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THE NEXUS BETWEEN EARNINGS MANAGEMENT, CEO COMPENSATION, AND FIRM VALUE: EMPIRICAL EVIDENCE FROM THE NAIROBI SECURITIES EXCHANGE

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Abstract:
This study investigates the intricate relationships between earnings management, CEO compensation, and firm value within companies listed on the Nairobi Securities Exchange (NSE). Utilizing a comprehensive dataset spanning 10 years, the research delves into how earnings management practices influence CEO compensation structures and, subsequently, the overall value of the firm. The study employs robust econometric models to analyze the interactions between these variables, shedding light on whether earnings management serves as a tool for CEOs to meet performance targets and enhance their compensation or if it detracts from the firm's long-term value. Empirical findings reveal significant correlations, indicating that firms engaging in higher levels of earnings management tend to exhibit more aggressive CEO compensation packages. Moreover, the study highlights the dual-edged nature of earnings management, showing its potential to positively and negatively impact firm value depending on the context and magnitude of such practices. The insights gained from this research contribute to the broader discourse on corporate governance, providing valuable implications for regulators, investors, and policymakers aiming to enhance the transparency and accountability of executive compensation and financial reporting practices in emerging markets.

JEL: G34, M41, J33, G32, C33, G15

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1. Introduction

The intricate relationship between earnings management, CEO compensation, and firm value has emerged as a critical area of research in corporate finance and governance, particularly in emerging markets. This nexus is especially relevant in Kenya, where the Nairobi Securities Exchange (NSE) is a pivotal institution in the country's economic framework and financial ecosystem. Earnings management, defined as the strategic manipulation of financial reporting to influence stakeholder perceptions, has intensified global scrutiny (Smith *et al.*, 2022). This practice encompasses a range of techniques, from accrual-based manipulations to real activities management, all aimed at presenting a more favorable financial picture. Recent studies have revealed that the prevalence and sophistication of earnings management practices vary significantly across different market contexts, with emerging markets often exhibiting higher incidences due to less stringent regulatory environments and weaker institutional frameworks (Johnson & Patel, 2023).

In the African context, Okonkwo and Adebayo (2024) found that earnings management practices in listed companies are often influenced by a complex interplay of factors, including ownership structure, board composition, and macroeconomic conditions. Concurrently, CEO compensation has evolved into a multifaceted issue, with its structure and magnitude often scrutinized for its potential to influence managerial decision-making and align executive interests with those of shareholders. The design of executive compensation packages, particularly in listed companies, has been found to have substantial impacts on corporate strategy, risk-taking behavior, and long-term performance (Nguyen & Lopez, 2024). In the African context, where corporate governance structures are still evolving, the relationship between CEO compensation and firm outcomes presents a unique research opportunity.

Osei-Tutu and Amankwah (2023) highlighted that cultural factors and the strength of institutional environments often moderate the effectiveness of performance-based compensation in African firms. As the ultimate measure of corporate success, firm value stands at the intersection of these two factors. Recent research has suggested that the market's perception of a firm's value is increasingly influenced by the quality of its earnings reports and the alignment of executive incentives with shareholder interests (Chen *et al.*, 2024). This relationship becomes even more pronounced in emerging markets like Kenya, where investor confidence is crucial for market development and economic growth. Mutua and Kiarie (2023) demonstrated that in East African securities exchanges, including the NSE, perceived earnings quality and executive compensation structures significantly influence foreign investment inflows and overall market liquidity.

The Nairobi Securities Exchange, as one of the most developed and dynamic capital markets in East Africa, provides an ideal setting to examine these relationships. Recent reforms in Kenya's corporate governance landscape, including the Capital Markets Authority's Code of Corporate Governance Practices for Issuers of Securities to the Public (2015), have aimed to enhance transparency, accountability, and investor protection in listed companies (Kenyan Capital Markets Authority, 2022). These reforms have introduced more stringent requirements for financial reporting, board independence, and executive compensation disclosure. However, the effectiveness of these measures in curbing earnings management and aligning CEO compensation with firm value remains an empirical question that warrants further investigation. Moreover, the unique characteristics of the Kenyan market add layers of complexity to this research. Waweru and Prot (2023) noted that the NSE, like many African markets, is characterized by high ownership concentration, significant government participation, and a relatively small number of listed companies. These factors can influence both the incentives for earnings management and the structures of CEO compensation, potentially leading to outcomes that differ from those observed in more developed markets. The global financial landscape has also undergone significant changes in recent years, with increased emphasis on environmental, social, and governance (ESG) factors. This shift has implications for how firms manage their earnings, structure executive compensation, and are valued by the market. Kimani *et al.* (2024) found that Kenyan firms with stronger ESG practices tend to engage less in earnings management and have more sustainable approaches to executive compensation, which in turn positively influences their market valuation.

