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The Moderating Effect of Audit Quality on the Relationship between Internal Control Systems and Financial Reporting Quality of Non-Financial Companies Listed on the Nairobi Securities Exchange, Kenya

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Abstract
This study examined whether audit quality moderates the relationship between internal control systems and financial reporting quality among non-financial companies listed on the Nairobi Securities Exchange (NSE). Although internal controls are intended to support reliable reporting, their contribution may depend on the strength of external audit scrutiny. Using a positivist, quantitative explanatory longitudinal panel design, the study analysed secondary data from 26 non-financial firms over 2010–2025 (416 firm-year observations). Internal control systems were assessed through an Internal Control Disclosure Index (ICDI) based on the five COSO components. Audit quality was represented by a composite index incorporating auditor size, audit tenure and audit opinion; the use of audit opinion as an outcome-related indicator is a measurement limitation that should be considered when interpreting the index. Financial reporting quality was proxied by signed discretionary accruals estimated using the modified Jones model and reverse-coded so that values closer to zero indicated higher quality. The study used firm fixed-effects regressions with firm-clustered robust standard errors to estimate direct and interaction effects. The interaction between internal control systems and audit quality was positive and statistically significant ($\beta = 1.038$, $p = .013$), providing evidence that the association between internal controls and reporting quality varies with audit quality. The result supports rejection of the null hypothesis of no moderation, although it should be interpreted as an estimated conditional association rather than proof of causation. The study contributes Kenya-specific panel evidence on the complementary roles of internal controls and external audit in financial reporting governance.

Key words: Audit quality, financial reporting quality, internal control systems, moderation, Nairobi Securities Exchange.

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INTRODUCTION

This study examined whether audit quality moderates the relationship between internal controls systems and financial reporting quality among non-financial companies listed on the Nairobi Securities Exchange (NSE). Financial reporting quality matters because investors, creditors, regulators and other users rely on financial statements to assess stewardship and make economic decisions. For non-financial companies listed on the Nairobi Securities Exchange (NSE), reporting quality may vary with firms' internal controls, governance arrangements and external scrutiny. This study measures financial reporting quality using signed discretionary accruals; because this is a proxy rather than a direct assessment of every qualitative characteristic of reporting, conclusions are confined to the accrual-based dimension captured by the model. The study is motivated by the question of whether internal controls are associated with better reporting to the same extent in firms subject to different levels of audit quality.

Internal control systems are operationalised through the five components of the COSO framework: internal controls, risk assessment, control activities, information and communication, and monitoring activities (Committee of Sponsoring Organisations of the Treadway Commission [COSO], 2013). These components provide structures for identifying risks, authorising transactions, segregating duties, communicating relevant information and reviewing whether controls work as intended. The study measures internal controls using disclosed evidence of these components, meaning the index reflects the extent and quality of public disclosure rather than independently verified operating effectiveness. Under Agency Theory, internal controls and external audits can reduce information asymmetry and constrain managerial opportunism, although neither mechanism eliminates reporting risk (Eisenhardt, 1989; Jensen & Meckling, 1976).

Prior evidence on audit quality and financial reporting quality is mixed. Jain and Agarwalla (2023) report better reporting outcomes among Indian listed firms audited by Big Four firms, while Kaawaase et al. (2016) found no statistically significant overall audit-quality difference between Big Four firms and smaller practices in Uganda's financial-services sector. Yeng and Oppong (2024) also report a positive but statistically insignificant association between audit-firm size and reporting quality across Sub-Saharan African exchanges. These differences suggest that audit-firm size alone may not capture audit quality consistently across settings. Tenure presents a further trade-off: accumulated client knowledge can improve risk assessment, while prolonged relationships may threaten independence (Akono, 2020; Tepalagul & Lin, 2015; Kohlbeck & Wang, 2025). Audit opinion is also conceptually distinct from auditor quality because it reflects the auditor's conclusion about a particular reporting period. Its inclusion in a composite index therefore requires cautious interpretation and transparent coding.

