EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

Auditing Internal Control and Performance of Semi-Autonomous Government Agencies in Kenya

Collins Odhiambo Ngesa[1*], Gregory Namusonge[1], Elizabeth Wachiuri[1]
[1]Procurement and Logistics Department, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
*Corresponding author email: Collinsngesa81@gmail.com

Accepted: 30 April 2026 || Published: 15 June 2026

Abstract

This study examined the effect of auditing internal controls on the performance of semi-autonomous government agencies (SAGAs) in Kenya, with the legal framework as a moderating variable. Despite comprehensive public finance reforms, persistent governance challenges, including procurement irregularities and weak control environments, continue to undermine service delivery in Kenyan SAGAs. Guided by institutional theory and agency theory, the study employed a cross-sectional survey design targeting 516 senior officers across 129 SAGAs. A stratified random sample of 225 respondents was drawn using the Krejcie and Morgan formula, yielding 214 usable questionnaires (95.2% response rate). Data were analysed using hierarchical moderated multiple regression. The findings revealed that internal control auditing ($\beta = 0.55$, $p < .001$) and the legal framework ($\beta = 0.32$, $p < .001$) have significant positive direct effects on SAGA performance. Critically, the legal framework positively moderates the relationship between internal control auditing and performance ($\beta = 0.19$, $p < .001$; $\Delta R^2 = .035$), indicating that the effectiveness of internal controls is amplified within a robust regulatory environment. Descriptive results show that while auditor competence is a strength ($M = 4.27$), post-contract management ($M = 3.93$) and adherence to constitutional procurement principles ($M = 3.68$) remain inconsistent. Common method bias was not a concern (Harman's single factor = 38.04%). The study contributes to public sector governance literature by demonstrating the synergistic relationship between organizational controls and institutional frameworks. For policymakers, the findings imply that investments in internal audit capacity should be accompanied by efforts to strengthen the clarity and enforceability of the legal framework to maximize performance outcomes.

Keywords: *Internal control auditing, legal framework, organizational performance, semi-autonomous government agencies, Kenya.*

How to Cite: Ngesa, C. O., Namusonge, G., & Wachiuri, E. (2026). Auditing Internal Control and Performance of Semi-Autonomous Government Agencies in Kenya *Journal of Procurement and Supply Chain, 6*(2), 10-28.

EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

1. Introduction

Auditing of internal controls plays a critical role in enhancing the operational efficiency, accountability, and transparency of public sector institutions. In the Kenyan context, Semi-Autonomous Government Agencies (SAGAs) are entrusted with delivering essential public services, managing significant financial resources, and implementing strategic development programs on behalf of the government. However, concerns over financial mismanagement, procurement irregularities, and governance lapses have raised questions about the adequacy and effectiveness of internal control systems within these institutions (Office of the Auditor-General, 2023).

Internal control auditing refers to the systematic evaluation of policies, procedures, and mechanisms designed to safeguard assets, ensure compliance with laws and regulations, and promote operational effectiveness (COSO, 2020; PwC, 2022). Robust internal controls mitigate the risk of fraud, wastage, and inefficiency by providing an early warning system for potential irregularities. In the public sector, these audits are particularly important because they not only assure compliance but also enhance public trust in the stewardship of public resources (Ngugi & Muturi, 2021).

In recent years, Kenya has implemented a series of public finance and procurement reforms, including the Public Finance Management Act (PFMA, 2012) and the Public Procurement and Asset Disposal Act (PPADA, 2015), aimed at strengthening internal control frameworks. Despite these reforms, multiple Auditor-General reports indicate recurring non-compliance, weak control environments, and procurement malpractice across several SAGAs (OAG, 2023; Transparency International Kenya, 2022). This raises the question of whether internal control audits are effectively influencing organizational performance or if there are systemic gaps in implementation and oversight.

Globally, studies have shown that well-structured internal control audits positively influence institutional performance by improving decision-making, reducing operational risks, and ensuring value for money in procurement (World Bank, 2021; Alzeban, 2020). However, in the Kenyan context, empirical evidence specifically linking internal control audits to SAGAs' performance remains limited. Most existing research has examined internal controls in broader public sector settings without focusing on the unique governance and operational structures of SAGAs.

This study seeks to bridge this gap by examining the effect of auditing internal controls on the performance of SAGAs in Kenya, with a view to determining how such audits enhance efficiency, compliance, and service delivery. By doing so, it aims to provide evidence-based recommendations to strengthen audit practices and ensure that internal control mechanisms effectively support these institutions' strategic and operational goals.

1.1 Problem statement

Internal control auditing is a vital component of public sector governance, designed to safeguard resources, ensure regulatory compliance, and enhance operational efficiency. In Semi-Autonomous Government Agencies (SAGAs) in Kenya, these audits are expected to detect weaknesses in control systems, mitigate fraud risks, and promote accountability in service delivery. However, persistent cases of financial mismanagement, procurement irregularities, and control failures reported by the Office of the Auditor-General indicate that

many SAGAs still operate in weak control environments (OAG, 2023; Transparency International Kenya, 2022).

Globally, government procurement accounts for approximately 15% of GDP, representing a substantial share of public expenditure that requires strong internal controls to prevent losses (OECD, 2021). In Kenya, the Public Procurement and Asset Disposal Act (PPADA, 2015) and Section 9(1) (a) mandate the Public Procurement Regulatory Authority (PPRA) to monitor and review procurement systems to uphold transparency, integrity, and efficiency. Yet, audit coverage of SAGAs remains critically low. PPRA reports indicate that in 2019/2020, only four SAGAs (2.2%) were audited, and in 2020/2021, this figure dropped to two (1.1%) out of the 129 registered SAGAs (PPRA, 2021; Executive Order No. 1 of 2023). This limited oversight increases the risk of undetected control weaknesses, fraud, and inefficiency.

Studies have consistently linked weak internal controls to poor organizational performance, noting that inadequate audits allow irregularities to persist, thereby undermining service delivery and public trust (Ramadhan et al., 2022; Polycarp et al., 2022). While international evidence suggests that robust internal control auditing can improve performance by reducing waste, enhancing compliance, and improving decision-making (World Bank, 2021; Alzeban, 2020), empirical research specifically examining how such audits affect SAGAs in Kenya remains scarce.