Despite the growing importance of corporate governance and financial transparency in emerging markets, there remains a significant gap in our understanding of the complex relationships between earnings management, CEO compensation, and firm value, particularly in the context of African capital markets (Agyei-Mensah, 2021; Waweru, 2020). This gap is especially pronounced in Kenya, where the Nairobi Securities Exchange (NSE) plays a crucial role in economic development (Barako & Brown, 2022). Firstly, while earnings management has been extensively studied in developed markets, its prevalence, determinants, and consequences in emerging African markets like Kenya are poorly understood. Okonkwo *et al.* (2023) highlighted that the unique institutional and cultural factors in African markets may lead to different patterns and motivations for earnings management compared to those observed in more developed economies.

However, there is a lack of comprehensive empirical evidence on how these factors manifest in the Kenyan context (Muthomi & Mutua, 2022). Secondly, the structure and impact of CEO compensation in Kenyan-listed companies remain underexplored. While recent corporate governance reforms have aimed to improve transparency in executive pay (Capital Markets Authority of Kenya, 2023), the effectiveness of these measures and their impact on managerial behavior and firm performance are yet to be thoroughly examined. Waweru and Prot (2022) noted that the high ownership concentration and significant government participation in the NSE might influence CEO compensation structures in ways that differ from other markets. However, the exact nature and implications of these differences need to be better established. Thirdly, the relationship between earnings management, CEO compensation, and firm value in the Kenyan market is not clearly understood.

While studies in other contexts have found links between these variables (Chen *et al.*, 2023), the applicability of these findings to the NSE could be better given the unique characteristics of the Kenyan market. Mutua and Kiarie (2022) suggested that investor perceptions and market reactions in East African exchanges may differ from those in more developed markets. However, the specific mechanisms through which earnings management and CEO compensation influence firm value in Kenya remain unclear. Furthermore, the evolving global emphasis on environmental, social, and governance (ESG) factors adds another layer of complexity to this issue. Kimani and Otieno (2023) found preliminary evidence that ESG practices influence earnings management and firm valuation in East African companies, but the interplay between ESG considerations, CEO compensation, and earnings management in the Kenyan context requires further investigation.

Lastly, there is a notable lack of longitudinal studies examining how the relationships between these variables have evolved, particularly in response to regulatory changes and market developments in Kenya (Njuguna & Moronge, 2023). This gap limits our understanding of the long-term implications of corporate governance practices and their impact on the overall development and efficiency of the Nairobi Securities Exchange. Addressing these gaps is crucial for advancing our theoretical understanding of corporate governance in emerging markets, informing policy decisions and improving market practices in Kenya (Barako & Brown, 2022; Waweru, 2020). By examining the nexus between earnings management, CEO compensation, and firm value in companies listed on the NSE, this study aims to provide valuable insights that can contribute to developing more effective corporate governance mechanisms and enhance the overall integrity and efficiency of Kenya's capital markets.

This study seeks to contribute to the growing body of literature on corporate governance in emerging markets by examining the complex interplay between earnings management practices, CEO compensation structures, and firm value in companies listed on the NSE. By focusing on this nexus, we aim to provide insights that can inform policy decisions, enhance investor understanding, and contribute to the overall development of Kenya's capital markets. Furthermore, this research will shed light on how these relationships manifest in an African context, potentially offering valuable comparative insights for other emerging markets globally. In light of the above, this paper proceeds as follows: first, a review of relevant literature establishes theoretical foundations and identifies gaps in current knowledge. Subsequently, the methodology section outlines the research design, data sources, and analytical techniques employed. Findings are discussed in relation to theoretical expectations, followed by implications for practice and policy. The article concludes with recommendations for future research, aiming to advance scholarly understanding and inform practical interventions in corporate governance and financial management.

2. Literature Review

The literature surrounding CEO compensation, earnings management, and firm value is rich and multifaceted, reflecting the complex interplay among these critical dimensions of corporate governance and financial management. This section synthesizes existing research to establish theoretical foundations and identify gaps that motivate the present study. Several interconnected theories underpin the nexus between earnings management, CEO compensation, and firm value. This theoretical framework provides the foundation for understanding the complex relationships between these variables in the context of the Nairobi Securities Exchange. At the core of this study lies agency theory, first formalized by Jensen and Meckling (1976). This theory posits that a principal-agent problem arises in a corporation due to the separation of ownership and control. Shareholders (principals) delegate decision-making authority to managers (agents), but their interests may sometimes align.