The research gap is more specific than a general lack of evidence on internal controls or audit quality. Prior studies have commonly examined their separate associations with reporting outcomes, and the cited evidence varies by country, sector, sample and operationalisation. This study addresses the unresolved question of whether audit quality changes the strength of the association between internal control systems and accrual-based financial reporting quality in non-financial NSE-listed firms. The study also addresses a measurement gap by using a disclosure-based internal-control index rather than respondents' perceptions, while recognising that disclosure is not equivalent to verified control effectiveness. Its geographical contribution is evidence from Kenya; its contextual contribution is the listed non-financial sector; and its methodological contribution is a firm-year panel interaction model. The analysis does not establish that this is the first study of the interaction in all settings, but it tests the relationship in the specified Kenyan context.

Therefore, this study aims to determine whether audit quality moderates the relationship between internal control systems and financial reporting quality among non-financial companies listed on the NSE. The corresponding null hypothesis is: H_{02}: Audit quality does not moderate the relationship between internal control systems and financial reporting quality.

LITERATURE REVIEW

Empirical Review

Relationship between Internal Control System and Financial Reporting Quality

Internal control systems are widely regarded as a foundation for reliable financial reporting because they support authorisation, documentation, reconciliation, risk management and oversight (COSO, 2013). However, the strength of the association depends on the sector, how

controls are measured, and whether the study assesses disclosed policies or controls' actual operation.

Evidence generally links stronger controls with lower reporting risk, but the studies differ in design and context. Donelson et al. (2017) examine material weaknesses and financial-reporting fraud, while Samuel (2024) studies listed oil and gas firms in Nigeria. The former provides evidence concerning the risk associated with reported control weaknesses; it should not be interpreted as a direct estimate of the causal effect of installing stronger controls. Samuel's sector-specific findings support the relevance of controls but may not transfer to other industries or to Kenya without qualification. Monteiro et al. (2021) consider internal controls alongside accounting information systems, and Isaac et al. (2024) focus on a Nigerian medical group. Their findings support the proposition that control procedures, supervision and reconciliation matter, but their different samples and operational definitions limit direct comparison.

Other studies reinforce the relevance of control quality while illustrating contextual variation. Appah and Joyce (2024) report associations between internal audit processes and reporting quality in Nigerian manufacturing enterprises, whereas Lari Dashtbayaz et al. (2019) examine internal-control weaknesses in the context of family ownership among firms listed in Tehran. Thabit et al. (2017) assess alignment with the COSO framework in Kurdistan enterprises, and Hamed (2023) focuses on banks' financial sustainability rather than reporting quality as the primary outcome. These studies illuminate different parts of the governance process but do not all test the same dependent variable or population; their results should therefore be treated as complementary rather than interchangeable evidence.

A contrasting result is reported by Sumito et al. (2021), whose study of a public-sector ministry in Indonesia found no statistically significant effect of internal control systems on financial-statement quality. This difference may reflect the public-sector setting, institutional and accountability arrangements, how control and reporting measures are constructed, or the study's model and sample. The available description does not establish which explanation is decisive. Taken together, the literature supports a plausible positive association between internal controls and reporting quality, but also shows why the relationship should be tested empirically in a defined context rather than assumed to be uniform across sectors and countries.

Overall, the evidence suggests that control activities, risk assessment, monitoring, management oversight and internal-audit independence can support reporting reliability. Nevertheless, the studies use different designs and measures and span commercial firms, health-care organisations, financial institutions and public bodies. Their results cannot be pooled conceptually without accounting for these differences. For this study, the key implication is that internal controls may provide an important foundation for internal governance. In contrast, whether this foundation translates into higher reporting quality may depend on external audit scrutiny.

Overall, studies across sectors such as oil and gas, healthcare, manufacturing, and financial institutions show that firms with strong internal controls tend to provide more dependable, transparent, and accurate financial reporting. Control activities, monitoring systems, risk assessment, management oversight, and internal audit independence are consistently identified as key predictors of financial reporting quality. Another observable pattern is the importance of governance structures in strengthening internal controls. Research findings indicate that active audit committees, skilled management, and strong monitoring systems improve internal control effectiveness. This shows that internal control systems do not operate in isolation but are influenced by broader governance mechanisms.

Relationship between Internal Control and Audit Quality

Research on internal controls and audit outcomes helps explain why audit quality could condition the association between controls and reporting quality. Using listed Iranian firms, Lari Dashtbayaz et al. (2022) report that internal-control weaknesses are associated with more qualified or modified audit opinions. This indicates that control deficiencies can affect auditors' risk assessments and reporting decisions; it does not, by itself, prove that audit quality moderates the controls–reporting relationship.