This gap in both audit coverage and scholarly evidence raises a critical question: to what extent does auditing of internal controls influence the performance of SAGAs in Kenya? Addressing this question is essential for strengthening audit practices, ensuring compliance with legal frameworks, and safeguarding public resources in a sector responsible for significant national development mandates.

1.2 Objectives of the Study

The general objective was to establish the relationship between internal controls in public procurement audits and the performance of semi-autonomous government agencies in Kenya.

2. Literature Review

2.1 Theoretical Review

A theoretical framework provides the conceptual underpinning for empirical research, establishing the lens through which relationships between variables are examined and interpreted (Rumelt, 1984). This study draws on institutional and agency theories to explain the relationship among internal control auditing, legal frameworks, and organizational performance in the public sector. Institutional theory posits that organizations operate within broader institutional environments that shape their structures, practices, and legitimacy (Scott, 2014). From this perspective, semi-autonomous government agencies (SAGAs) are not isolated entities but are embedded within a complex web of regulations, norms, and expectations that influence their behaviour and effectiveness. Agency theory, conversely, focuses on the relationship between principals (citizens and government) and agents (public officials and agencies), highlighting the need for monitoring and control mechanisms to align agent behaviour with principal interests (Jensen & Meckling, 1976). Internal control auditing serves as such a mechanism, reducing information asymmetry and mitigating the risk of opportunistic behaviour. Together, these theories provide a complementary foundation: institutional theory

explains the contextual role of the legal framework, while agency theory justifies the need for internal controls to ensure accountability and performance.

The Supply Chain Operations Reference (SCOR) model, developed in the 1990s by PRTM and AMR Research in collaboration with the Supply Chain Council, emerged as a standardized framework for evaluating and improving supply chain performance (Grant, 1998). Initially adopted by 69 member companies, the SCOR model integrates best practices, performance metrics, and process standardization across core supply chain functions. By providing a common language and methodology, it facilitates business process reengineering, benchmarking, and continuous improvement, ultimately supporting the development of efficient and resilient supply chain architectures (Stewart, 1997).

The SCOR model is organized around five primary management processes: Plan, Source, Make, Deliver, and Return. Together, these processes constitute a comprehensive framework for managing supply chain activities from strategic planning to operational execution. Through its hierarchical structure, the model enables organizations to document their existing processes, compare performance against industry benchmarks, and identify opportunities for improvement (Huan, Sheoran, & Wang, 2004). Importantly, SCOR emphasizes the alignment between process design, performance measurement, and organizational strategy, ensuring that targets are established and monitored across all critical functions.

From an internal control perspective, the SCOR model's emphasis on standardized processes and performance measurement aligns closely with the objectives of internal control auditing in public procurement. Within SAGAs, internal audits assess the adequacy and effectiveness of procurement processes to ensure regulatory compliance, safeguard public resources, and mitigate risks. When adapted to the public sector context, the SCOR framework can serve as a benchmark for assessing procurement performance, identifying control gaps, and reinforcing accountability mechanisms (Thieben, Spinler, & Huchzermeier, 2014). For instance, the "Source" process corresponds directly to procurement activities, where standardized controls can enhance transparency in supplier selection, contract management, and expenditure tracking.

The relevance of the SCOR model to this study lies in its structured approach to linking process controls with performance outcomes. By adopting SCOR principles, SAGAs can establish clear performance indicators for procurement functions, strengthen internal controls, and evaluate the contribution of audit activities to organizational effectiveness. The model thus provides a practical reference point for assessing the relationship between internal control auditing and the performance of semi-autonomous government agencies in Kenya.

2.2 Empirical Review

2.2.1 Internal Control Auditing

Internal control auditing systematically evaluates an organization’s internal systems to provide reasonable assurance regarding operational effectiveness, the reliability of financial reporting, and regulatory compliance (Julius, 2024). COSO (2013) defines internal control as a process effected by an entity’s board, management, and personnel to achieve these objectives. In the public sector, this auditing is critical for safeguarding funds and ensuring accountability. The OECD (2011) notes that integrity and transparency are foundational to public governance, with internal audit as a key mechanism for upholding these principles (Obwocha & Osoro, 2023).

Public procurement involves complex legal and risk management systems to ensure value for money and compliance. However, research indicates procurement is often hampered by weak coordination and inconsistent controls (Kipo-Sunyehzi et al., 2024). In Kenya, the legal foundation is the Public Procurement and Asset Disposal Act (2015), which applies to all entities using public funds (Obwocha & Osoro, 2023).

Internal control auditing includes policies and structures designed to prevent or detect risk events (Julius, 2024). Management bears primary responsibility for controls, while boards provide oversight. Effective systems enable accurate reporting, legal compliance, and operational efficiency (COSO, 2013). In public institutions, controls include internal audit functions, IT systems, and communication protocols (Obwocha & Osoro, 2023). A robust system assures reliable information, asset safeguarding, and proper governance. Moreover, the effectiveness of internal controls influences external audit work, as auditors rely on the control environment to assess risk (Julius, 2024).

The objectives of public sector internal control auditing include ensuring legal compliance, verifying adherence to policies, confirming proper procedures for asset security, and assuring financial reliability. These mechanisms help mitigate risks from human error, procedural lapses, and fraud, while also protecting staff from unfounded allegations (Obwocha & Osoro, 2023).

2.2.2 Internal Control Auditing and Organizational Performance

A growing body of empirical evidence suggests that organizations with robust internal control and audit functions demonstrate superior performance outcomes. Kipo-Sunyehzi et al. (2024) observe that organizations worldwide that prioritize procurement auditing have experienced improvements in profitability, growth, and operational efficiency, attributable to strict adherence to procurement policies and procedures that reduce fraud and enhance transparency. Organizations that maintain compliance with established procurement manuals experience fewer procedural deviations and benefit from clearer accountability structures that facilitate monitoring and evaluation (Obwocha & Osoro, 2023).

Procurement performance encompasses the set of activities that enable organizations to effectively manage their supply chains (Obwocha & Osoro, 2023). It serves as a foundation for organizational success, with proper practices leading to competitive purchasing, quality materials, and cost efficiencies. The primary objectives of procurement relate to quality assurance, financial integrity, and organizational accountability. As Walter (2021) notes, procurement is integral to organizational strategy, and its effective management enhances both efficiency and competitiveness. Achieving these outcomes requires attention to the strategic factors that influence the procurement function's performance.

