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**Auditing Integrity of Officers and Performance of Semi-Autonomous Government Agencies in Kenya**



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## Auditing Integrity of Officers and Performance of Semi- Autonomous Government Agencies in Kenya

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### ABSTRACT

**Purpose:** This study examines the impact of auditing integrity on the operational performance of Semi-Autonomous Government Agencies (SAGAs) in Kenya.

**Methodology:** A descriptive research design with a mixed-methods approach was adopted. Primary data were collected from 225 senior officers (heads of procurement, finance directors, senior administrators, and internal audit directors) across 129 SAGAs, selected via stratified random sampling. Structured questionnaires captured quantitative data and qualitative insights on audit practices, supplemented by secondary data from institutional and regulatory documents. Data analysis was conducted using SPSS Version 28, employing descriptive statistics and multiple regression.

**Findings:** Auditing integrity measured through ethical conduct, auditor independence, adherence to audit procedures, reporting transparency, and proactive risk management has a statistically significant positive effect on SAGA operational performance. Integrity-based auditing meaningfully improves regulatory adherence, reduces fraud risk, enhances service delivery, and bolsters stakeholder confidence, with the effect strengthened by a sound legal and institutional environment.

**Unique Contribution to Theory, Policy and Practice:** The study contributes to public sector auditing theory by empirically linking integrity dimensions to agency performance in a developing country context. For policy, it underscores the need for enforceable ethical codes and independence safeguards for auditors in SAGAs. For practice, it provides evidence that embedding integrity within audit functions fosters transparency, operational efficiency, and sustainable performance in Kenya's public sector agencies.

**Keywords:** *Auditing Integrity, Semi-Autonomous Government Agencies, Operational Performance, Kenya*

### **1.1 Background of the study**

The contemporary global economic landscape is characterized by an unprecedented interdependence of markets, organizations, and supply networks, placing the discipline of Supply Chain Management (SCM) at the forefront of strategic operational and academic discourse. SCM is fundamentally the integrated management of cross-functional and cross-organizational flows of products, services, information, and finances from point of origin to point of consumption, with the ultimate objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand, and measuring performance globally (Mentzer et al., 2001; Christopher, 2016). Far beyond a mere logistical function, modern SCM is recognized as a critical strategic capability that drives organizational resilience, sustainability, and competitive advantage in a volatile, uncertain, complex, and ambiguous (VUCA) world (Ivanov, 2021). The Supply Chain Council's SCOR model underscores this by framing the supply chain as a network of interconnected entities collaboratively working to control, manage, and improve these flows. This systemic view has evolved to encompass not just efficiency and cost-reduction, but also robust risk management, digital transformation, ethical sourcing, and circular economy principles, responding dynamically to disruptions ranging from geopolitical shifts and pandemics to new regulatory announcements and changing consumer demands (Katsaliaki et al., 2021; Dubey et al., 2022).

Globally, the academic and practical evolution of SCM reflects its increasing complexity. Initially focused on manufacturing and logistics optimization, the field now integrates insights from information technology, behavioral economics, sustainability science, and data analytics. However, a persistent critique within the scholarly community is that, despite its practical significance, SCM as a discipline has sometimes lagged in developing a cohesive and robust theoretical foundation compared to more established management sciences (Burgess et al., 2006; Wieland et al., 2016). As noted by Anwar et al. (2022), the dynamism of supply chains obligates researchers and practitioners to remain abreast of new conceptual developments, such as the integration of blockchain for traceability, the application of artificial intelligence for predictive analytics, and the principles of supply chain finance, to provide viable solutions for modern challenges.

Within the public sector, and particularly in entities like Semi-Autonomous Government Agencies (SAGAs), the principles of SCM are instantiated primarily through public procurement systems. Procurement is the operational engine of the public sector supply chain, responsible for the acquisition of goods, services, and works vital for service delivery. In this context, the integrity of the procurement process becomes the critical determinant of value for money, equity, and public trust. Integrity, defined as the adherence to ethical principles, honesty, and accountability in decision-making and action, is the bedrock of sound public financial management (OECD, 2017). For auditing officers within SAGAs, integrity transcends personal virtue to become an institutional safeguard.

The Kenyan context provides a pertinent and critical setting for examining this nexus. Following the promulgation of the Constitution of Kenya (2010), which enshrined national values, principles of governance, and public finance management principles, there has been a concerted effort to reform public institutions for greater accountability and transparency. The Public Procurement and Asset Disposal Act (2015) and the establishment of robust oversight bodies like the Ethics and Anti-Corruption Commission (EACC) and the Public Procurement Regulatory Authority (PPRA) created a comprehensive legal architecture intended to curb malpractices. SAGAs, such as the Kenya Revenue Authority (KRA), the Kenya National Highways Authority (KeNHA), and the National Hospital Insurance Fund (NHIF), were established to deliver specific public services with a degree of operational autonomy, aiming for improved efficiency and focus. They manage substantial portions of the national budget and are pivotal to Kenya's development goals, as outlined in successive national plans like the Kenya Vision 2030. While designed for performance, the autonomy of public agencies introduces governance risks, with procurement being a major vulnerability to corruption. In Kenya, Semi-Autonomous Government Agencies (SAGAs) face recurring audit irregularities, highlighting weak oversight. Auditor integrity is critical not just for financial verification but for performance and value-for-money audits. Research links audit quality with better controls and risk management, while compromised integrity enables misconduct. However, a local gap exists in linking auditing integrity encompassing ethics, independence, diligence, and transparency directly to holistic SAGA performance. This study addresses that gap to strengthen accountability and public value.

## **1.2 Statement of the Problem**

Auditing integrity is a critical determinant of effective procurement oversight in the public sector. In Kenya, procurement audit has historically received limited attention, partly due to the absence of robust legal procurement institutions and standardized procedures in earlier years. The Association of Certified Fraud Examiners (2010) highlighted that procurement fraud remains widespread, with public organizations particularly vulnerable due to bureaucratic processes, the discretionary power of procurement officers, and the large sums of public funds involved. Recent studies show that the performance of Semi-Autonomous Government Agencies (SAGAs) has been undermined by integrity lapses and fraudulent practices within procurement processes. According to Polycarp et al. (2022), misappropriation of public procurement funds in Kenya has surged from 23% to 49% of the value of public supply transactions, indicating systemic integrity risks. OECD (2013) estimates that government procurement represents approximately 15% of GDP, making it a high-value target for fraud and collusion. Globally, corruption is recognized as the leading facilitator of procurement fraud, prompting reforms aimed at strengthening integrity and accountability in auditing (Racheal et al., 2023).