Haryanto and Hidayah (2023) emphasise professional scepticism, while Mudhol (2024) links internal-control managers' accounting expertise with audit quality in Korean enterprises. These studies suggest that competent controls and knowledgeable auditors may reinforce the process of identifying abnormalities and assessing

reporting risk. However, evidence that controls influence audit work is conceptually distinct from evidence that audit quality changes the association between controls and financial reporting quality. The latter requires an interaction test, which this study focuses on.

Auditor tenure illustrates why audit quality should not be treated as a single, unambiguous attribute. Callen and Fang (2017) argue that longer tenure can improve risk assessment through accumulated client knowledge, whereas Tepalagul and Lin (2015) discuss the risk that familiarity may compromise independence. Wang et al. (2024) emphasise the institutional resources and quality-control systems associated with Big Four firms. Together, these studies suggest that auditor competence, independence and resources can shape how effectively external audit complements internal controls. Still, they do not establish that every audit-quality proxy has the same effect in every setting.

Taken together, these findings suggest that effective internal controls may improve the information available to auditors and allow audit work to focus on residual risks. In contrast, a competent and independent auditor may identify deficiencies that internal systems fail to detect. This provides a theoretical rationale for a complementary interaction. Yet the cited studies differ by country, sector, and outcome measures, and the claim should be limited to the evidence reviewed here: the moderation relationship is tested less directly in the Kenyan non-financial listed-company context than the separate direct relationships.

Evidence concerning audit quality and financial reporting quality is also mixed, reinforcing the need to test rather than assume a uniform effect. Jain and Agarwalla (2023) report better reporting outcomes for Indian firms audited by the Big Four. In contrast, Kaawaase et al. (2016) find no significant overall difference between Big Four firms and smaller audit practices in Uganda's financial-services sector. Yeng and Oppong (2024) report a positive but statistically insignificant association between audit firm size and audit quality across six Sub-Saharan African exchanges. Differences in institutional regulation, industry composition, sample selection, and the audit quality proxy may explain some of this variation; the studies do not conclusively identify a single explanation.

Audit opinions convey auditors' conclusions and can shape how users assess reporting risk (El Badlaoui et al., 2023b). Kenyan evidence from Oruke et al. (2021) also connects audit-committee diligence with modified opinions among state-owned firms. However, audit opinion reflects the audit process, not a pure measure of auditor competence or independence. If included in a composite audit-quality score, its coding and conceptual justification must be explicit, and findings should be interpreted with this limitation in mind. Evidence on tenure likewise suggests a possible non-linear relationship: Kohlbeck and Wang (2025) report an inverted U-shaped association, implying that knowledge benefits may be offset by familiarity risks at longer durations.

Relationship between Audit Quality and Financial Reporting Quality

Studies of audit quality and financial reporting quality report mixed results. Jain and Agarwalla (2023) find better reporting outcomes for Big Four-audited Indian firms, whereas Kaawaase et al. (2016) report no significant overall difference between Big Four and smaller audit practices in Uganda, and Yeng and Oppong (2024) report a positive but statistically insignificant association between audit-firm size and reporting quality across Sub-Saharan African exchanges. Evidence on audit opinions suggests that users treat modified opinions as signals of reporting risk (El Badlaoui et al., 2023b), while Kenyan evidence links audit-committee diligence with modified opinions among state-owned firms (Oruke et al., 2021). Other studies emphasise auditor independence and client knowledge (Okoh & Audu, 2024), while Kohlbeck and Wang (2025) identify a possible inverted U-shaped relationship between tenure and reporting quality. These results differ in geography, sector, design and operationalisation; they support a multidimensional view of audit quality but do not establish that auditor size, tenure and audit opinion are equivalent measures.

Theoretical Framework

Agency Theory provides the study's principal explanatory framework. Jensen and Meckling (1976) describe agency relationships as arrangements in which principals delegate decision-making to agents whose interests may not fully coincide with their own. Information asymmetry allows managers to possess information that shareholders and other users cannot readily observe, creating incentives or opportunities for opportunistic reporting. Eisenhardt (1989) further explains agency theory's usefulness for analysing monitoring and control arrangements.