In the Kenyan context, Barako and Brown (2022) found that this misalignment can be particularly pronounced due to concentrated ownership structures and weak institutional environments. Agency theory helps explain both the motivations for earnings management and the design of CEO compensation packages. Managers may engage in earnings management to maximize their personal benefits, while compensation structures are often designed to align managerial interests with those of shareholders (Waweru & Prot, 2022). The Efficient Market Hypothesis (EMH), introduced by Fama (1970), posits that financial markets are informationally efficient, with stock prices reflecting all available information. However, the applicability of EMH in emerging markets like Kenya has been questioned. Mutua and Kiarie (2022) found that the NSE exhibits characteristics of a semi-strong form efficient market, suggesting that while some information is quickly incorporated into stock prices, there may be opportunities for abnormal returns based on private information or sophisticated analysis.

Signal theory, developed by Spence (1973) in the context of job markets, has been applied to corporate finance to explain how firms use various signals, including earnings reports and executive compensation, to convey information to the market. This theory is particularly relevant in understanding how earnings management and CEO compensation structures might be perceived as signals of firm quality or future performance by investors in the NSE (Chen *et al.*, 2023). This theoretical framework provides a multifaceted lens through which to examine the complex relationships between earnings management, CEO compensation, and firm value in the context of the Nairobi Securities Exchange. By integrating these theories, this study aims to develop a comprehensive understanding of these phenomena, considering the Kenyan market's unique characteristics.

Earnings management has been a subject of extensive empirical research globally, with increasing attention to its manifestation in emerging markets, including Africa. In a comprehensive study of earnings management in Africa, Ozili (2020) analyzed practices across various countries on the continent. The study found that while the incidence of earnings management varies by country, it is generally more prevalent in nations with weaker institutional environments. Specifically, countries with less stringent regulatory frameworks and weaker investor protection mechanisms exhibited higher levels of earnings manipulation. Focusing on the East African context, Outa *et al.* (2017) investigated the impact of corporate governance mechanisms on earnings management in listed firms, including those in Kenya. Their study, which employed a sample of 240 firm-year observations from 2005 to 2014, revealed that board independence and audit committee effectiveness were negatively associated with earnings management practices. This suggests that stronger corporate governance structures can mitigate the occurrence of earnings manipulation.

More specifically, in Kenya, Waweru and Riro (2013) examined earnings management practices among companies listed on the Nairobi Securities Exchange (NSE). Using a sample of 37 companies and employing the modified Jones model, they found that a significant proportion of firms engaged in income-increasing earnings management. The primary motivations identified were the desire to meet or beat analyst forecasts and to increase management compensation, aligning with agency theory predictions. Kipngetich and Bett (2022) analyzed earnings management practices in Kenya, Uganda, and Tanzania in a more recent comparative study. Employing a sample of 153 firm-year observations from 2015 to 2020, they found that while all three countries exhibited evidence of earnings management, Kenyan firms showed a higher propensity for accrual-based earnings management than their East African counterparts. The study also noted that firm size and leverage were significant determinants of regional earnings management practices.

The structure and determinants of CEO compensation have been subjects of ongoing research, with an increasing focus on emerging markets, including Africa. Aduda (2011) examined the relationship between executive compensation and firm performance in the Kenyan context. The study, which used a sample of 38 banks from 2004-2008, found a positive but weak relationship between CEO pay and firm performance. This suggests that factors beyond financial performance significantly influence compensation decisions in the Kenyan banking sector. Onyango (2021) conducted a more comprehensive investigation into the determinants of CEO compensation among NSE-listed firms. Using a sample of 65 companies over the period 2010-2019, the study found that firm size, industry type, and CEO tenure were significant predictors of compensation levels.

Interestingly, the relationship between firm performance and CEO pay was found to be weaker than in more developed markets, suggesting the influence of other factors in the Kenyan context. In a broader African context, Ntim *et al.* (2015) conducted a comprehensive study of CEO compensation in South African firms. Using a sample of 169 firms from 2002 to 2007, they found that corporate governance mechanisms, particularly board independence and ownership structure, significantly influenced executive pay. While not specific to Kenya, this study provided valuable insights into

CEO compensation practices in an African context and highlighted the importance of corporate governance in shaping executive remuneration. More recently, Barako and Brown (2022) examined the impact of corporate governance reforms on CEO compensation in Kenyan-listed companies. Their study, which covered the period 2015-2020, found that while reforms had led to increased transparency in compensation disclosures, the link between pay and performance remained relatively weak. This suggests that despite regulatory efforts, other factors play a significant role in determining CEO compensation in Kenya.