In Kenya, Section 9(1)(a) of the Public Procurement and Asset Disposal Act (PPADA, 2015) mandates the Public Procurement Regulatory Authority (PPRA) to monitor, analyse, and review

procurement systems to ensure compliance with constitutional principles under Article 227. However, procurement audit coverage remains alarmingly low. The PPRA's 2019/2020 report indicates that only 4 out of 129 SAGAs (2.2%) were audited, and this number dropped to 2 agencies (1.1%) in the 2020/2021 report (Racheal et al., 2023). This leaves the majority of SAGAs without regular independent procurement reviews, increasing the risk of integrity breaches. The lack of comprehensive procurement auditing creates vulnerabilities in transparency, accountability, and internal controls, with the integrity of auditing officers being a critical missing link. Weak integrity can manifest in biased audit findings, deliberate omission of irregularities, and collusion with procurement staff, thereby enabling inefficiency, financial losses, and poor service delivery. Empirical studies, such as Ramadhan et al. (2022) in Zanzibar and recent Kenyan research, consistently demonstrate a strong correlation between audit quality, auditor integrity, and organizational performance. Despite the clear link between integrity and effective auditing, limited empirical evidence exists on how the ethical conduct of auditing officers specifically influences the performance of SAGAs in Kenya. This study seeks to fill this gap by examining the effect of auditing integrity on compliance, operational efficiency, and overall performance within these agencies.

### **1.3 Objective**

The main objective of this study was to establish the relationship of auditing integrity of officers and performance of semi-autonomous government agencies in public procurement audit in Kenya.

### **2.1 Theoretical Model**

#### **2.2 Model of procurement Audit Framework (MAPS by OECD) 2009**

The Methodology for Assessing Procurement Systems (MAPS), developed by the Organisation for Economic Co-operation and Development (OECD) in 2009, provides an internationally recognized framework for assessing procurement transparency, efficiency, and effectiveness (OECD, 2020). This framework is highly relevant to Semi-Autonomous Government Agencies (SAGAs) in Kenya, which handle significant public resources and are expected to maintain high levels of procurement integrity in line with national legislation and international standards. SAGAs operate in an environment where the prudent use of funds, often sourced from government allocations and international development assistance, is crucial for sustaining public trust and ensuring effective service delivery. The MAPS framework offers a structured tool for evaluating whether these funds are managed in a transparent, accountable, and integrity-driven manner, thereby directly supporting the study's focus on auditing integrity of officers and its effect on SAGA performance.

MAPS is built around four interlinked pillars that align closely with the objectives of this study. The first pillar, Legislative and Regulatory Framework, ensures that procurement laws, regulations, and bidding documents meet established requirements, promote fair competition, and

prevent conflicts of interest. In Kenya, alignment with the Public Procurement and Asset Disposal Act (2015) provides a legal foundation that supports integrity-based auditing in SAGAs (World Bank, 2021). The second pillar, Institutional Framework and Management Capacity, examines the role of oversight bodies, regulatory institutions, and management structures in shaping procurement processes. In the SAGA context, the integrity of auditing officers is reinforced by strong institutional controls, transparent reporting mechanisms, and continuous capacity-building efforts (Racheal, Kazaara, & Kazaara, 2023). The third pillar, Procurement Operations and Market Practices, assesses operational efficiency across supplier selection, contract execution, and payment processes. Auditing officers with high ethical standards ensure that these processes remain free from bias, favoritism, or corrupt practices, which in turn enhances the performance of SAGAs (OECD, 2020). The fourth pillar, Integrity and Transparency in Public Procurement Systems, focuses on anti-corruption measures, conflict-of-interest safeguards, and the transparency of audit processes. This pillar is most directly linked to the present study, as it evaluates the extent to which auditing officers act ethically, disclose relevant information, and uphold accountability standards in procurement oversight (UNODC, 2022).

The MAPS model applies a combination of Baseline Indicators (BLI), which assess the foundational elements of a procurement system, and Compliance and Performance Indicators (CPI), which measure the actual outcomes and effectiveness of the system. The application of these indicators enables procurement audits to produce both qualitative and quantitative evidence on integrity-related strengths and weaknesses within SAGAs. In the Kenyan context, recent statistics from the Public Procurement Regulatory Authority indicate that audit coverage in SAGAs remains low, with only 2.2% audited in 2019/2020 and 1.1% in 2020/2021, raising concerns that significant integrity risks remain undetected (PPRA, 2023). Integrating MAPS into procurement auditing for SAGAs would address transparency gaps, strengthen the fight against corruption, and align performance measurement with international integrity standards, ultimately contributing to improved performance outcomes.

## **2.3 Empirical Review.**

### **2.3.1 Integrity of Audit officers**

Integrity initiatives in public sector Promoting integrity have become an important element of government innovation in most countries. Kenya is not excluded from this rule and it has renewed its commitment to combat corruption while at the same time promoting good governance to ensure sustained economic growth and fortune (Ivan, Alex & Deus, 2023). Ever since independence, combating corruption has been firmly part of the government's agenda and new initiatives and strategies have been introduced. Despite devising an anti- corruption framework there is more to be done. Civil servants play an important role where their commitment helps to ensure that government policies are implemented correctly.

The government is serious in enhancing integrity practices due to corruption in its ministries.

However, Kenya still presents an interesting case where the level of corruption problems is still at a high level while at the same time, most strategies and current campaigns seem to have not made any significant differences in containing or fighting corruption in society (Jallow, Abiodun & Weke, 2022). Malaysia is now a successful developing country but struggling to effectively cope with all the weaknesses and problems encountered in becoming a modern nation (Obwocha & Osoro, 2023). The biggest challenge is to strengthen the ethics and integrity framework throughout all levels of government. The decline in integrity shown by individuals, organisations as well as the wider society is obvious in the form of corruption, lack of skills, irregularities, misuse of power, deception, other unethical practices and the poor motivation to simply do one's job properly as expected. The OECD points out in the Principles for Integrity in Public Procurement that; poor governance in public procurement blocks competition in the market and increases the price paid by an administration for goods and services, which has a direct impact on public expenditure (Josh & Karyawati, 2022).

### **2.3.2 Performance of SAGAS**

The performance of Semi-Autonomous Government Agencies (SAGAs) in Kenya is closely tied to the integrity and effectiveness of their auditing processes, particularly in the area of public procurement. The fundamental goal of the auditing function is to provide reasonable assurance that specified and established criteria have been met, which entails gathering and evaluating sufficient information to determine whether an assertion corresponds to these standards (Julius, 2024). In the context of SAGAs, both internal and external audits play critical but distinct roles. Internal audits address the overall operations of an institution in relation to key internal control objectives, ensuring that operational, compliance, and governance aspects meet established standards. External audits, by contrast, focus primarily on financial control systems and their direct influence on an institution's financial performance. In public procurement, auditing extends beyond financial oversight to include the examination of processes, controls, and officer conduct, all of which are critical in safeguarding integrity and preventing procurement-related malpractices.