In this study, shareholders and other capital providers are the principals, while company managers are the agents responsible for preparing financial reports and operating internal controls. The ICDI represents disclosed internal arrangements intended to constrain errors, irregularities and managerial discretion. Audit quality represents external monitoring that may independently scrutinise reported information and the internal controls. Agency Theory therefore predicts that effective internal controls will be associated with better reporting, and that stronger external audit may reinforce this association by increasing the likelihood that control weaknesses or material misstatements are identified. The predicted moderation is complementary, but it remains an empirical proposition rather than an inevitable consequence of the theory.

The theory also clarifies the study's measurement limits. Public disclosure of controls does not prove that controls operate effectively, and auditor size, tenure and opinion do not capture every dimension of audit quality. In addition, an audit opinion may reflect the condition of the client's financial statements, making it conceptually distinct from auditor resources or independence. These limitations do not negate the agency-theory rationale. Still, they mean the estimated interaction should be interpreted as the relationship between the study's operational measures, not as a complete test of every aspect of monitoring quality.

METHODOLOGY

The study adopted a positivist research philosophy, a deductive approach, and a quantitative, explanatory, longitudinal panel design. This combination is appropriate because the hypotheses specify relationships among measurable firm-level variables and the analysis uses repeated firm-year observations to estimate direct and interaction effects. The design identifies statistical associations; without a strategy that fully addresses endogeneity, the coefficients should not be interpreted as definitive causal effects.

The study treated the variables as observable through documented disclosures and financial-statement data and tested theory-derived expectations against the panel evidence. The analysis was conducted using a firm fixed-effects specification, with standard errors clustered by firm to account for within-firm dependence over time. These choices reduce some risks associated with stable unobserved firm characteristics and repeated observations, although they do not eliminate time-varying omitted variables or reverse causality.

The study covered the 16 financial years from 2010 to 2025. The unit of analysis was the firm-year, while the population and sample units were companies. The final analytical dataset comprised 26 non-financial firms and 416 firm-year observations, implying 16 usable annual observations for each included firm. The balanced panel should be understood as the dataset retained after applying the stated data-availability criteria, not as evidence that all 39 firms had complete records. The results therefore apply most directly to firms with sufficient continuous disclosures and should not automatically be generalised to firms excluded for incomplete data.

The target population consisted of 39 non-financial companies identified from the study's NSE listing information. Financial institutions were excluded because their regulatory and reporting environments differ from those of non-financial firms. The company-level population was 39, the selected firm-level sample was 26, and the statistical observations were 416 firm-years; these are distinct units and should not be conflated.

Table 1: Target Population

Company Name	Industry	Sample size
Agricultural	6	4
Automobile and Accessories	1	1
Commercial and Services	11	7
Construction and Allied	5	4
Energy and Petroleum	5	3
Manufacturing & Allied	10	6
Telecommunication	1	1
TOTALS	39	26

Source: Nairobi Securities Exchange, 2026

The study did not conduct a census of all 39 companies. It used purposive, data-availability-based selection: 26 firms met the study's requirements for sufficiently complete annual reports, audited financial statements, and corporate-governance disclosures throughout 2010–2025. The remaining 13 firms were excluded because they did not meet the study's data-coverage criteria. A census would have been appropriate only if all firms in the population met the data requirements. The analysis thus represents a non-probability sample of eligible firms rather than a census, and the possibility of selection bias is acknowledged. Any changes in listing status, mergers or missing firm-years were handled by the continuous-coverage criterion; the manuscript's underlying screening records should be retained to document the firm-by-firm decisions.

The inclusion criteria required firms to be actively listed on the NSE throughout the study period and to have publicly available annual reports, audited financial statements, and corporate governance disclosures with sufficient information on internal control, audit quality, and financial reporting quality. Subsequently, non-financial firms were selected because they are subject to relatively similar operating environments and reporting requirements, making comparisons across firms more meaningful. The study excluded financial institutions, including banks, insurance companies, and other regulated financial entities, because their distinct regulatory frameworks, capital requirements, and financial reporting practices could influence the study variables differently. The modified Jones model was developed for industrial and non-financial firms, as accrual behaviour is associated with receivables, revenues, and property, plant, and equipment (PPE).

Secondary data were extracted from published annual reports, audited financial statements, corporate-governance reports, company websites, NSE publications and Capital Markets Authority disclosures. The ICDI was scored from disclosures mapped to the five COSO components. Audit quality was represented by a composite of auditor size (Big Four versus non-Big Four), auditor tenure and audit opinion. Because an audit opinion is an outcome rather than a direct auditor attribute, its inclusion is acknowledged as a construct limitation.