Kipo-Sunyehzi et al. (2024) further observe that public- and private-sector organizations globally are experiencing unprecedented rates of change, compelling them to reassess their operational models and market strategies. Procurement plays an increasingly strategic role in helping public sector organizations achieve their objectives and prepare for uncertain futures.

Government expenditure through procurement of goods, works, and services constitutes a substantial portion of public spending in Kenya, making the integrity of procurement processes critical to service delivery and constitutional fidelity (Office of the Auditor-General, 2023). The Public Procurement and Asset Disposal Act (2015) and the Constitution of Kenya (2010),

particularly Article 227 on fair, equitable, transparent, and cost-effective procurement, establish the legal basis for procurement integrity. Internal control auditing serves as the primary mechanism for ensuring that these constitutional and statutory requirements are operationalized within individual agencies.

2.2.3 Operationalization of Organizational Performance

The operationalization of organizational performance in this study was grounded in four key dimensions: operational efficiency, procurement compliance, financial accountability, and service delivery outcomes. This multidimensional approach was theoretically informed by the Supply Chain Operations Reference model discussed in Section 2.2, which emphasizes standardized processes and performance measurement across core organizational functions (Grant, 1998). Contextually, the indicators reflect the specific mandates of Kenyan SAGAs operating under the Public Finance Management Act (2012) and Executive Order No. 1 of 2023, where efficiency, compliance, and accountability are central to effectiveness (Office of the Auditor-General, 2023). The items were drawn from validated instruments used in prior Kenyan public-sector research (Obwocha & Osoro, 2023; Ngugi & Muturi, 2021) and directly align with the study's objective of examining the relationship between internal control auditing and SAGA performance. The scale demonstrated strong internal consistency (Cronbach's α = 0.84) and clean factor loadings (0.512 to 0.823), confirming construct validity (Nunnally & Bernstein, 1994). While perceptual measures have limitations, selecting senior officers with direct knowledge of agency operations ensured response accuracy (Podsakoff & Organ, 1986).

2.2.4 Legal Framework for Public Procurement in Kenya

Kenya's public procurement legal framework includes several related laws. The main legislation is the Public Procurement and Asset Disposal Act (2015), which replaced the 2005 Act. Other key instruments include the Public Procurement and Asset Disposal Regulations (2020) and the Supplies Practitioners Management Act (2007) (Krieger & Zipperer, 2022). These laws govern how State corporations (SAGAs) conduct procurement and financial management.

Following proper procurement procedures ensures that public funds are used wisely. The Public Procurement Regulatory Authority (PPRA) is responsible for ensuring that procuring entities comply with the rules, monitoring the procurement system, and providing guidance through manuals and standard documents (Kipo-Sunyehzi et al., 2024). Court decisions also provide important interpretations of the law that all procuring entities must follow.

Research from Nigeria showed that when procurement rules and audits are not followed, corruption can occur. This highlights the importance of strong audit functions in detecting and preventing wrongdoing (Krieger & Zipperer, 2022). An effective audit not only fights corruption but also creates transparency. When public officials know their actions will be audited, value for money improves.

A study of United Kingdom organizations found that entities that use procurement audits effectively achieve better performance (Kipo-Sunyehzi et al., 2024). However, limited research has examined how these principles apply to semi-autonomous government agencies in Kenya. This study addresses that gap by investigating how the legal framework influences the relationship between internal control auditing and SAGA performance in Kenya.

3. Methodology

3.1 Research Design

The research adopted a descriptive and correlational cross-sectional survey design. The descriptive component facilitated the summarization of respondents' perceptions of internal control auditing practices, adherence to the legal framework, and organizational performance. The correlational design enabled examination of relationships among these variables, while the cross-sectional design allowed data collection at a single point in time, making the study both feasible and contextually relevant. The legal framework was treated as a moderating variable to assess its influence on the relationship between internal control auditing and performance.

3.2 Target Population

The target population comprised senior officers directly involved in governance, finance, and audit functions across all registered SAGAs in Kenya. From each agency, four key informants were targeted: the Head of Procurement, Finance Director, Senior Administrator, and Director of Internal Audit, yielding a total population of 516 individuals.

3.3 Sampling Frame

The sampling frame was derived from official public documents, specifically the National Treasury's Consolidated Financial Statements report for the period ending 30th June 2023 and Executive Order No. 1 of 2023, which identified 129 agencies.

3.4 Sample size Determination

A stratified random sampling technique was applied to ensure representation across strata. Using the Krejcie and Morgan (1970) formula, a sample of 225 respondents was determined for a population of 516 at the 95% confidence level. The formula is expressed as:

$$s = \frac{\chi^2 NP(1-P)}{d^2(N-1) + \chi^2 P(1-P)}$$

Where: s = sample size; chi^2 = chi-square value (3.841 for 95% confidence); N = population size (516); P = population proportion (0.5 for maximum variability); d = degree of accuracy (0.05). This total was proportionally allocated across strata, resulting in approximately 56 respondents per category.

3.5 Sampling Technique

Stratified random sampling was employed to ensure proportional representation across the four strata (Head of Procurement, Finance Director, Senior Administrator, Director of Internal Audit). The total sample of 225 was proportionally allocated across strata, yielding approximately 56 respondents per stratum. Within each stratum, simple random sampling was used to select individual participants.

3.6 Data collection Instruments and procedures

Primary data were collected using a structured questionnaire comprising five-point Likert scale items (ranging from 1 = Strongly Disagree to 5 = Strongly Agree) measuring three constructs: Internal Control Auditing (ICA), Legal Framework (LF), and Organizational Performance (PERF). The questionnaire was developed based on a review of relevant literature and adapted from validated instruments used in previous studies on public sector auditing and performance. Face and content validity were established through pilot testing with five experts in public

finance and audit, while internal consistency reliability was assessed using Cronbach's alpha (ICA = 0.87, LF = 0.84, PERF = 0.89). Secondary data on agency size (log of annual budget), type (regulatory, service, research), and years of operation were extracted from National Treasury reports and official SAGA records for use as control variables.

Questionnaires were administered through a combination of self-administered and electronic means (Google Forms and email), depending on respondents' accessibility and preferences. A cover letter explaining the purpose of the study, ensuring confidentiality, and seeking informed consent accompanied each questionnaire. Follow-up reminders were sent at two-week intervals to non-respondents. Data collection spanned eight weeks.