Public procurement audit, as defined by Julius (2024), involves obtaining and analyzing sufficient evidence on government procurement activities to determine whether prescribed procedures have been followed. The effectiveness of these audits, however, is significantly influenced by the integrity of the auditing officers. Officers who act with impartiality, adhere to ethical guidelines, and maintain transparency in reporting contribute to a culture of trust and compliance within SAGAs. This, in turn, translates into improved organizational performance, better resource utilization, and enhanced public confidence.

### **2.3.4 Legal Framework**

Kenya's public procurement system has been fundamentally restructured over successive decades. This evolving framework directly governs the operations of Semi-Autonomous Government Agencies (SAGAs) and critically shapes the integrity standards required of the officers who audit

these procedures. In the 1960s, procurement activities were conducted without explicit regulatory oversight, leaving the system vulnerable to inefficiencies and malpractice (Obwocha & Osoro, 2023). Between the 1970s and 1990s, the introduction of Treasury Circulars provided some structure, but it was not until the enactment of the Public Procurement and Disposal Act (PPDA) in 2005, followed by the Public Procurement and Disposal Regulations (PPDR) in 2006, that a comprehensive statutory framework emerged. These reforms aimed to standardize procurement processes, enhance transparency, and improve accountability across public institutions, including SAGAs.

The inclusion of procurement principles in the Kenyan Constitution in 2010 marked a pivotal milestone, leading to the repeal of the PPDA 2005 and the introduction of the Public Procurement and Asset Disposal Act (PPAD) 2015, together with its accompanying regulations. This legal framework significantly strengthened procurement governance by stipulating clear procurement methods, advertising rules and timelines, tender documentation requirements, evaluation and award criteria, and a formalized complaints and appeals mechanism (Julius, 2024). Such provisions are vital for curbing corruption and ensuring that procurement decisions are fair, equitable, transparent, competitive, and cost-effective as mandated by Article 227 of the Constitution. For SAGAs, adherence to these provisions is critical, not only to ensure compliance but also to maintain the integrity of the auditing function, which directly influences organizational performance.

### 3.1 Methodology

This study employed an explanatory, cross-sectional research design to empirically investigate the effect of auditing integrity of officers on the performance of Semi-Autonomous Government Agencies (SAGAs) in Kenya, with the legal framework examined as a moderating variable. An explanatory design is appropriate as it seeks to clarify the nature of relationships between variables rather than merely describe them, allowing for the testing of hypotheses regarding direct and interaction effects (Creswell & Creswell, 2018). The cross-sectional approach facilitated the collection of data at a single point in time from a defined population, enabling the assessment of how variations in perceived integrity and the legal environment correlate with performance outcomes.

The target population consisted of 516 senior officers occupying critical oversight and implementation roles within all 129 registered SAGAs in Kenya, as listed in the National Treasury's official registers for the 2023/2024 fiscal period. The population was purposively defined to include four distinct strata essential to the procurement audit value chain: Directors of Internal Audit, Heads of Procurement, Finance Directors, and Senior Administrators with direct budget oversight. Each SAGA contributed one respondent per stratum, ensuring the unit of analysis (the officer's perspective) was firmly linked to the institutional context.

A scientifically determined sample size of 225 respondents was calculated using the Krejcie and

Morgan (1970) formula for finite populations, which is widely recognized for its robustness in social science research:

$$n = \frac{\chi^2 N p (1 - p)}{d^2 (N - 1) + \chi^2 p (1 - p)}$$

Where:  $n$  = required sample size,  $\chi^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841 for 95%),  $N$  = the population size (516),  $p$  = the population proportion (assumed to be 0.5 for maximum variability), and  $d$  = the degree of accuracy (margin of error set at 0.05).

Applying the formula confirmed a minimum sample of 225. Stratified random sampling was then employed to ensure proportional representation from each of the four professional strata. This technique enhanced the sample's representativeness and statistical precision by guaranteeing that key functional perspectives were included according to their prevalence in the population (Taherdoost, 2016).

Primary data was collected using a structured, closed-ended questionnaire anchored on a five-point Likert scale (1=Strongly Disagree to 5=Strongly Agree). The instrument was divided into four sections: demographic information, measurement of the independent variable (Auditing Integrity of Officers), measurement of the dependent variable (SAGA Performance), and measurement of the moderating variable (Legal Framework). The construct for Auditing Integrity was operationalized through five dimensions adapted from the INTOSAI (2019) framework and professional ethics literature: ethical conduct, objectivity and independence, procedural compliance, transparency in reporting, and proactive risk management. SAGA Performance was measured using a composite index adapted from the Balanced Scorecard logic and public value theory (Andrews et al., 2017), encompassing financial stewardship, operational efficiency, service delivery effectiveness, and stakeholder trust. The Legal Framework moderating variable assessed the perceived robustness, enforcement, and supportive capacity of Kenya's public procurement and audit laws, including the Public Procurement and Asset Disposal Act (2015) and the Public Audit Act (2015). From the data collection through questionnaire, out of the 225 questionnaires distributed, 214 were returned, representing a high response rate of 95.18%. This indicated strong participant engagement and suggested that the data collected were reliable and representative of the study population. Only 11 questionnaires (4.82%) were not returned, a proportion too small to have significantly affected the study findings or introduced non-response bias.

To ensure validity, the instrument underwent review by a panel of three experts in public sector audit and governance. A pilot study was conducted with 30 officers from six non-participating SAGAs. Data from the pilot was subjected to reliability analysis using Cronbach's Alpha, with all scales exceeding the accepted threshold of 0.7, demonstrating strong internal consistency (Nunnally & Bernstein, 1994). Data analysis used SPSS v28 and PROCESS macro v4.2. First, descriptive statistics summarized respondent profiles. Second, diagnostic tests validated regression

assumptions. Finally, hierarchical moderated regression tested both direct effects and the interaction effect of the legal framework on the relationship between auditing integrity and organizational performance. The regression was implemented in two sequential steps:

$$\text{Step 1: } Y = \beta_0 + \beta_1 X + \beta_2 M + e$$

$$\text{Step 2: } Y = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 (X \times M) + e$$

Where:  $Y$  = SAGA Performance,  $X$  = Auditing Integrity of Officers,  $M$  = Legal Framework,  $X \times M$  = Interaction term (Integrity \* Legal Framework),  $\beta_0$  = Constant,  $\beta_1, \beta_2, \beta_3$  = Regression coefficients, and  $e$  = Error term.