Audit opinion was coded as a binary variable. Firms receiving an unmodified (unqualified) audit opinion were assigned a value of one (1), while firms receiving a qualified opinion, adverse opinion, or disclaimer of opinion were assigned a value of zero (0). This coding reflects the distinction between clean and modified audit opinions and is consistent with prior research that uses audit opinion as an indicator of reporting and audit outcomes.

Financial-statement inputs for the modified Jones model included total assets, revenues, receivables and property, plant and equipment, as required by the model. Values were cross-checked against original reports and relevant exchange/regulatory disclosures.

Data collection was conducted systematically to ensure accuracy, completeness, and reliability. The process began by identifying all non-financial firms listed on the Nairobi Securities Exchange (NSE) during the study period. The official NSE listings were reviewed to establish the study population and identify firms that met the study requirements. The identified firms were then evaluated using the predefined inclusion and exclusion criteria. The study then extracted annual reports for the selected firms from company websites, NSE publications, and other publicly available corporate disclosure platforms. These reports served as the main source of the secondary data. To ensure the reliability and validity of the secondary data, the study used data triangulation, cross-checking information from different sources against corresponding disclosures from the NSE and other relevant sources to improve accuracy. Any inconsistencies identified during the verification process were resolved by referring to the source documents.

The data on internal control disclosures were collected from the annual reports and corporate governance reports of the sample firms. We calculated ICDI scores based on information disclosed in these reports and compared them with disclosures in integrated and sustainability reports, where available. To strengthen the reliability of the ICDI, a second coder independently coded a 20 per cent sample of the annual reports using the same coding criteria. The degree of agreement between the two coders was measured using Cohen's Kappa coefficient. The analysis yielded a Kappa of 0.78, indicating substantial agreement and suggesting the coding scheme was applied consistently across the sampled reports. This level of agreement supports the reliability and objectivity of the disclosure index used in the study (Cohen, 1960). We collected financial statement data on discretionary accruals from the firm's audited annual reports and verified them with financial data available in stock exchange databases and company filings. We collected audit quality data, such as auditor size, auditor tenure, and audit opinion, from annual reports and independently verified them using external auditor reports and regulatory filings. Data from different credible sources were compared, and inconsistencies were identified and resolved.

After verification, the extracted information was then reviewed to ensure completeness and consistency across all firms and years in the sample. Observations with substantial missing data that could not be verified were excluded from the analysis. The data were then cleaned to identify and correct data-entry errors, inconsistencies, duplicate records, and outliers. Where needed, we recalculated financial ratios and variable measures to ensure accuracy. After verification and validation, the data were organised into a panel dataset with each observation representing a specific listed non-financial firm in a particular year. Finally, the complete dataset was coded and prepared for statistical analysis. The resulting panel dataset captured both differences across firms and changes within firms over time, providing a suitable basis for analysis and diagnostic testing. This rigorous process helped ensure the test findings were based on accurate, consistent, and reliable data.

Ethical Considerations

Approval was obtained from the University of Eastern Africa Baraton Ethics Committee and the National Commission for Science, Technology and Innovation (NACOSTI) before data was collected. Data extracted from the annual reports were checked against the source document. The analysis depended solely on publicly accessible material, including annual reports and corporate disclosures secured from company websites and the Nairobi Securities Exchange (NSE). The data were used solely to address the study objectives and contribute to academic knowledge. All data sources were appropriately acknowledged, and the information analysed was reported honestly and transparently. Moreover, the study followed the principles of academic integrity and did not manipulate or selectively disclose data or misuse publicly available information. By using data responsibly, the study sought to uphold high ethical standards and maintain the credibility of the research findings.

FINDINGS AND DISCUSSION

The findings are presented in relation to the direct associations between the study variables and the principal hypothesis that audit quality moderates the relationship between internal control systems and financial reporting quality. Table 2 reports the baseline fixed-effects model; Table 3 reports the model containing the interaction term. Coefficients are interpreted with reference to the study's reverse-coded discretionary-accrual proxy, for which values closer to zero represent higher reporting quality. All standard errors are clustered at the firm level.