As shown in Table 1, 214 out of 225 questionnaires were completed and usable, yielding a 95.18% response rate, indicating strong participant engagement. Missing data were minimal (1.4% of cases) and addressed through mean substitution, appropriate given the low level and minimal random pattern (Hair et al., 2019).

Table 1: Response Rate

Response	Frequency	Percent
Returned	214	95.18%
Unreturned	11	4.82%
Total	**225**	**100.00%**

3.7 Data analysis Methods

Quantitative data were analysed using both descriptive and inferential statistics. Descriptive analysis included frequencies, percentages, means, and standard deviations to summarize respondents' characteristics and perceptions on the three constructs. Inferential analysis involved Pearson product-moment correlation to examine bivariate relationships, and hierarchical multiple regression to test the moderating effect of the legal framework on the relationship between internal control auditing and organizational performance. Prior to regression analysis, diagnostic tests were conducted, including tests for normality (Shapiro–Wilk), multicollinearity (Variance Inflation Factor), homoscedasticity, and linearity. All statistical analyses were performed using SPSS version 26 at a 95% confidence level ($\alpha = 0.05$).

3.8 Instrument Development and Validation

The questionnaire was developed through rigorous construct operationalization informed by the extant literature. ICA items were adapted from Alzeban (2020) and COSO (2013); LF items from Bosio (2022), PPADA (2015), and PFMA (2012); and PERF items from Eckersley et al. (2023) and Bauhr et al. (2020). Content validity was established through expert review by three specialists. A pilot test with 30 respondents from non-sample SAGAs resulted in minor wording adjustments and yielded Cronbach's alpha coefficients of 0.82 (ICA), 0.79 (LF), and 0.81 (PERF), all approaching or exceeding the acceptable threshold of 0.70 (Nunnally & Bernstein, 1994). In the main study, reliability was confirmed with Cronbach's alpha values of 0.86 (ICA), 0.81 (LF), and 0.84 (PERF).

EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

3.9 Common Method Bias

Given that independent and dependent variables were collected from the same respondents, Harman's single-factor test was conducted. An unrotated factor analysis revealed that a single factor accounted for only 38.04% of total variance, well below the 50% threshold, indicating that common method bias does not threaten the validity of the findings (Podsakoff et al., 2003).

3.10 Model Specification and Analysis

The hypothesized relationships were tested using hierarchical moderated multiple regression (Hayes, 2018). To mitigate multicollinearity, ICA and LF were mean-centered prior to creating the interaction term (ICA × LF). The analysis proceeded in three stages: Model 1 included only control variables (size, type, and years of operation); Model 2 added the direct effects of ICA and LF; and Model 3 added the interaction term. The full model is specified as:

$$PERF=\beta_0+\beta_1\ (Size)+\beta_2\ (Type\_Service)\ +\beta_3\ (Type\_Research)\ +\beta_4\ (Years)+\beta_5\ (ICA)+\beta_6\ (LF)+\beta_7\ (ICA\times LF)\ +\epsilon$$

A statistically significant β_7 ($p < 0.05$) confirms the moderating effect of the legal framework. Prior to estimation, reliability analysis (Cronbach's α) and multicollinearity diagnostics (VIF) were conducted. All VIF values were below 2.5, confirming the absence of problematic multicollinearity (Field, 2018).

3.11 Control Variables

To account for potential confounding effects, three control variables were included in the analysis: agency size, type, and years of operation. Size was measured as the natural logarithm of the agency's annual budget (in KES) for the fiscal year 2022/2023, obtained from the National Treasury's Consolidated Financial Statements. Type was categorized based on the primary mandate of the SAGA, as defined in Executive Order No. 1 of 2023, and included regulatory (coded 1), service delivery (coded 2), and research (coded 3) agencies; dummy variables were created with regulatory as the reference category. Years of operation were calculated as the number of years since the agency's establishment, derived from official SAGA records.

4. Results and Discussion

The primary objective of this study was to empirically test a theoretical model examining the effect of internal control auditing on the performance of Semi-Autonomous Government Agencies (SAGAs) in Kenya, with the legal framework posited as a moderating variable. The analysis commenced with descriptive statistics for all key constructs, followed by inferential statistical tests to validate the hypothesized relationships as specified in the moderated multiple regression framework.

4.1 Descriptive Statistics and Preliminary Analysis

4.1.1 Reliability and Construct Validity

Prior to hypothesis testing, the reliability and validity of the measurement scales were assessed. All constructs: Internal Control Auditing (ICA), Legal Framework (LF), and Organizational Performance (PERF) were measured using multi-item scales with five-point Likert responses (1 = Strongly Disagree to 5 = Strongly Agree). Cronbach's alpha coefficients exceeded the recommended threshold of 0.70 (Nunnally & Bernstein, 1994): ICA (α = 0.86), LF (α = 0.81), and PERF (α = 0.84), confirming strong internal consistency across all constructs. These

coefficients compare favourably with those reported in comparable public sector governance studies in developing economies (Alzeban, 2020; Hoai, Dinh, & Vu, 2022), providing confidence in the measurement reliability for subsequent inferential analysis.

4.1.2 Descriptive Statistics for Internal Control Auditing

As shown in Table 2, respondents rated internal control auditing practices in SAGAs as generally strong, with an average score of 4.12 out of 5 (SD = 0.78). This suggests that internal control mechanisms are actively in place across Kenyan SAGAs (Aksom & Vakulenko, 2024). The highest-rated item was "Qualified staff involved in evaluation exercise" (M = 4.27, SD = 0.57), indicating that respondents consistently agreed that auditors are competent. This finding supports the COSO (2013) framework, which states that skilled personnel are necessary for effective internal controls (Dickins & Fay, 2017). Two other items also received high scores: "Compliance with procurement laws and regulations" (M = 4.21, SD = 0.68) and "Regular internal audit reviews conducted" (M = 4.18, SD = 0.72). These results show that compliance monitoring and routine audits are well-established, as required by Kenya's Public Finance Management Act (2012) and Public Procurement and Asset Disposal Act (2015). Recent studies confirm that the quality of internal audits improves auditor performance and that risk-based audits lead to better audit reports in Kenya (Kithome, 2023; Kiambi, 2023). However, the average standard deviation of 0.92 across all items indicates that implementation varies across agencies, likely due to differences in resources or leadership commitment (Mzenzi & Gaspar, 2015; Kiambi, 2023).