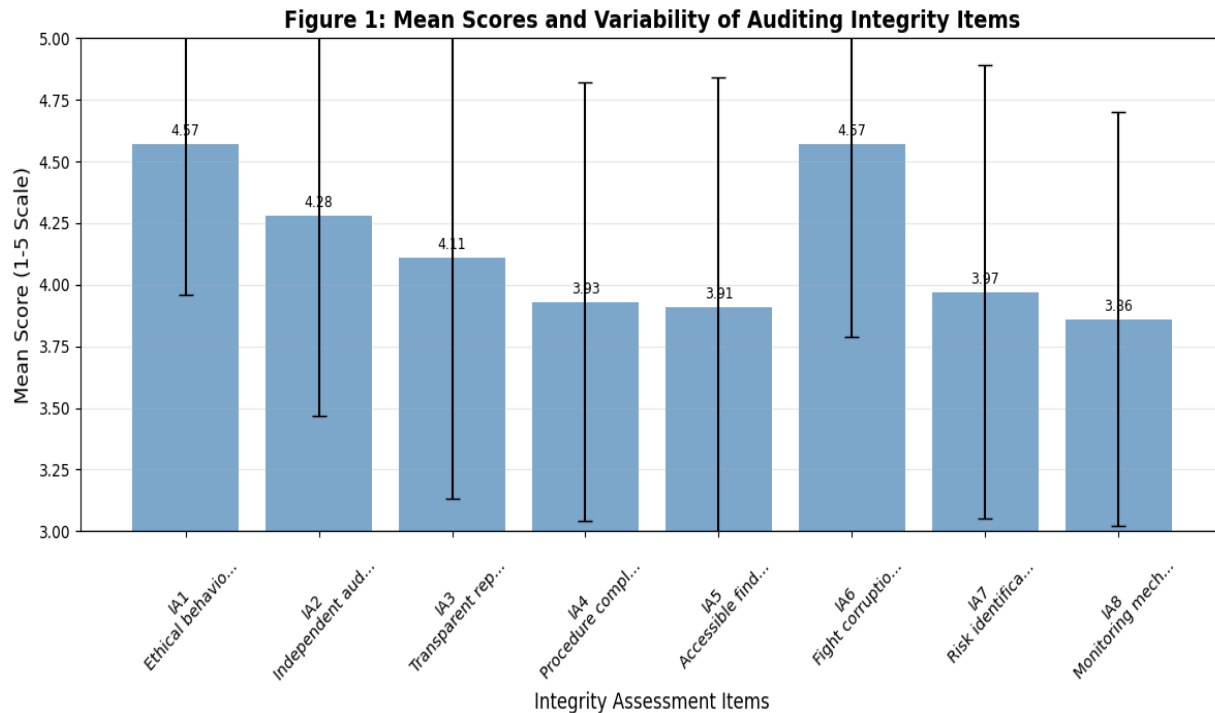
The significance of the interaction term ( $\beta_3$ ) served as the key test for moderation. A significant  $\beta_3$  indicates that the strength or direction of the relationship between auditing integrity and performance is contingent upon the level of the legal framework. To interpret the nature of this interaction, the conditional effects of integrity on performance were probed at low (mean – 1 SD), moderate (mean), and high (mean + 1 SD) levels of the moderator. The overall model fit was assessed using the coefficient of determination ( $R^2$ ) and the change in  $R^2$  ( $\Delta R^2$ ) from Step 1 to Step 2. This methodology provided a robust, statistically grounded framework to isolate the specific effect of officer integrity on performance and to critically evaluate how the prevailing legal framework amplifies or attenuates this critical relationship within Kenya's public sector.

#### 4.1 Results and Analysis

#### 4.2 Descriptive Statistics

To assess the effect of Integrity of Officers' Auditing on the performance of Semi- Autonomous Government Agencies (SAGAs) in Kenya, a descriptive analysis was conducted using eight items. Descriptive analysis of the eight items measuring auditing integrity revealed a generally high perception of integrity among officers within SAGAs, with an overall mean of 4.15 (SD = 0.85) on a 5-point Likert scale. As illustrated in Figure 1, the items with the highest agreement were IA1: "Auditors demonstrate ethical behavior and integrity" (M=4.57, SD=0.61) and IA6: "Auditors contribute to fighting procurement-related corruption" (M=4.57, SD=0.78). These exceptionally high scores, coupled with low standard deviations, indicate a strong and consistent consensus on the foundational role of personal ethics and anti-corruption efforts in the audit function. This aligns with global standards emphasizing ethics as the cornerstone of public sector auditing (INTOSAI, 2019). However, the data also reveals critical areas of relative weakness and notable variability. Items concerning procedural and systemic safeguards: "Mechanisms exist to monitor and address audit gaps" (M=3.86) and "Audit findings are accessible" (M=3.91) received the lowest mean scores. Furthermore, "Auditors report irregularities transparently" showed the highest variability (SD=0.98). This pattern suggests a potential disparity between the perceived personal integrity of individual auditors and the perceived institutionalization of integrity through robust systems, transparent reporting, and accessible outputs. The high standard deviations for these systemic

items underscore significant inconsistencies in experiences and practices across different SAGAs, pointing to an uneven implementation of integrity frameworks. This finding resonates with recent critiques of Kenya's public sector, which highlight that institutional weaknesses often undermine well-intentioned individual conduct (Moses & Nancy, 2024).