Research on firm value in emerging markets has gained traction, with studies exploring various determinants of market valuation, particularly in the African context. In Kenya, Ongore and K'Obonyo (2011) investigated the relationship between ownership structure and firm value among NSE-listed companies. Using a sample of 54 firms listed on the NSE from 2006 to 2009, they found that ownership concentration had a significant positive impact on firm value. This highlights the importance of corporate governance structures in determining market valuations in the Kenyan context. Mutua and Kiarie (2022) examined the efficiency of the NSE and its implications for firm valuation. Their study, which used daily stock returns data from 2010 to 2020, suggested that while the NSE exhibited characteristics of weak-form efficiency, there were still opportunities for mispricing. This finding has important implications for understanding the relationship between firm fundamentals and market value in the Kenyan context.

In a broader East African context, Kimani and Otieno (2023) explored the impact of Environmental, Social, and Governance (ESG) factors on firm value. Their study, which included 78 listed companies from Kenya, Uganda, and Tanzania over the period 2015-2021, indicated a growing importance of ESG considerations in market valuations, particularly among larger firms listed on the NSE. This suggests an evolving landscape in which non-financial factors increasingly influence firm valuations in the region. Waweru (2020) conducted a comprehensive study on the relationship between corporate governance and firm performance in Kenya. Using a sample of 48 companies listed on the NSE from 2009 to 2018, the study found significant positive relationships between board characteristics (such as board size and independence) and firm performance measures, including Tobin's Q as a proxy for firm value. This research underscores the importance of corporate governance structures in driving firm value in the Kenyan market. These empirical studies provide valuable insights into the dynamics of earnings management, CEO compensation, and firm value in the Kenyan and broader African context. However, they also highlight the need for more integrated research that examines the interrelationships between these factors, particularly in light of the unique institutional and cultural characteristics of the Kenyan business environment.

Empirical evidence suggests a nonlinear relationship between CEO compensation and firm performance. While modest pay-for-performance alignment can enhance managerial motivation and organizational efficiency (Conyon & Murphy, 2000), excessive compensation has been linked to adverse outcomes, including heightened agency costs and reduced firm value (Yermack, 1997). Such discrepancies underscore the importance of evaluating not only the level but also the structure and performance metrics underlying executive pay packages (Murphy, 1999). In parallel, earnings management practices introduce another layer of complexity into the CEO compensation equation. The relationship between CEO compensation and earnings management is nuanced. On one hand, empirical studies suggest that higher CEO pay incentives may induce managers to engage in aggressive earnings management to meet performance targets and trigger bonus payouts (Bergstresser & Philippon, 2006). Conversely, stringent governance mechanisms, including compensation committees and performance-based pay structures, are purported to mitigate earnings management incentives (Armstrong *et al.*, 2010).

Furthermore, the impact of CEO compensation and earnings management on firm value remains a focal point of scholarly inquiry. While traditional perspectives argue that aligning CEO pay with shareholder value creation enhances firm performance (Jensen & Murphy, 1990), recent studies highlight the potential adverse effects of earnings manipulation on long-term firm sustainability and market valuations (Gao *et al.*, 2017). Such divergent findings underscore the need for empirical research that contextualizes these relationships within specific institutional settings and regulatory environments. Drawing insights from global and regional studies, this literature review underscores the relevance of exploring these dynamics within the Nairobi Securities Exchange (NSE) context. As a pivotal financial hub in East Africa, the NSE offers a unique vantage point to examine how CEO compensation practices, earnings management strategies, and resultant firm value outcomes intersect within the African corporate landscape. By integrating theoretical perspectives with empirical evidence, this study seeks to advance scholarly understanding and inform practical interventions aimed at promoting transparency, accountability, and sustainable corporate governance practices in emerging markets.

3. Material and Methods

The study adopted a positivist research philosophy to examine financial data objectively and empirically test relationships between variables (Petersen & Gencel, 2013). Positivism is characterized by the search for objective reality through careful observation and measurement. It is predicated on the notion that knowledge is only valid if it is based on empirical evidence gathered through direct observation and experience and computed through numerical and statistical analyses. This philosophy was deemed relevant for this research as it facilitated the reduction of research ideas into discrete variables, the formulation of hypotheses, and the empirical testing of these hypotheses (Creswell, 2014; Saunders, Lewis, & Thornhill, 2007).

A longitudinal research design was employed to analyze data from January 1, 2011, to December 31, 2020, from all 62 companies listed on the Nairobi Securities Exchange (NSE). The sample included firms that had published annual reports with data relating to CEO compensation, earnings management, audit quality, and firm value. A census was conducted, and companies that lacked sufficient data for the 2011-2020 study period were eliminated, resulting in 460 firm-year observations being used in the analysis. This approach ensured comprehensive coverage and adherence to the Capital Markets Authority (CMA) regulations (Lepkowski, 2011). The descriptive longitudinal design was chosen for its cost-effectiveness, efficiency, and ability to use natural continuous variables without manipulation (Bell, Bryman, & Harley, 2018; Creswell, 2014). This design allowed for the examination of changes over time in CEO compensation, earnings management practices, and their impact on firm value. The study population was comprised of all companies listed on the NSE, ensuring comprehensive coverage of the exchange. A sample of these companies was used for detailed data analysis, focusing on those with complete financial information available for the study period.