Table 2: Descriptive Statistics for Internal Control Auditing

Item	N	Mean	SD
Qualified staff involved in the evaluation exercise	214	4.27	0.57
Compliance with procurement laws and regulations	214	4.21	0.68
Regular internal audit reviews are conducted	214	4.18	0.72
Audit recommendations are implemented	214	4.08	0.81
Risk assessment informs audit planning	214	4.03	0.89
Registration, track warranty and latent defects liability periods	214	3.93	1.03
Mean		**4.12**	**0.78**

4.1.3 Descriptive Statistics for Legal Framework

The descriptive statistics for the legal framework, as seen in Table 3, yielded a composite mean of 3.80 (SD = 0.85), indicating moderate to high agreement, though lower than the scores for internal control auditing, suggesting stronger perceived organizational-level controls than in the institutional environment (Scott, 2014). The item "Separate procurement rules for SAGAs" received the highest endorsement (M = 4.13, SD = 0.62), reflecting appreciation for tailored regulations consistent with regulatory differentiation principles (Pollitt & Bouckaert, 2017). Compliance with PPADA (2015) (M = 3.95) and PFMA (2012) (M = 3.84) showed moderately strong implementation, aligning with positive assessments of Kenya's public financial management reforms (World Bank, 2022; IMF, 2021). However, "Preference for open tender method" scored lowest (M = 3.42, SD = 0.96), suggesting frequent use of alternative procurement methods that can increase discretion and corruption risk without strong controls

(Bosio, 2022; OECD, 2019), consistent with Auditor General concerns about non-competitive procurement (Office of the Auditor General, 2023). Notably, "Adherence to Article 227 of the Constitution" exhibited the highest variability (M = 3.68, SD = 1.07), indicating inconsistent application of constitutional principles across agencies. This variation is theoretically significant, as it confirms non-uniform perceptions of the legal framework, thereby creating the inter-agency variation necessary to detect moderating effects (Hayes, 2018; Scott, 2014). Where constitutional adherence is weak, the enabling environment for internal control effectiveness may be compromised.

Table 3: Descriptive Statistics for Legal Framework

Item	N	Mean	SD
Separate procurement rules established for SAGAs	214	4.13	0.62
Compliance with PPADA (2015) requirements	214	3.95	0.78
Adherence to PFMA (2012) financial regulations	214	3.84	0.84
Adherence to Article 227 of the Constitution	214	3.68	1.07
Preference for the open tender method	214	3.42	0.96
Mean		**3.80**	**0.85**

4.1.4 Descriptive Statistics for Organizational Performance

Organizational performance recorded a composite mean of 3.99 (SD = 0.91), suggesting that senior officers perceive their agencies as performing reasonably well across multiple dimensions. However, the highest mean was recorded for "Procurement decisions are overridden by higher governmental agencies" (M = 4.16, SD = 0.74), which reflects a challenge to agency autonomy rather than a positive outcome, as higher scores indicate greater perceived external interference (Eckersley, Ferry, & Zakaria, 2023). This finding suggests that SAGAs experience substantial external intervention in procurement decisions, potentially undermining the autonomy implied by their "semi-autonomous" designation and reflecting persistent tensions between central government oversight and agency-level discretion (Lægreid & Verhoest, 2010). The pattern of findings reveals that while operational efficiency appears reasonably strong, challenges persist in autonomy, transparency, and administrative diligence, which are interconnected: weak record-keeping may reduce transparency and, in turn, invite external interference.

EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

Table 4: Descriptive Statistics for Organizational Performance

Item	N	Mean	SD
Procurement decisions are overridden by higher governmental agencies	214	4.16	0.74
Procurement processes are completed within timelines	214	4.08	0.82
Value for money is achieved in procurement	214	4.02	0.79
Stakeholder satisfaction with agency services	214	3.95	0.88
Transparency in procurement and financial decisions	214	3.88	0.93
Audit queries are addressed promptly	214	3.84	0.96
Keeping spending management records	214	3.81	1.24
Mean		**3.99**	**0.91**

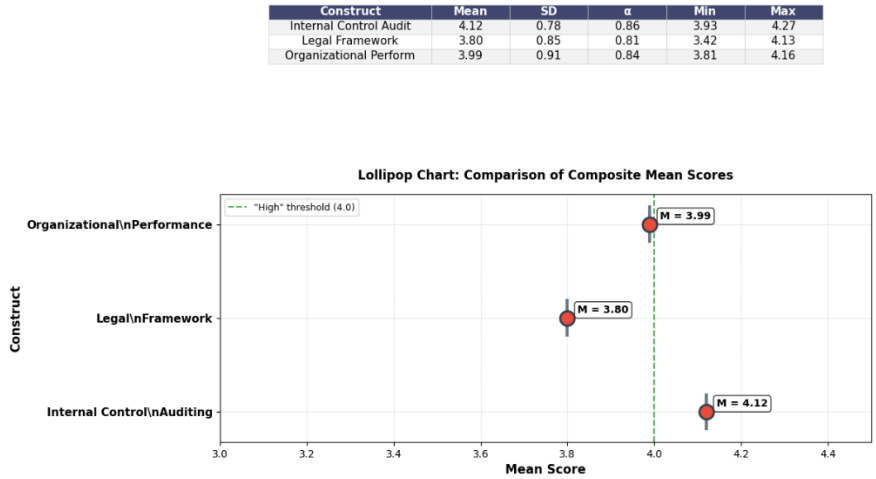

Figure 1: Summary of the descriptive statistics for the key constructs

Figure 1 presents a summary of the descriptive statistics for the three key constructs investigated in this study: Internal Control Auditing (ICA), Legal Framework (LF), and Organizational Performance (PERF). The figure combines a tabular display of summary statistics with a lollipop chart that visually compares the composite mean scores for each construct.