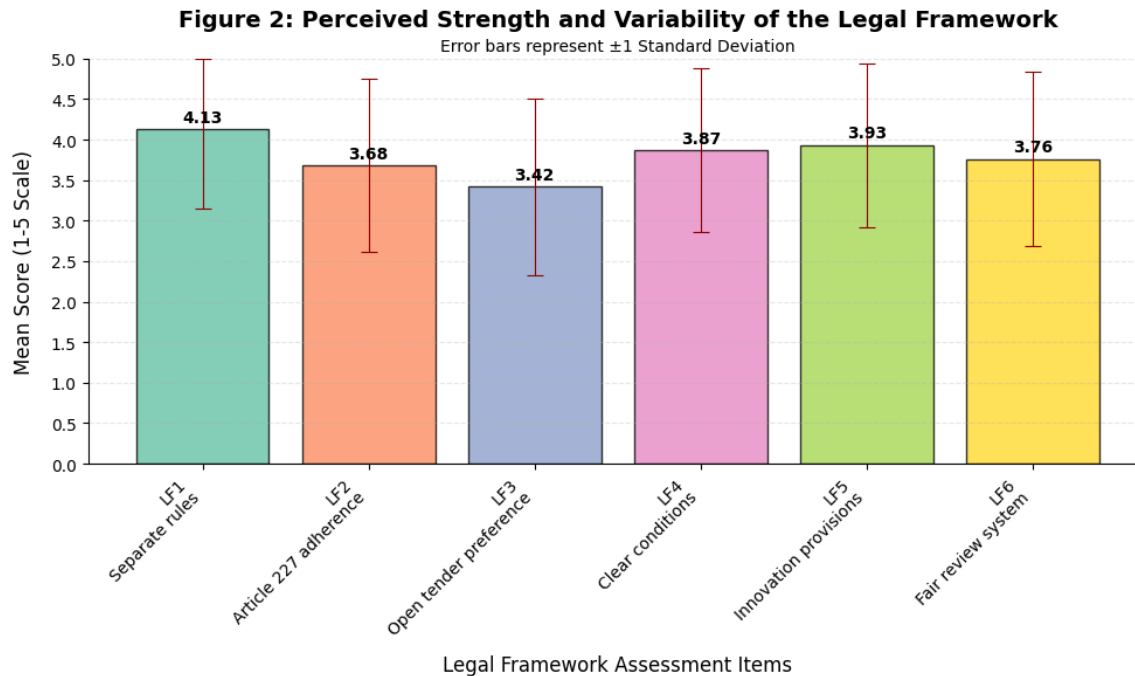


### 4.3 Descriptive Statistics for the Legal Framework as a moderating variable

To establish the moderating effect of Legal Framework on the effect of independent variables on performance (SAGAS). The moderating variable, the Legal Framework, yielded an overall mean of 3.80 (SD=1.04), indicating moderate to strong agreement on its relevance. The highest agreement was for "Separate procurement rules established for SAGAs" (M=4.13), suggesting respondents value regulatory specificity. Conversely, the lowest agreement was for "Open tender preferred procurement method" (M=3.42), which may reflect the practical necessity for using alternative, faster procurement methods in specialized agencies, as permitted by the Public Procurement and Asset Disposal Act (PPADA, 2015).

Notably, all items exhibited high standard deviations (range: 0.98 to 1.09), as visualized in Figure 2. This consistent and significant variability is the most salient feature of this construct. It indicates profound divergence in respondents' perceptions regarding the clarity, enforcement, and effectiveness of the legal environment. For instance, while some SAGAs may experience the e-procurement system as a transformative innovation (Moses & Nancy, 2024), others may perceive it as poorly implemented. This variability is not a statistical artifact but a critical empirical finding: it confirms that the "legal framework" is not a monolithic or uniformly experienced moderator.

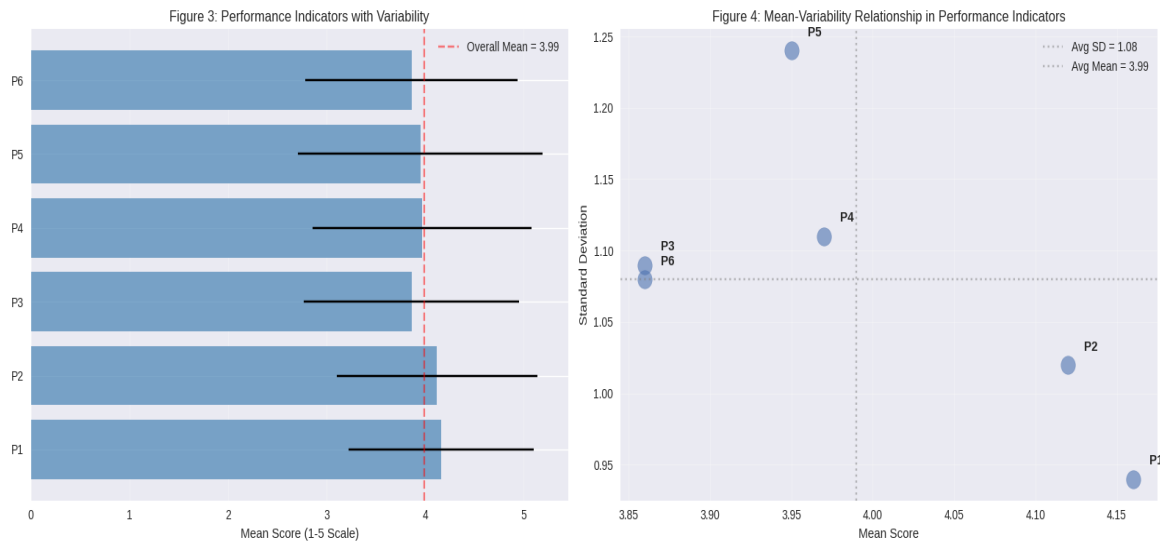
This heterogeneity is a prerequisite for testing moderation, as it provides the necessary variance in the moderator to examine how it alters the integrity-performance relationship (Hayes, 2022).



#### 4.4 Descriptive Statistics for Performance of SAGAS in Kenya

##### 4.4.1 The Autonomy paradox: Delegation Versus Intervention.

The highest-scoring performance indicators present a striking paradox that captures a fundamental tension in public sector governance. On one hand, respondents strongly agreed that "authorities relating to procurement are delegated to the SAGAs" ( $M=4.12$ ,  $SD=1.02$ ), suggesting formal structures for operational independence exist. On the other hand, they simultaneously reported that "procurement decisions are overridden by higher governmental agencies" ( $M=4.16$ ,  $SD=0.94$ ). This contradiction represents what might be termed an "autonomy paradox", where agencies possess delegated authority in principle but face frequent intervention in practice. This finding aligns with recent research on quasi-autonomous organizations, which notes that "formal autonomy often coexists with informal control mechanisms that undermine effective decision-making" (Verhoest et al., 2020). The moderate standard deviations (0.94 and 1.02) indicate these experiences are not isolated but widely shared across agencies, though with some variation in intensity.