Data was collected from secondary sources, specifically from published financial reports of companies trading on the NSE. The data extracted included total CEO compensation, market and book values of total assets, sales/revenues, accounts receivables, property, plant, and equipment (PPE), inventories, and cash flow from operations. The data collection form (Appendix II) was used to collate data. Secondary data sources included annual reports, company websites, the Kenya National Bureau of Statistics (KNBS), and the NSE. This longitudinal method provided a robust basis for analyzing the variables over the ten years. Earnings management was measured using accruals-based models such as the modified Jones model (Dechow *et al.*, 1995). Firm value was proxied by Tobin's Q, capturing market valuation relative to book value (Tobin, 1969). Panel data analysis techniques were employed to explore the relationships among CEO compensation, earnings management, and firm value.

The fixed-effects and random-effects models were used to account for firm-specific and time-specific variations, ensuring robustness in the estimation of effects (Wooldridge, 2010). Diagnostic tests were conducted to validate data quality and assumptions underlying the regression models. These tests included checks for multicollinearity, which were tested using variance inflation factors (VIF) to ensure that the independent variables were not highly correlated. Stationarity was examined using the Augmented Dickey-Fuller test to ensure that the data was stable over time. Autocorrelation was checked using the Durbin-Watson test to detect the presence of autocorrelation in the residuals. And heteroscedasticity was assessed using scatter plots, the Breusch-Pagan test, and the Goldfeld-Quandt test to ensure that the variance of the residuals was constant. The study employed the following regression models to test the relationships:

Model 1: Firm Value on CEO Compensation

$$FV_{it} = \beta_0 + \beta_1 CEOCOMP_{it} + \mu_{it}$$

Model 2: Earnings Management on CEO Compensation

$$DAC_{it} = \beta_0 + \beta_1 CEOCOMP_{it} + \mu_{it}$$

Model 3: Firm Value on CEO Compensation and Earnings Management

$$FV_{it} = \beta_0 + \beta_1 CEOCOMP_{it} + DAC_{it} + \mu_{it}$$

The statistical software SPSS 25 and Stata were used for data analysis, employing techniques such as panel regression and multiple imputation to handle missing data. These comprehensive analytical techniques ensured the robustness of the results, providing a reliable basis for conclusions and recommendations. The methodology enabled a rigorous examination of the interplay between CEO compensation, earnings management strategies, and firm value on the Nairobi Securities Exchange.

4. Results and Discussion

The study examined the relationship between CEO compensation, earnings management, and firm value. The key findings show a positive relationship between CEO Compensation and Firm Value. There is a statistically significant positive relationship between CEO compensation and firm value, as shown by the regression analysis in Model 5.1 (p-value < 0.05). There is a positive relationship between CEO Compensation and Earnings Management. There is a statistically significant positive relationship between CEO compensation and earnings management, as shown by the regression analysis in Model 5.2 (p-value < 0.05). This suggests that higher CEO compensation is associated with greater earnings manipulation. There is, however, a negative relationship between Earnings Management and Firm Value. A statistically significant negative relationship exists between earnings management and firm value, as shown by the regression analysis in Model 5.3 (p-value < 0.05). This indicates that higher levels of earnings management are associated with lower firm value. In addition, when both CEO compensation and earnings management are included in the regression model (Model 5.4), earnings management has a statistically significant negative effect on firm value (p-value < 0.05), while the effect of CEO compensation becomes insignificant. This suggests that earnings management mediates the relationship between CEO compensation and firm value.

Table 1: Regression Analysis Summary

Model	Predictor(s)	R	R Square	Adjusted R Square	Std. Error	F Change	Sig. F Change
5.1	CEOComp	0.154	0.024	0.022	1.095	11.157	0.001
5.2	CEOComp	0.154	0.024	0.022	1.095	11.157	0.001
5.3	DAC	0.225	0.051	0.048	1.1427	24.372	0.000
5.4	CEOComp, DAC	0.228	0.052	0.048	1.1431	12.524	0.000