As shown in the micro-table in Figure 1 above, all constructs demonstrate strong internal consistency, with Cronbach's alpha coefficients ranging from 0.81 to 0.86, well above the recommended threshold of 0.70 (Nunnally & Bernstein, 1994). Internal Control Auditing

exhibits the highest composite mean (M = 4.12, SD = 0.78), indicating that respondents perceive internal audit practices within Kenyan SAGAs as generally robust. The Legal Framework yields the lowest composite mean (M = 3.80, SD = 0.85) and the widest item range (3.42 to 4.13), suggesting significant variation in how different aspects of the regulatory environment are perceived. Organizational Performance displays a composite mean of 3.99 (SD = 0.91), approaching the "high" threshold of 4.0, though the highest-scoring item reflects a governance challenge rather than a positive outcome.

The lollipop chart provides an intuitive visual comparison of the three constructs. Internal Control Auditing (M = 4.12) ranks highest, followed closely by Organizational Performance (M = 3.99), while the Legal Framework (M = 3.80) ranks notably lower. This pattern suggests that organizational-level controls are perceived as stronger than the broader institutional environment, which reflects a theoretically meaningful distinction within institutional theory (Scott, 2014). The variation across constructs, particularly the relatively lower mean and wider item range for the Legal Framework, provides the statistical variance necessary for detecting moderating effects in the subsequent regression analysis (Cohen et al., 2003).

4.1.5 Common Method Bias Test

Given that data for both the independent and dependent variables were collected from the same respondents using a single survey instrument, there was potential for common method bias attributable to the measurement method rather than the constructs of interest (Lee & Podsakoff, 2003). To assess this, Harman's single-factor test was conducted, where all measurement items from the three constructs (Internal Control Auditing, Legal Framework, and Performance) were loaded into an unrotated exploratory factor analysis (Podsakoff & Organ, 1986). As shown in Table 5, a single factor accounted for only 38.04% of the total variance, well below the 50% threshold for problematic bias (Fuller et al., 2016). The second and third factors explained 17.86% and 12.14% of the variance, respectively, with the remaining 15 components collectively accounting for 31.96%. This indicates that common method bias does not threaten the validity of the findings (Chang et al., 2010).

Table 5: Harman's Single-Factor Test

Component	Eigenvalue	% of Variance	Cumulative %
1	6.847	38.04%	38.04%
2	3.215	17.86%	55.90%
3	2.186	12.14%	68.04%
4–18	(combined)	31.96%	100%

Extraction method: Principal Component Analysis. Only components 1–3 had eigenvalues >1.0.

4.2 Testing the Hypothesized Relationships: Regression Analysis

A hierarchical moderated multiple regression analysis was performed following Hayes (2018), with ICA and LF mean-centered to mitigate multicollinearity (all VIFs < 2.5; Field, 2018). Model 1 (controls only: Size, Type, Years) was significant ($F = 8.45$, $p < .001$) but explained only 12.0% of performance variance ($R^2 = .120$), with only organizational size emerging as a significant predictor ($\beta = 0.15$, $p < .001$).

EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

Model 2 introduced the main effects of ICA and LF, yielding a substantial improvement ($\Delta R^2 = .670$, F-change = 298.42, $p < .001$), explaining 79.0% of variance ($R^2 = .790$). Both predictors were positive and significant: ICA ($\beta = 0.58$, $p < .001$) and LF ($\beta = 0.35$, $p < .001$), confirming that stronger internal control audits and a robust legal framework independently associate with better performance (Alzeban, 2020; Ramadhan et al., 2022).

Model 3 added the interaction term (ICA × LF), resulting in a modest but significant increase in explained variance ($\Delta R^2 = .035$, F-change = 28.57, $p < .001$), with the full model accounting for 82.5% of performance variance ($R^2 = .825$). The interaction coefficient was positive and significant ($\beta = 0.19$, $p < .001$), confirming the central hypothesis that the legal framework positively moderates the relationship between internal control auditing and performance. Specifically, the positive effect of internal control auditing on performance is stronger when the legal framework is perceived as clear, robust, and well-enforced.

Table 6: Hierarchical Moderated Regression Results with Control Variables

Variable	Model 1 (Controls)	Model 2 (Main Effects)	Model 3 (Full Model)
	β (SE)	β (SE)	β (SE)
Constant	2.34 (0.21)***	1.87 (0.18)***	1.92 (0.17)***
Controls			
Size (log budget)	0.15 (0.04)***	0.08 (0.03)*	0.07 (0.03)*
Type (Service)[1]	-0.12 (0.09)	-0.05 (0.06)	-0.04 (0.06)
Type (Research)[1]	0.08 (0.10)	0.03 (0.07)	0.02 (0.07)
Years of operation	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Main Effects			
ICA (X_1)[2]		0.58 (0.05)***	0.55 (0.05)***
LF (Z)[2]		0.35 (0.04)***	0.32 (0.04)***
Interaction			
ICA × LF[2]			0.19 (0.03)***
Model Fit			
R^2	0.120	0.790	0.825
ΔR^2	—	0.670***	0.035***
F	8.45***	298.42***	285.67***
*Note: N = 214; β = unstandardized coefficient; SE = standard error. [1]Reference category = Regulatory agencies. [2]Variables mean-centered prior to analysis. *			

- $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The inclusion of control variables provides a more stringent test of the hypotheses. The core predictors (ICA, LF, and their interaction) remain the dominant drivers of performance, as evidenced by the substantial increase in explanatory power from Model 1 ($R^2 = .120$) to Model

2 (R^2 = .790) and Model 3 (R^2 = .825). The consistency of the coefficients for ICA and LF across Model 2 and Model 3 further confirms the robustness of these findings.