Direct Effect on Financial Reporting Quality

Table 2. Fixed-Effects Regression Results for Direct Associations with Financial Reporting Quality

Fixed effects (within) regression Number of obs=416
Group variable: firm Number of groups=26

R-sq: within = 0.6801Obs per group: min =16
between = 0.2712avg =16.0
overall = 0.6537max =16

F(5,25)=132.82
corr (u_i, Xb) = -0.0846Prob > F=0.0000

(Std. Err. adjusted for 26 clusters in firm)

FRQ	**Coef.**	**Robust Std. Err.**	**t**	**P>|t|**	**[95% Conf.**	**Interval]**
FA	-.0043215	.0007182	-6.02	0.000	-.0058007	-.0028423
ICS	1.497061	.082748	18.09	0.000	1.326638	1.667484
AQ	.8414204	.046683	18.02	0.000	.7452748	.9375659
_cons	-.0476266	.1727654	-0.28	0.785	-.4034435	.3081904
sigma_u	.06227988					
sigma_e	.16831622					
rho	.12042496	(fraction of variance due to u_i)	(fraction of variance due to u_i)	(fraction of variance due to u_i)	(fraction of variance due to u_i)	(fraction of variance due to u_i)

FRQ = financial reporting quality; FA = firm age; ICS = internal control systems; AQ = audit quality. Standard errors are clustered by firm.

Source: Researcher, 2026

H_{01}: Audit quality has no statistically significant direct association with financial reporting quality.

Table 2 shows a positive, statistically significant coefficient for audit quality ($\beta = 0.841$, $p < .001$). Internal control systems are also positively associated with financial reporting quality ($\beta = 1.497$, $p < .001$), while firm age has a negative coefficient ($\beta = -0.004$, $p < .001$). Because FRQ is reverse-coded from discretionary accruals, positive coefficients indicate values closer to zero and are interpreted as better accrual-based reporting quality. These estimates are conditional associations within the fixed-effects model. Therefore, they should not be described as the causal effect of a one-unit improvement unless the relevant identification assumptions are established.

The positive associations align with agency-theory expectations that internal monitoring and external audit scrutiny can constrain information asymmetry and reporting discretion. However, the model explains variation in the study's accrual-based proxy rather than every dimension of financial reporting quality. The result

should also be interpreted alongside the measurement limitations of the ICDI and audit-quality composite.

Moderation Analysis of Audit Quality

The moderation model adds an interaction term between internal control systems and audit quality to assess whether the association between internal controls and financial reporting quality varies by audit quality. The interaction coefficient, rather than either direct-effect coefficient alone, is the relevant test of the moderation hypothesis.

Table 3. Fixed-Effects Regression Results for the Interaction between Internal Control Systems and Audit Quality

Fixed effects (within) regression — Number of obs = 416
Group variable: firm — Number of groups = 26

R-sq: within = 0.7442 — Obs per group: min = 16
between = 0.4726 — avg = 16.0
overall = 0.7283 — max = 16

F (8,25) = 102.67
corr (u_i, Xb) = -0.0602 — Prob > F = 0.0000

(Std. Err. adjusted for 26 clusters in firm)

FRQ	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]	
FA	-.0049188	.0006172	-7.97	0.000	-.0061901	-.0036476	
ICS	1.45655	.0726593	20.05	0.000	1.306905	1.606195	
AQ	.825863	.0477329	17.30	0.000	.7275553	.9241707	
ICS*AQ	1.038457	.3864459	2.69	0.013	.242557	1.834357	
_cons	-.0692374	.1470176	-0.47	0.642	-.3720259	.2335511	
sigma_u	.05114767						
sigma_e	.15110041						
rho	.10280353	(fraction of variance due to u_i)					

FRQ = financial reporting quality; FA = firm age; ICS = internal control systems; AQ = audit quality; ICS × AQ = interaction term. Standard errors are clustered by firm.

Source: Researcher, 2026

In the interaction model, firm age remains negatively associated with FRQ ($\beta = -0.0049$, $p < .001$). Internal control systems ($\beta = 1.457$, $p < .001$) and audit quality ($\beta = 0.826$, $p < .001$) have positive coefficients. The interaction term is positive and statistically significant ($\beta = 1.038$, SE = 0.386, t = 2.69, $p = .013$, 95 per cent CI [0.243, 1.834]). The coefficient indicates that the estimated slope relating internal controls to the FRQ proxy becomes more positive as the audit-quality index increases. It is not appropriate to interpret this as a simple 1.038-unit increase in reporting quality for every one-unit change in the interaction, because the interaction is a product term, and its meaning depends on the scale and values of both component variables.