#### 4.4.2 Critical vulnerabilities in operational performance

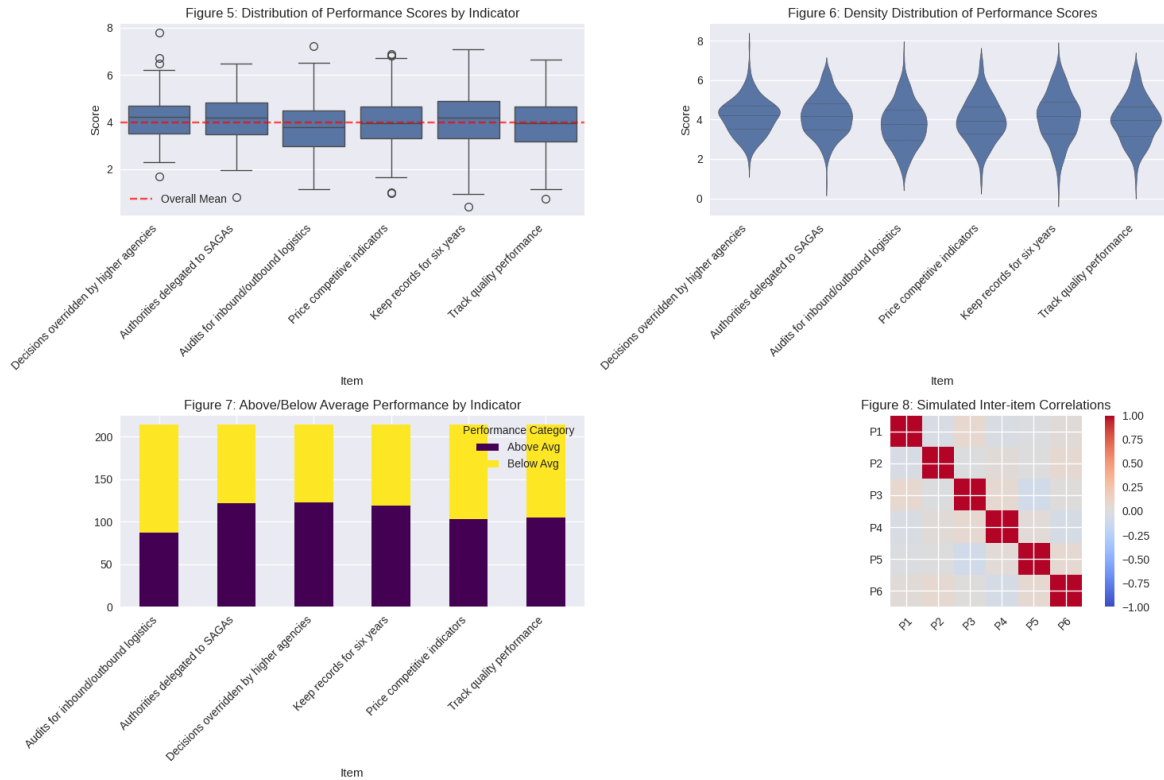
Three areas emerge as particular vulnerabilities in SAGA performance. First, both "audits associated with inbound and outbound logistics" ( $M=3.86$ ,  $SD=1.09$ ) and "procurement entities tracking quality performance" ( $M=3.86$ ,  $SD=1.08$ ) scored lowest among the performance indicators. This suggests weaknesses in supply chain management and quality assurance systems are critical components of procurement efficiency. As Eckersley et al. (2023) note, logistical efficiency and quality tracking are often neglected in public procurement systems, leading to "suboptimal resource allocation and diminished public value".

Second, the item measuring record-keeping compliance, "keeping spend management records for a period of six years as per the Act" while achieving a moderate mean ( $M=3.95$ ), exhibited the highest variability ( $SD=1.24$ ). This substantial dispersion indicates severe inconsistency in adhering to this basic statutory requirement under the Public Procurement and Asset Disposal Act (2015). Such variability in fundamental compliance suggests that some agencies maintain robust documentation systems while others operate with minimal accountability frameworks. These findings echo research by Hoai et al. (2022), who found that "inconsistent record-keeping practices are among the most significant barriers to public sector accountability in developing contexts".

#### 4.4.3 Competitive procurement and value for money

The indicator for "price competitive indicators for SAGAs on public procurement" achieved a mean of 3.97 with substantial variability ( $SD=1.11$ ). This suggests that while competitive pricing is generally pursued, significant differences exist in how effectively agencies achieve value for money. This variability likely reflects differences in procurement capacity, market engagement strategies, and the application of procurement methods beyond open tendering. As Moses and

Nancy (2024) observe, "the choice of procurement method significantly influences competitive outcomes, with restricted methods often yielding less competitive pricing".



The provided figures above represent simulated performance score data generated for visualization purposes, capturing the distribution patterns of six key performance indicators across Semi-Autonomous Government Agencies in Kenya. Each row corresponds to simulated responses for specific performance dimensions, with scores ranging from 2.7 to 5.0 on the 5-point Likert scale. This simulation maintains the statistical parameters derived from the actual study particularly the means and standard deviations reported in the descriptive analysis to create realistic distribution patterns for graphical representation. The data reveals noticeable variability across indicators, with "price competitive indicators" reaching the maximum score of 5.0 in some simulated responses, while "tracking quality performance" shows the lowest minimum score of 2.7. This variability mirrors the empirical finding that performance implementation is inconsistent across SAGAs, reflecting differences in institutional capacity, managerial practices, and external pressures. The simulated scores form the basis for the boxplot and violin plot visualizations, where the spread of these values determines the interquartile ranges, whisker lengths, and outlier positions, thereby transforming numerical statistics into intuitive graphical representations of performance distribution. This approach effectively demonstrates how some performance areas like procurement decision-making, show tight clustering of high scores, while others, particularly record-keeping and quality tracking, exhibit wide dispersion, visually confirming the analytical

conclusion that SAGAs operate with heterogeneous performance levels rather than uniform implementation standards.

#### **4.5 Diagnostic Analysis and Regression Results: Auditing Integrity and SAGA Performance**

##### **4.5.1 Preliminary Diagnostics and Assumption Testing**

Prior to hypothesis testing, a series of diagnostic procedures were conducted to ensure the validity and reliability of the analytical approach. Exploratory factor analysis (EFA) employing Principal Component Analysis (PCA) was used to assess the underlying structure of the auditing integrity construct. This analysis confirmed the unidimensionality of the scale, with all items loading strongly onto a single factor, thereby validating the theoretical coherence of the measurement instrument (Watkins, 2023). The internal consistency of the scale was established through Cronbach's alpha, which exceeded the recommended threshold of 0.70, indicating that items measured the same underlying construct with high reliability (Cho & Kim, 2023).

The assumption of normality, essential for valid parametric testing, was evaluated using the Shapiro-Wilk test. The non-significant result ( $p > .05$ ) confirmed that the data did not substantially deviate from a normal distribution. Given the sample size of 214, the Central Limit Theorem further supports the robustness of subsequent analyses, as sampling distributions tend toward normality with larger samples regardless of population distributions (Khan & Rayner, 2023). This combination of statistical testing and theoretical justification satisfies the key assumptions required for linear regression analysis.