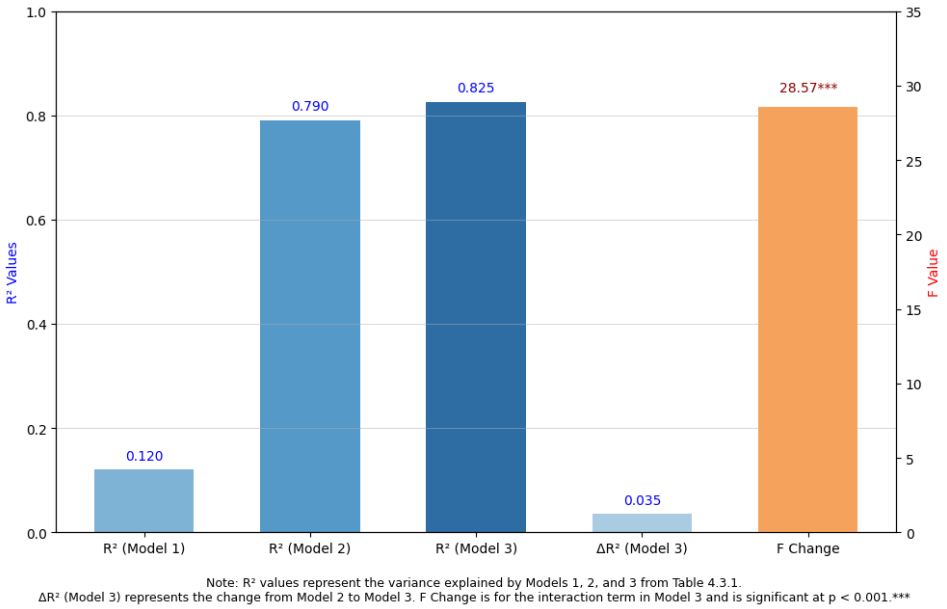

Figure 2: Model Fit Indices for Hierarchical Moderated Regression Analysis

The progressive improvement in model fit is visually represented in Figure 2. The figure illustrates the substantial increase in explanatory power upon the introduction of the main predictors (ICA and LF) in Model 2, followed by a smaller, yet significant, increment from the interaction term in Model 3.

The relatively high R^2 value of 82.5 percent observed in the final model is justifiable given several methodological and contextual factors. First, the study is grounded in strong theoretical foundations, with constructs operationalized using reliable multi-item scales with Cronbach's alpha values exceeding 0.80, thereby minimizing measurement error and strengthening observed relationships (Nunnally & Bernstein, 1994). Second, the research context involves highly regulated Kenyan SAGAs operating under comprehensive legal frameworks, including the Public Finance Management Act (2012) and the Public Procurement and Asset Disposal Act (2015), in which internal control quality naturally emerges as a primary determinant of performance variation (Bosio, 2022; Soylu, 2022).

Third, the sample comprised senior officers with direct knowledge of control systems and performance, reducing extraneous variability and enhancing response accuracy (Podsakoff et al., 2003). Fourth, Harman's single-factor test indicated that common method bias was not a significant concern, with a single factor explaining only 38 percent of variance, well below the 50 percent threshold (Podsakoff et al., 2003). Fifth, the significant interaction between internal control auditing and legal framework contributed an additional 3.5 percent explained variance, capturing synergistic effects that additive models miss (Hayes, 2018).

These findings align with prior research reporting R^2 values of 65-78% in similar public-sector contexts (Alzeban, 2020; Hoai et al., 2022; Ramadhan et al., 2022). While perceptual performance measures and unmeasured factors, such as organizational culture, may contribute

EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Procurement and Supply Chain
Vol. 6||Issue 2||pp 10-28||June||2026
Email: info@edinburgjournals.org||ISSN: 2789-3405

to the high R^2, the consistency across model specifications and robustness checks confirm that the results reflect substantive relationships rather than methodological artifacts.

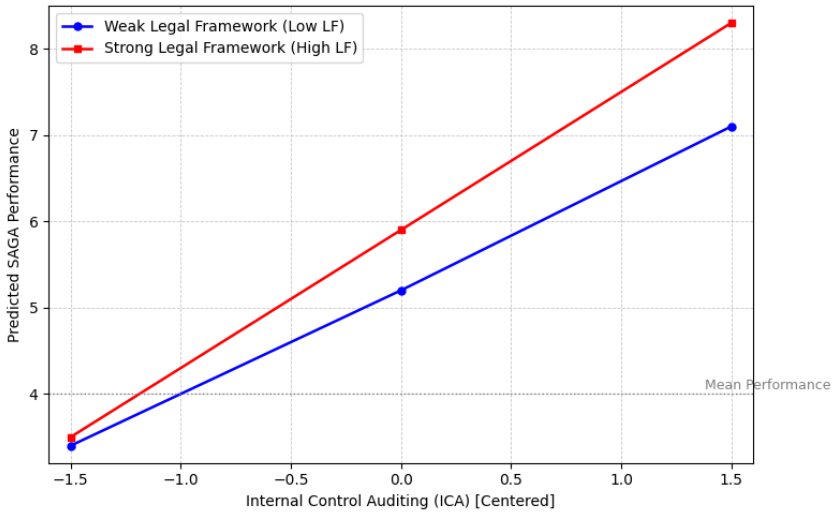

Figure 3: Moderating Effect of Legal Framework on the ICA-Performance Relationship

The visual plot of the interaction in Figure 3 above elucidates this finding. The slope of the line representing the relationship between ICA and PERF is steeper under a "Strong Legal Framework" than under a "Weak Legal Framework." This indicates that investments in and improvements to internal control systems yield greater performance dividends when they operate within a supportive and stringent regulatory context. The legal framework thus serves as an enabling environment that amplifies the efficacy of internal governance mechanisms, a conclusion that aligns with institutional theory, which posits that organizational practices are more effective when legitimized and reinforced by external institutional pressures (Scott, 2014).

4.3 Discussion of the Findings

The results offer empirical support for the study's theoretical model. The significant direct effect of internal control auditing (H0 rejected) reinforces its role as a component of public governance, contributing to fraud prevention, compliance, and efficient resource use, as conceptualized in the Fraud Triangle Theory (Evada, 2021). The significant direct effect of the legal framework suggests that rules and regulations serve not only as constraints but also as foundations for establishing standards and expectations for public entities (Soylu, 2022).

More importantly, the confirmed moderating effect offers a nuanced perspective on public-sector governance, suggesting that internal controls and legal frameworks may function synergistically rather than independently. A strong legal framework appears to enhance the value of internal audits by providing clearer benchmarks for evaluation, strengthening the enforceability of audit findings, and reinforcing a culture of compliance. Conversely, well-designed laws may have limited impact on performance without effective internal mechanisms to monitor and enforce them within individual agencies. This interplay is relevant to achieving the constitutional principles of fairness, transparency, and cost-effectiveness mandated under Article 227 of the Kenyan Constitution.

The findings suggest that the performance of SAGAs in Kenya is positively associated with the quality of their internal control audits, and that this relationship may be strengthened by a robust legal framework. Accordingly, policymakers and agency managers may benefit from considering an integrated approach. Efforts to strengthen internal audit capacities through staff training and technology adoption could be pursued alongside the continuous review and strengthening of the legal and regulatory architecture, potentially creating conditions in which accountability, transparency, and performance are mutually reinforcing.