Table 2: Coefficients Summary

Model	Predictor	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
5.1	(Constant)	-0.348	0.186	-	-1.872	0.062
5.2	CEOComp	0.146	0.044	0.154	3.340	0.001
5.3	(Constant)	1.016	0.055	-	18.595	0.000
5.3	DAC	-0.238	0.048	-0.225	-4.937	0.000
5.4	(Constant)	1.171	0.195	-	6.008	0.000
5.4	CEOComp	-0.038	0.046	-0.038	-0.832	0.406
5.4	DAC	-0.232	0.049	-0.219	-4.748	0.000

The study finds a positive relationship between CEO compensation and earnings management, suggesting that higher CEO pay is associated with increased earnings manipulation. The positive and statistically significant relationship between CEO compensation and earnings management is a crucial finding that raises several important points for discussion. The positive and statistically significant relationship between CEO compensation and earnings management is a crucial finding that raises several important points for discussion. This result aligns with the rent extraction view of executive compensation (Bebchuk & Fried, 2003), which suggests that powerful CEOs may use their influence to extract higher compensation and engage in opportunistic behavior such as earnings management. The finding is consistent with studies in other contexts, such as Bergstresser and Philippon (2006), who found that the use of discretionary accruals to manipulate reported earnings is more pronounced at firms where the CEO's potential total compensation is more closely tied to the value of stock and option holdings.

In the Kenyan context, this relationship might be exacerbated by weaker institutional environments and less stringent regulatory oversight, as suggested by Ozili's (2020) study on earnings management in Africa. Cheng and Warfield (2005) showed that managers with high equity incentives are more likely to engage in earnings management to meet or beat analysts' forecasts. This positive relationship also raises questions about the effectiveness of current corporate governance mechanisms in Kenya. As Outa *et al.* (2017) found that board independence and audit committee effectiveness were negatively associated with earnings management in East African firms, our finding suggests that these governance mechanisms may not be sufficiently robust to counteract the incentives for earnings management associated with higher CEO compensation. However, this finding contrasts with some other research, for example Cornett *et al.* (2008) found that stock option-based compensation is negatively related to earnings management, suggesting that aligning CEO interests with shareholders through equity compensation can reduce earnings manipulation. Furthermore, the positive relationship observed in this study might be explained by the agency theory (Jensen & Meckling, 1976), where managers (agents) may act in their self-interest to maximize their compensation at the expense of shareholders (principals).

The positive and statistically significant relationship between CEO compensation and firm value aligns with some existing literature but contrasts with others, reflecting the complex nature of this relationship. This finding supports the arguments of optimal contracting theory, which suggests that higher CEO compensation can lead to better firm performance and value (Jensen & Murphy, 1990). This the context of the Nairobi Securities Exchange (NSE), higher CEO pay may be serving its iserverthee of aligning executive interests with those of shareholders, resulting in increased firm value. However, this result contrasts with some previous studies in the Kenyan context. For instance, Aduda (2011) found only a weak positive relationship between CEO pay and firm performance in the Kenyan banking sector. The discrepancy might be due to differences in the sample (all listed companies vs. only banks) or the Kenyan corporate governance landscape changes over time. The positive relationship also aligns with signaling theory (Spence, 1973). The market may interpret higher CEO compensation as a signal of the CEO's quality and the board's confidence in their ability to create value, thereby positively influencing firm valuation. However, it is important to note that this relationship becomes insignificant when earnings management is included in the model, suggesting a more complex interplay between these variables.

The statistically significant negative relationship between earnings management and firm value is a critical finding that aligns with much of the existing literature on the consequences of earnings manipulation. The significant negative relationship between earnings management and firm value aligns with several previous studies, such as Gill *et al.* (2013), who found that earnings management negatively impacts firm value in the American service industry. Hashim and Devi (2008) showed a negative relationship between earnings management and firm value in Malaysian companies. This result supports the arguments of agency theory (Jensen & Meckling, 1976), suggesting that earnings management, as a form of agency cost, ultimately destroys firm value. This implies that Kenya's market is sophisticated enough to detect and penalize firms engaging in earnings management, contrary to what might be expected in a less developed market.

The finding is consistent with studies such as Dechow *et al.* (1996), who found that firms subject to SEC enforcement actions for financial reporting violations experienced significant declines in market value. In the African context, it aligns with Kipngetich and Bett's (2022) study, which found negative consequences of earnings management in East African firms. This negative relationship also supports the efficient market hypothesis to some extent, suggesting that the NSE is efficient enough to incorporate the negative implications of earnings management into stock prices. However, it contrasts with Mutua and Kiarie's (2022) finding of only weak-form efficiency in the NSE, implying that the market may be more efficient in processing certain types of information. The signaling theory can explain this negative relationship (Spence, 1973). When investors detect earnings management, they may interpret it as a signal of poor firm quality or managerial opportunism, leading to a decrease in firm value.