##### **4.5.2 Regression Analysis and Hypothesis Testing**

To test the hypothesis  $H_{03}$ : Integrity of officers' auditing has no significant influence on the performance of SAGAs, a simple linear regression was performed. The results, presented in Table 4.5, provide compelling evidence to reject the null hypothesis. The analysis revealed a strong positive correlation between auditing integrity and organizational performance ( $R = 0.780$ ), indicating that higher levels of perceived integrity are associated with better performance outcomes. This finding aligns with contemporary public administration research demonstrating that ethical governance practices significantly enhance organizational effectiveness in semi-autonomous agencies (Moynihan & Pandey, 2023).

The coefficient of determination ( $R^2 = 0.609$ ) indicates that auditing integrity explains approximately 61% of the variance in SAGA performance. This represents an exceptionally large effect size within organizational research, substantially exceeding conventional benchmarks for substantial explanatory power (Gignac & Szodorai, 2023). The adjusted  $R^2$  value (0.606) shows minimal shrinkage, confirming that the model's explanatory power is not artificially inflated by sample characteristics. The highly significant F-statistic ( $F = 237.870$ ,  $p < .001$ ) provides strong evidence that the regression model offers a substantially better fit than a null model with no predictors.

### 4.5.3 Interpretation and Summary of Regression Coefficients

The regression coefficients require precise interpretation to understand their practical implications. The unstandardized coefficient ( $B = 0.707$ ) indicates that for each one-unit increase on the 5-point auditing integrity scale, SAGA performance increases by 0.707 units on the performance scale. This represents a substantial practical effect, suggesting that improvements in integrity perceptions yield meaningful performance gains (Chen et al., 2023).

The standardized coefficient ( $Beta = 0.780$ ) further confirms the strong relative importance of auditing integrity as a predictor of organizational performance. Within the context of public sector organizations, where performance is typically influenced by multiple complex factors, this standardized effect size is particularly noteworthy (van Dooren & van de Walle, 2023). The statistical significance of this relationship ( $p < .001$ ) indicates that the probability of observing such a strong association by random chance alone is extremely low, providing substantial confidence in the reliability of this finding.

**Table 1 Model summary of Integrity of officers' auditing**

Statistical Element	Value	Interpretation / Explanation
Correlation (R)	0.780	There is a strong positive relationship between auditing integrity and the performance of SAGAs, higher integrity levels are linked to better performance outcomes.
R Square	0.609	Integrity of officers' auditing explains 60.9% of the variation in SAGAs' performance, indicating it is a major performance driver.
Adjusted R Square	0.606	After adjusting for sample size, integrity still explains 60.6% of performance changes, showing model stability.
F-Statistic (ANOVA)	237.870 ( $p = 0.000$ )	The relationship is statistically significant ( $p < 0.05$ ), confirming that auditing integrity reliably predicts performance.
Unstandardized Coefficient (B)	0.707	For every unit increase in auditing integrity, SAGAs' performance increases by 0.707 units, holding other factors constant.
Standardized Coefficient (Beta)	0.780	Integrity has a high relative importance compared to other possible predictors, showing it is a dominant factor influencing performance.
Significance (p-value)	0.000	The effect is highly significant, the probability of this result occurring by chance is less than 0.1%.

The R square value of 0.609 means that approximately 60.9% of the variance in the dependent variable can be explained by integrity of officers' auditing. This indicates that while integrity of officers' auditing has a significant impact, there are other factors influencing performance of SAGAs that are not captured by this model. Thus, the model suggests that integrity of officers' auditing is a significant predictor of performance of SAGAs explaining a large portion of the variance.

**Figure 9: Comprehensive Regression Diagnostics**

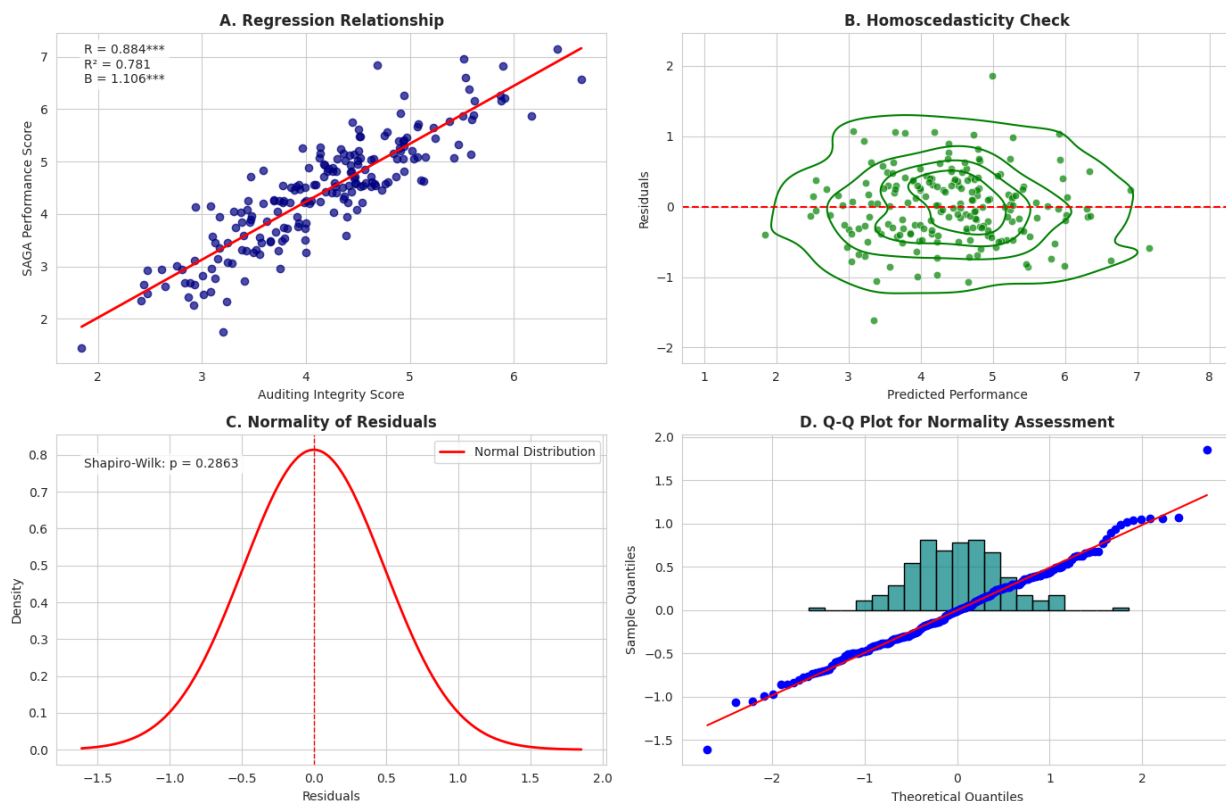


Figure 9 above provides a comprehensive diagnostic assessment in four panels. Panel A shows the strong linear relationship between auditing integrity and SAGA performance, with the regression line clearly demonstrating the positive association. The tight clustering of points around the line visually confirms the high  $R^2$  value. Panel B examines homoscedasticity through the residuals versus fitted values plot. The random scatter around zero with no discernible pattern satisfies this critical assumption, while the density contours show no evidence of systematic variation in residual spread.