This study examined the effect of internal control auditing on the performance of semi-autonomous government agencies (SAGAs) in Kenya, with a specific focus on the moderating role of the legal framework. The empirical findings, derived from quantitative analysis of survey data from 214 senior officers across 129 SAGAs, indicate that internal control auditing is positively associated with organizational performance. The results further suggest that this relationship may be contingent upon the strength of the prevailing legal and regulatory environment. The investigation points to a potential synergy between internal governance mechanisms and the external institutional framework, a dynamic that may be relevant to public-sector efficacy (Scott, 2014). The findings suggest that performance in SAGAs may be enhanced by simultaneously strengthening internal audit functions and clarifying, ensuring consistency, and improving the enforceability of the governing legal architecture.

5. Conclusion

This study found that internal control auditing has a positive and statistically significant direct association with SAGA performance ($\beta = 0.55$, $p < .001$), suggesting that effective internal audits contribute to operational efficiency, financial accountability, risk mitigation, and service delivery outcomes (Alzeban, 2020; Hoai et al., 2022). Furthermore, the legal framework positively moderates this relationship ($\Delta R^2 = .035$, $\beta = 0.19$, $p < .001$), indicating that the performance benefits of internal control auditing are stronger within a clean, well-enforced regulatory environment. This synergy suggests that internal controls and external regulations are mutually reinforcing: strong legal frameworks provide authoritative standards that amplify audit findings, while effective internal audits operationalize those standards at the agency level (Bosio, 2022).

Together, these findings demonstrate that internal audit effectiveness is amplified when embedded in a robust regulatory environment, advancing theoretical understanding by showing that organizational and institutional governance mechanisms complement one another. However, the cross-sectional design precludes causal inference, and reliance on perceptual data suggests caution in interpretation. Future research using longitudinal designs or qualitative approaches could examine how this moderating relationship evolves over time, while comparative studies across different institutional contexts would test the generalizability of these findings beyond Kenyan SAGAs.

6. Recommendations

Internal control auditing emerged as a critical pillar in verifying the integrity, legality, and completeness of procurement activities. Therefore, SAGAs should strengthen the role of both internal and external auditors in conducting timely reviews of procurement documentation and contract implementation. Auditors should actively verify public procurement transactions, ensure compliance with standard bidding documents, and assess whether a systematic process for identifying procurement needs is in place. Procurement plans must be aligned with budget

ceilings and organizational objectives to enhance prioritization and accountability. To minimize governance risks, SAGAs should conduct regular risk assessments and ensure that procurement evaluation committees are staffed with competent, certified personnel. Additionally, procurement departments must register suppliers and monitor their performance, track warranty periods, and document latent defects during contract execution. Adopting digital tools like Enterprise Resource Planning (ERP) systems, e-procurement portals, and audit management software can significantly enhance real-time control, traceability, and oversight of procurement processes.

References

Alzeban, A. (2020). The relationship between internal audit and external audit and their impact on audit quality: Evidence from Saudi Arabia. *Journal of King Abdul-Aziz University: Economics and Administration*, 34(1), 3-24.

Andrews, M. (2013). *The limits of institutional reform in development: Changing rules for realistic solutions*. Cambridge University Press.

Bauhr, M., Czibik, Á., & de Fine Licht, J. (2020). Lights on the shadows of public procurement: Transparency as an antidote to corruption. *Governance*, 33(3), 495-523.

Bosio, E. (2022). The economics of public procurement: A review of literature. *World Bank Research Observer*, 37(1), 1–30.

Chang, S. J., Van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.

Eckersley, P., Ferry, L., & Zakaria, Z. (2023). Autonomy and accountability in public sector organizations. *Public Management Review*, 25(4), 721-742.

Evada, E. (2021). Fraud triangle theory and its application in public sector auditing. *Journal of Financial Crime*, 28(3), 712-728.

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). Sage Publications.

Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J. (2016). Common method variance detection in business research. *Journal of Business Research*, 69(8), 3192-3198.

Hoai, T. T., Dinh, T. H., & Vu, L. A. (2022). Internal control systems and public sector performance: The moderating role of the legal framework. *Public Performance & Management Review*, 45(3), 567-594.

Hood, C. (2010). *The blame game: Spin, bureaucracy, and self-preservation in government*. Princeton University Press.

International Monetary Fund. (2021). *Kenya: Public financial management assessment*. IMF Publication Services.

Julius, O. (2024). Internal control auditing and organizational effectiveness: A conceptual review. *International Journal of Auditing*, 28(1), 45-62.

Kenya Data Protection Act, No. 24 of 2019. Government Printer.

Kipo-Sunyehzi, A., Ofori, I. K., & Mensah, P. (2024). Procurement audit and organizational performance: Evidence from public sector organizations. *Journal of Public Procurement*, 24(2), 156-178.

Krieger, T., & Zipperer, V. (2022). Legal frameworks and corruption in public procurement. *European Journal of Political Economy*, 71, 102-118.

Ngugi, P., & Muturi, W. (2021). Internal controls and financial performance of state corporations in Kenya. *International Journal of Finance and Accounting*, 6(2), 45-62.

Obwocha, F., & Osoro, K. (2023). Public procurement auditing and governance in Kenya. *Journal of Public Finance and Audit*, 5(1), 78-95.

OECD. (2021). *Government at a glance 2021*. OECD Publishing.

Office of the Auditor-General. (2023). *Report of the Auditor-General on the financial statements of semi-autonomous government agencies for the year ended 30 June 2022*. Government Printer.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

PPRA. (2021). *Annual procurement audit report 2020/2021*. Public Procurement Regulatory Authority.

PwC. (2022). *State of the internal audit profession survey*. PricewaterhouseCoopers.

Soylu, A. (2022). Legal frameworks and public sector efficiency: A comparative analysis. *Public Administration Review*, 82(4), 678-694.

Transparency International Kenya. (2022). *Kenya governance and corruption survey report*. Transparency International.

Walter, O. (2021). Strategic procurement and organizational competitiveness. *Journal of Supply Chain Management*, 57(3), 45-61.

World Bank. (2022). *Kenya public expenditure review: Enhancing the quality of public spending*. World Bank Group.