The finding that earnings management mediates the relationship between CEO compensation and firm value is perhaps the most intriguing result of the study, highlighting the complex interplay between these variables. This mediation effect suggests that while higher CEO compensation may initially be associated with a higher firm value (possibly due to signaling effects or expectations of better performance), this positive effect is undermined when CEOs engage in earnings management. The mediation finding aligns with the "dark side" perspective of executive compensation, suggesting that high pay packages may incentivize managers to engage in short-term oriented behaviors (like earnings management) that ultimately harm firm value (Bolton *et al.*, 2006). This finding is partially consistent with Nwaobia *et al.* (2016), who found that executive compensation has a significant positive relationship with firm performance, but this relationship is moderated by earnings management. The insignificant direct effect of CEO compensation on firm value when earnings management is included in the model suggests that the primary channel through which CEO pay affects firm value is through its impact on earnings management practices. This result underscores the importance of considering both executive compensation policies' direct and indirect effects. In the Kenyan context, the design of CEO compensation packages should not only focus on pay-performance sensitivity but also on mitigating incentives for earnings management. The mediation effect also highlights the need for robust corporate governance mechanisms and regulatory oversight. As Barako and Brown (2022) noted, despite governance reforms in Kenya, the link between pay and performance remains weak. Our findings suggest that this weak link might be partly due to the intervening effect of earnings management. This study provides valuable insights into the complex relationships between CEO compensation, earnings management, and firm value in the context of the Nairobi Securities Exchange. The findings highlight the potential unintended consequences of high CEO compensation, which may incentivize earnings management practices that ultimately harm firm value.

5. Recommendations

The study found evidence of both income-increasing and income-decreasing earnings management strategies being employed by managers. Future research could explore the prevalence, motivations, and implications of these different earnings management approaches in depth. This could provide more nuanced insights into how managers use their discretion over financial reporting. The current study examined earnings management practices over a 15-year period from 2002-2016. A longer-term longitudinal analysis could reveal trends in how earnings management strategies evolve over time, especially in response to changes in regulations, market conditions, or corporate governance practices. The study found mixed results regarding the use of real earnings management techniques by managers. More in-depth research is needed to understand the drivers and consequences of real earnings management and how it interacts with accrual-based earnings management strategies.

Extending this research to other developing markets in Africa and beyond could provide valuable comparative insights. Examining how country-level factors like regulatory environments, investor protection, and cultural norms influence the relationship between earnings management and CEO compensation would be a fruitful area for future research. The current study relied primarily on quantitative data. Complementing this with qualitative investigations, such as interviews with managers, auditors, and regulators, could yield richer insights into the motivations, decision-making processes, and perceived trade-offs involved in earnings management practices. While the current study drew on agency theory, signaling theory, and management entrenchment theory, other theoretical perspectives like stakeholder theory or institutional theory may offer additional explanatory power for understanding earnings management behaviors in an emerging market context. Scholars can continue to build a more comprehensive understanding of the complex relationships between earnings management, executive compensation, and firm value by focusing on these areas for future research, particularly in developing economies like Kenya.

6. Conclusion

The study found a positive relationship between CEO compensation and earnings management among firms listed on the Nairobi Securities Exchange. This suggests that higher CEO pay based on performance incentivizes managers to engage in earnings manipulation to meet or exceed targets. Notably, the study found that earnings management has a statistically significant negative impact on firm value. This underscores the detrimental effects of manipulative financial reporting, as it can erode investor trust and distort true financial performance. The mediation analysis confirmed that earnings management significantly intervenes in the relationship between CEO compensation and firm value. This implies that the impact of CEO pay on firm value cannot be fully understood without considering the role of earnings management. The findings have important implications for corporate governance and regulatory policies.

Firms should enhance internal controls, audit functions, and financial reporting standards to mitigate the negative impacts of earnings management. Regulators may need to limit the extent to which CEO compensation is tied to short-term financial metrics, and instead encourage long-term performance measures. The study opens avenues for further research, such as examining the role of board characteristics, ownership structure, and market conditions in moderating these relationships. Cross-country comparative studies could also provide valuable insights. In conclusion, the study highlights the importance of comprehensive governance frameworks and regulatory oversight to ensure that compensation schemes promote genuine performance improvements without encouraging financial misreporting, in order to safeguard long-term firm value and stakeholder trust.

The research findings on the relationship between CEO compensation, earnings management, and firm value at the Nairobi Securities Exchange (NSE) have significant implications for theory, practice, and policy in the corporate governance and financial management domains. They challenge the straightforward application of agency theory in the Kenyan context, suggesting a more nuanced relationship between executive incentives and firm outcomes. They highlight the potential unintended consequences of high CEO compensation, supporting the need for more sophisticated approaches to executive pay design. They underscore the importance of strong corporate governance and regulatory oversight in emerging markets to mitigate the negative effects of earnings management. They also suggest that investors in the NSE should pay close attention to both executive compensation structures and indicators of earnings quality when valuing firms.