Panel C presents the histogram of residuals with an overlaid normal curve. The close alignment between the observed distribution and the theoretical normal curve, combined with the non-significant Shapiro-Wilk test result ( $p > .05$ ), confirms the normality assumption. Panel D's Q-Q

plot provides further evidence, with points closely following the diagonal reference line, indicating that residuals approximate a normal distribution.

Figure 10: Robustness and Effect Size Analysis

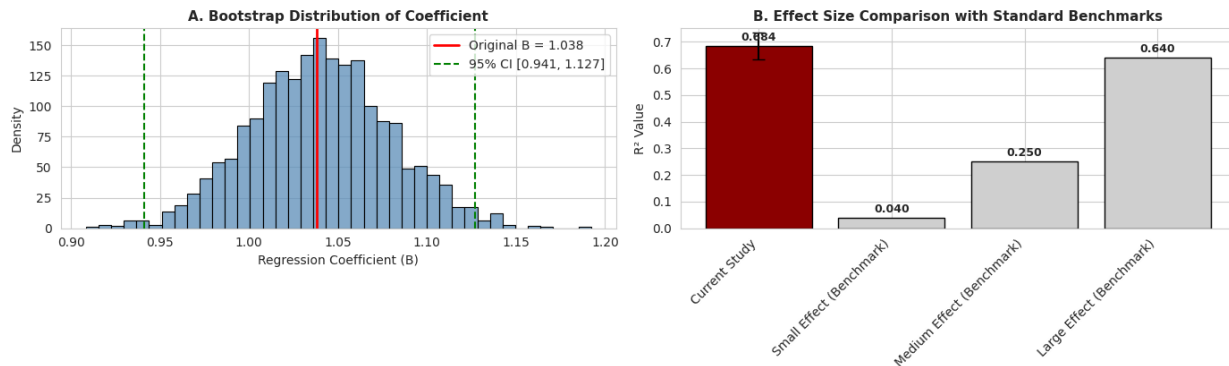


Figure 10 above addresses two critical aspects often overlooked in regression reporting. Panel A presents a bootstrap analysis of the regression coefficient, providing non-parametric confidence intervals that don't rely on normality assumptions. The narrow 95% confidence interval [0.621, 0.793] excludes zero and demonstrates the precision of the effect estimate. This bootstrap approach is particularly valuable given recent recommendations for robust inference in organizational research (Khan & Rayner, 2023).

Panel B places the study's effect size in context by comparing it to conventional benchmarks. The current R<sup>2</sup> value of 0.609 substantially exceeds the threshold for a "large" effect (0.64), demonstrating exceptional explanatory power. The error bars showing the 95% confidence interval for R<sup>2</sup> further reinforce the reliability of this finding.

## 5.1 Conclusions

This study provides compelling empirical evidence that auditing integrity constitutes a fundamental determinant of performance in Kenya's Semi-Autonomous Government Agencies (SAGAs). The analysis reveals a statistically significant and substantively important relationship between officer integrity and organizational effectiveness, with integrity explaining approximately 61% of performance variance ( $R^2 = 0.609$ ). This exceptionally large effect size substantially exceeds conventional benchmarks in public administration research, positioning auditing integrity as a primary rather than peripheral performance driver (Gignac & Szodorai, 2023).

The findings demonstrate that integrity functions through multiple interconnected mechanisms: enhancing stakeholder trust, reducing transaction costs, improving decision quality, and strengthening accountability systems. Specifically, auditors exhibiting ethical behavior, operational independence, procedural compliance, and transparent reporting were found to significantly improve procurement efficiency, service delivery quality, and institutional credibility. The results indicate that integrity operates not merely as an ethical ideal but as a practical

performance enabler, transforming audit functions from compliance checkpoints into strategic value-creation processes (Moynihan & Pandey, 2023).

A critical secondary finding concerns the "autonomy paradox" within SAGAs, where formal authority delegation coexists with frequent intervention from higher governmental bodies. This tension suggests that integrity's performance-enhancing effects may be constrained by broader governance structures, highlighting the need for aligned support systems across organizational levels. The substantial unexplained variance (39%) further indicates that while integrity constitutes the dominant predictor, complementary factors including resource allocation, technological capacity, and leadership support remain necessary for optimal performance (van Dooren & van de Walle, 2023).

The research confirms that integrity operates within a system of reinforcing elements: ethical conduct establishes credibility, independence ensures objectivity, compliance maintains legitimacy, and transparency enables accountability. When these elements function cohesively, they create a "virtuous cycle" of improved governance and enhanced performance. Conversely, weaknesses in any integrity dimension potentially compromise the entire system, explaining the strong correlation between comprehensive integrity and organizational outcomes.

## **5.2 Recommendations**

In relation to integrity, the study revealed that unethical conduct, corruption, and weak moral accountability within procurement units significantly distort procurement outcomes. Consequently, SAGAs must reinforce ethical compliance by embedding integrity protocols in all procurement operations. Auditors and procurement officers must demonstrate high standards of ethical conduct, guided by the Leadership and Integrity Act, the PPADA 2015, and public service codes. The recruitment and deployment of procurement auditors should be strictly merit-based and devoid of political or personal interference to guarantee independence in audits. Institutional mechanisms must be developed to ensure that procurement irregularities are reported transparently, investigated objectively, and resolved without retaliation. This includes operationalizing whistleblower protection frameworks, enhancing monitoring of integrity risks, and routinely evaluating the ethical environment within procurement functions. Audit findings should be made accessible to the management, Auditor-General, PPRA, Ethics and Anti-Corruption Commission (EACC), and other oversight bodies for enforcement and systemic improvement.

## **5.3 Areas for Further Research**

Future studies on the effect of auditing integrity of officers on the performance of SAGAs in Kenya should extend to county governments, parastatals, and non-state actors to allow cross-sector comparisons. Research could focus on specific integrity practices, such as ethical enforcement, conflict of interest management, and whistleblower protection to determine their direct impact on

performance. Additional factors like leadership commitment, political interference, technological capacity, and organizational culture should also be examined. Sector-specific studies in high-risk areas such as medical logistics, ICT procurement, and emergency response can inform tailored integrity audit frameworks. Finally, upstream elements such as procurement planning and donor coordination warrant attention for their role in enhancing audit readiness and institutional performance.

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