The statistically significant interaction provides evidence against the null hypothesis of no moderation. Accordingly, H_{02} is rejected at the 5 per cent significance level. The positive sign is consistent with a complementary relationship in which stronger audit quality strengthens the association between disclosed internal controls and accrual-based reporting quality. This inference depends on the operational definitions and model specification used; it does not establish that the composite audit-quality index captures all aspects of audit quality or that the association is causal.

H_{02}: Audit quality does not moderate the relationship between internal control systems and financial reporting quality.

The result is broadly consistent with literature that treats external audit as a monitoring mechanism that can reinforce internal governance. However, studies such as Okonkwo et al. (2023), which report a negative moderating effect in a different governance relationship, caution against assuming that audit quality strengthens every governance mechanism in every setting.

Differences in the governance variable, institutional context, and measurement strategy mean this contrary finding does not directly contradict the present result; instead, it underscores the context-specific nature of interaction effects.



Figure 1: Modgraph on the Moderation of Audit Quality on the Relationship between ICS and FRQ

Figure 1 interprets the pattern as indicating that the estimated positive association between internal control systems and financial reporting quality is stronger at higher levels of audit quality. The figure should be read as a model-based illustration of the interaction, not as independent evidence beyond the regression coefficient. The plotted lines and axis values should be generated from the fitted model and clearly labelled as low and high audit quality if retained in the final figure.

Discussion

The descriptive statistics indicate that the mean financial reporting quality is −7.6 per cent. This suggests that, on average, non-financial firms listed on the Nairobi Securities Exchange prepare financial statements that generally reflect a fair and faithful representation of their underlying economic performance in accordance with IFRS requirements. Consequently, the findings imply that although overall financial reporting quality is relatively satisfactory, managerial discretion in financial reporting practices remains, reflecting variations in the precision and transparency of reported financial information across firms. This is further supported by the observed range of FRQ values (minimum = −0.1628, maximum = 0.0000), indicating that while some firms exhibit relatively higher levels of earnings manipulation, others show minimal or no earnings management. The standard deviation of 0.0312 further confirms moderate variation in financial reporting quality across firms in the sample. This aligns with Al-Begali and Phua (2023), who found that firms, including those in emerging economies, adjusted their financial statements in response to the pandemic's economic disruptions, often to meet short-term financial targets.

The results indicate that the average age of firms listed on the Nairobi Securities Exchange (NSE) is 4.1959, with firm age ranging from a minimum of 2.5649 to a maximum of 5.0498. The standard deviation of 0.4786 reflects notable variation in firm age across the sample.

This suggests that while most non-financial firms are relatively well-established, the market includes a considerable mix of younger and more mature firms. This diversity in firm age may reflect differences in operational experience, governance structures, and reporting practices, which could influence financial reporting behaviour.

The internal control system has a mean of 0.7040, with values ranging from 0.3780 to 1.000 and a standard deviation of 0.1262. These results indicate that, on average, non-financial firms listed on the Nairobi Securities Exchange maintain relatively moderate to strong internal control systems, although there is observable variation across firms. The minimum and maximum values further highlight differences in internal control strength, with some firms showing relatively weak systems while others demonstrate fully developed, robust controls. Overall, the findings suggest that most firms maintain reasonably established internal control systems, though implementation levels vary across firms.

Audit quality has a mean of 0.6368, a minimum of 0.2287, a maximum of 1.000, and a standard deviation of 0.1525. This suggests moderate variation in audit quality among non-financial firms listed on the Nairobi Securities Exchange. The results indicate that while some firms are audited by Big Four audit firms, receive more favourable audit outcomes, and exhibit more stable audit engagements, others rely on non-Big Four auditors or have shorter audit tenures, reflecting differences in audit strength across firms. Overall, the findings suggest moderate audit quality, with observable variation in audit practices, auditor reputation, and audit continuity across the sampled firms.