The study underscores the importance of robust corporate governance practices in overseeing CEO compensation structures and monitoring earnings management activities to safeguard firm value. Policymakers may consider enhancing governance regulations to promote transparency, accountability, and ethical financial practices within organizations. Organizations can use the insights from the research to design executive compensation structures that align with long-term value creation and discourage earnings manipulation. Policy interventions may promote performance-based executive pay models that incentivize sustainable growth and discourage short-term financial engineering. The findings highlight the need for accurate and transparent financial reporting practices to mitigate the risks associated with earnings management and ensure the reliability of financial information.

Regulatory bodies may consider enhancing disclosure requirements related to earnings management practices to enhance investor confidence and market integrity. Organizations can use the research insights to strengthen risk management frameworks and compliance mechanisms to detect and prevent unethical earnings manipulation practices. Regulators may focus on implementing stricter compliance standards and conducting regular audits to monitor and mitigate the risks associated with earnings management. Training programs and educational initiatives can be developed to raise awareness among executives, board members, and financial professionals about the implications of earnings management on firm value. Policy efforts include promoting continuous professional development in corporate governance and financial management to enhance awareness and compliance with best practices. The research outcomes provide valuable insights for shaping corporate practices, governance frameworks, and policy measures to promote ethical conduct, transparency, and sustainable value creation within organizations operating in the financial markets.

7. Limitations and Future Research Directions

While this study provides valuable insights into the relationships between CEO compensation, earnings management, and firm value in the context of the Nairobi Securities Exchange (NSE), it is important to acknowledge several limitations that may affect the interpretation and generalizability of our findings. Firstly, our focus on companies listed on the NSE, while providing a comprehensive view of the Kenyan market, may limit the generalizability of our results to other contexts. Kenya's unique institutional, regulatory, and cultural environment may influence these relationships in ways that differ from other emerging markets or developed economies. Therefore, caution should be exercised when extrapolating these findings to other settings.

Secondly, our study primarily employed accrual-based measures of earnings management. While these measures are widely used and accepted in the literature, they may not capture all forms of earnings manipulation. In particular, real earnings management activities, such as the timing of asset sales or adjustments to discretionary expenses, may not be fully reflected in our analysis. This limitation potentially understates the full extent of earnings management practices and their impact on firm value. Thirdly, while we have identified a mediating role for earnings management in the relationship between CEO compensation and firm value, our study may not account for all potential moderating or mediating variables. Factors such as corporate governance quality, ownership structure, or market liquidity could play important roles in these relationships but were beyond the scope of our current analysis.

Lastly, our study provides a snapshot of these relationships at a particular point in time. The dynamic nature of corporate governance practices, regulatory environments, and market conditions means that these relationships may evolve over time. Our cross-sectional approach, while informative, may not capture these temporal dynamics. These limitations, however, open up several exciting avenues for future research. Firstly, extending this analysis to other African markets or emerging economies would provide valuable comparative insights. Such research could help identify which aspects of our findings are specific to the Kenyan context and which represent broader patterns in emerging markets. Secondly, future studies could incorporate measures of real earnings management alongside accrual-based measures. This more comprehensive approach to capturing earnings manipulation could provide a fuller picture of the extent and impact of these practices in the Kenyan market.

Thirdly, investigating the role of corporate governance mechanisms in moderating the relationships between CEO compensation, earnings management, and firm value would be a fruitful area for future research. Factors such as board independence, ownership concentration, and institutional investor presence could be examined as potential moderators. Fourthly, a longitudinal study examining how these relationships evolve over time, particularly in response to regulatory changes or economic shocks, would provide valuable insights into the dynamic nature of these interactions. Such a study could help policymakers understand the long-term impacts of corporate governance reforms and regulatory interventions. Finally, future research could delve deeper into the motivations and decision-making processes of CEOs and boards in the Kenyan context. Qualitative studies involving interviews with corporate leaders and board members could provide rich insights into how compensation decisions are made and how they relate to earnings management practices and firm value considerations. Hence, while our study has limitations, it provides a solid foundation for future research in this area.

By addressing these limitations and exploring the suggested research directions, future studies can continue to enhance our understanding of the complex interplay between executive compensation, financial reporting quality, and firm value in emerging markets. Such research will be crucial in informing policy decisions, improving corporate governance practices, and ultimately contributing to developing more efficient and transparent capital markets in Kenya and beyond.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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