggest that reforms in internal oversight, internal control systems, and digital financial management should be pursued as an integrated package rather than as isolated initiatives, thereby reinforcing accountability and public trust in local fiscal governance.

Finally, this review acknowledges several limitations and avenues for future research. As an integrative literature review, the analysis is constrained by the scope and quality of existing studies, including uneven geographic coverage and limited longitudinal evidence on the long-term impacts of RBIO on fraud outcomes. Many reviewed studies emphasize detection and planning improvements, while fewer empirically examine corrective actions, organizational learning, and sustained deterrence effects. Future research should therefore pursue comparative and longitudinal designs that assess how variations in administrative capacity, political–bureaucratic context, and digital maturity condition the effectiveness of risk-based internal oversight. Empirical studies linking RBIO implementation to measurable improvements in fraud reduction, accountability, and fiscal performance at the local level would be particularly valuable. Such research would further refine adaptive models of risk-based oversight capable of responding to the evolving challenges of decentralized public financial management.

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