The Pearson correlation analysis indicates a statistically significant positive relationship between the internal control system and financial reporting quality ($r = 0.5769$, $p = 0.000$). This suggests that improvements in internal control effectiveness are associated with substantial enhancements in financial reporting quality. It indicates that stronger internal control systems lead to more accurate, reliable, and transparent financial reporting. These findings are consistent with Nurhayati et al. (2021), who argue that effective internal control systems provide reasonable assurance that organisational objectives are achieved through efficient operations, reliable financial reporting, safeguarding of assets, and compliance with applicable laws and regulations. Similarly, Monteiro et al. (2021) emphasise that the quality of internal control systems, together with accounting information systems, significantly influences financial reporting quality, thus enhancing the usefulness of financial information for decision-making. Furthermore, these findings align with Kartika et al. (2022), who found that a reliable internal control system can increase the reliability of financial reports.

Subsequently, audit quality is positively and significantly correlated with financial reporting quality ($r = 0.3320$, $p = 0.000$). This indicates that higher audit quality strengthens financial reporting quality by reducing errors and limiting opportunities for earnings manipulation. These findings align with Mesbah and Ramadan (2022), who noted that audit quality positively affects financial reporting. Similarly, these findings align with Roszkowska (2021), who found a significant association between audit quality and financial reporting quality.

The baseline model estimates a positive association between internal control systems and FRQ ($\beta = 1.497$, $p < .001$), consistent with the expectation that internal controls can support reliable reporting. This result accords with studies that emphasise control design, monitoring and accounting-information processes, including Monteiro et al. (2021) and Edhie Rachmad et al. (2024). Nevertheless, because the ICDI is disclosure-based, the estimate may reflect both the extent of control-related reporting and underlying control practices; the study cannot fully separate these dimensions.

Audit quality is positively associated with FRQ in the baseline model ($\beta = 0.841$, $p < .001$), consistent with studies linking external monitoring with lower reporting risk (Nwanyanwu, 2017; Roszkowska, 2021). Contrasting findings, including Asogba et al. (2024), suggest that the direction and magnitude of the relationship may depend on the sample, the audit-quality proxy, and how the reporting-quality measure is constructed. In this study, audit quality is a composite of auditor size, tenure and opinion; because opinion is an audit outcome, the index should not be treated as a pure measure of auditor attributes.

The interaction coefficient is positive and statistically significant ($\beta = 1.038$, $p = .013$), consistent with the moderation result in Table 3. The interaction indicates that the relationship between the ICDI and the reverse-coded discretionary-accrual measure varies with audit quality. It supports the interpretation that the two governance mechanisms may be complementary in this

sample, while the observational design and possible selection/endogeneity concerns require cautious, non-causal language.

CONCLUSION AND RECOMMENDATIONS

Conclusion: The study concludes that audit quality significantly moderates the association between internal control systems and accrual-based financial reporting quality among the 26 non-financial firms included in the NSE panel. The interaction coefficient is positive and statistically significant ($\beta = 1.038$, $p = .013$; 95 per cent CI [0.243, 1.834]), so the null hypothesis of no moderation is rejected. The result is consistent with the view that external audit scrutiny can reinforce internal controls' reporting-related contribution. However, the conclusion is bounded by the use of a disclosure-based internal-control index, a composite audit-quality measure that includes audit opinion, a discretionary-accrual proxy for reporting quality, and a sample restricted to firms with complete data. The findings establish a conditional statistical association, not definitive causation.

Recommendations: This study recommends that regulators and corporate-governance stakeholders should continue to promote meaningful internal-control disclosure and robust, independent external audits. Guidance should distinguish disclosure of control policies from evidence that controls operate effectively and encourage transparent reporting on the five COSO components. Similarly, audit-quality assessments should clarify whether indicators reflect auditor characteristics, audit-process attributes, or audit outcomes.

Additionally, managers of listed non-financial firms should strengthen the design, implementation, and monitoring of internal controls and engage auditors based on competence, independence, and appropriate quality safeguards. The results suggest that internal controls and external audit should be considered together, but firms should not assume that appointing a large auditor alone guarantees high-quality reporting. Audit tenure should be managed with attention to both accumulated client knowledge and independence risks.

Ultimately, future research should test the interaction's strength using alternative measures of audit quality that separate auditor attributes from audit outcomes, alternative financial-reporting-quality proxies, and models that address potential endogeneity and time-varying confounding. Researchers should also compare balanced and unbalanced panels, document the effect of sample exclusions, and test whether the interaction differs by industry or audit-firm type.

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