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CEO Dynamics and Real Earnings Management: A Gender Diversity Perspective from Sub-Saharan Africa

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Abstract: Sub-Saharan Africa's (SSA) corporate environment, like many emerging markets, is characterised by institutional voids, opaque oversight mechanisms, and patriarchal leadership structures, amplifying the risk of real earnings management (REM). This study investigates the relationship between CEO characteristics and REM within the manufacturing sector of SSA, emphasising the moderating role of audit committee gender diversity—a novel area of inquiry in the region's predominantly male governance landscape. Employing pooled ordinary least squares (OLS), random effects (RE), and fixed effects (FE) regression models, this research analyses 1,189 firm-year observations from 142 manufacturing firms across 13 SSA countries, covering the period from 2012 to 2022. The findings indicate that firms with female CEOs exhibit significantly lower levels of REM, aligning with theories of ethical leadership and risk aversion. CEO ownership and tenure do not show a statistically significant direct relationship with REM, whereas the impact of CEO nationality yields mixed results. Notably, gender-diverse audit committees substantially enhance oversight and effectively mitigate REM, particularly within firms led by male CEOs. To confirm the robustness of these findings, feasible generalised least squares (FGLS) estimation was employed, addressing potential heteroscedasticity and serial correlation in panel data. The consistent results across different estimation techniques affirm the reliability and validity of the observed governance–REM relationships. The study underscores the critical role of gender diversity in corporate governance frameworks, advocating policy reforms aimed at increasing female leadership and enhancing audit committee diversity to strengthen financial transparency. These insights contribute meaningfully to global discussions on ethical governance, providing actionable policy recommendations for emerging economies grappling with market fragmentation and governance challenges.

Keywords: real earnings management; CEO characteristics; gender diversity

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Introduction

Manufacturing firms in Sub-Saharan Africa (SSA) operate within a uniquely challenging business environment characterised by fragmented markets and limited regional integration. These structural inefficiencies amplify operational difficulties, resulting in increased production costs and reduced global competitiveness (Avordeh et al., 2024). Furthermore, restricted access to international capital markets exacerbates these challenges, limiting firms' abilities to secure essential financing for expansion and sustainable operations (Didier et al., 2021; Kaur et al., 2023). Facing these pressures, firms may engage in real earnings management (REM), which involves strategic manipulation of operational activities—such as overproduction, aggressive sales discounting, or cuts in discretionary expenditures—to artificially align financial outcomes with investor expectations (Roychowdhury, 2006). Although such practices can temporarily enhance reported earnings, they often undermine long-term organisational value by distorting resource allocation and eroding stakeholder trust (Ali & Kamardin, 2018; Cohen & Zarowin, 2010; Mensah & Bein, 2023; Qawasmeh & Azzam, 2020). This tension between short-term financial optics and sustainable growth raises critical governance and ethical considerations, particularly in resource-constrained economies.

Within this context, the role of Chief Executive Officers (CEOs) is pivotal in either perpetuating or mitigating REM practices. CEO characteristics—including gender, ownership stakes, tenure, and nationality—significantly influence strategic financial decisions, particularly in environments prone to operational and governance challenges (Ali & Zhang, 2015). For instance, female CEOs, who typically exhibit risk-averse leadership styles, are generally less likely to engage in REM and are more inclined to prioritise long-term stability over short-term financial manipulation (Amelia & Eriandani, 2021; Kang et al., 2023). Conversely, CEOs with substantial equity ownership may face conflicting incentives: while higher ownership can align CEO interests with shareholder objectives, potentially reducing REM (Jensen & Meckling, 1976), concentrated equity may also provide the discretionary control needed to manipulate earnings for personal gain (Morck et al., 1988; Roychowdhury, 2006; Shleifer & Vishny, 1997).

The relationship between CEO tenure and REM is similarly nuanced. CEOs with longer tenures often accumulate valuable institutional knowledge and reputational capital, reducing their propensity to engage in REM, provided governance frameworks are robust. Conversely, CEOs with shorter tenures may feel pressured to meet short-term performance targets, increasing the likelihood of earnings manipulation (Qawasmeh & Azzam, 2020). Additionally, CEO nationality introduces further complexity; leaders originating from jurisdictions with stringent regulatory environments may import practices that limit REM, whereas those from regions with weaker oversight might adopt less stringent standards (Khanna et al., 2004; La Porta et al., 1998; Leuz et al., 2003). Thus, personal and positional attributes of CEOs interact intricately with institutional settings, significantly influencing financial reporting outcomes in SSA.

Complementing CEO influence, corporate governance mechanisms, notably gender-diverse audit committees, play a crucial role in curbing REM by imposing rigorous oversight. In SSA, characterised by fragmented institutional oversight and male-dominated governance structures, gender diversity within audit committees emerges as a critical mechanism to enhance financial integrity (Adams & Ferreira, 2009; Lakhal et al., 2015). Research indicates that gender-diverse committees exhibit greater diligence in monitoring managerial activities, demonstrate a propensity for risk-averse decision-making (Levi et al., 2014), and more effectively challenge aggressive accounting practices (Gavious et al., 2012). Such committees prioritise long-term corporate reputation and financial integrity, aligning with agency theory's assertion that diversified governance structures mitigate managerial opportunism (Fama & Jensen, 1983). However, the effectiveness of these committees may vary due to cultural norms influencing women's participation and members' technical expertise in governance oversight (Bear et al., 2010; Musa et al., 2023).

Existing literature on CEO attributes and REM highlights four key research gaps. Firstly, although studies have explored CEO characteristics extensively in developed and Asian markets (Ali & Zhang, 2015; Qawasmeh & Azzam, 2020), SSA remains underrepresented, despite its unique institutional context (World Bank Group, 2021). Secondly, while gender diversity on audit committees is recognised for its oversight potential (Adams & Ferreira, 2009; Musa et al., 2023), its role as a moderator in the CEO-REM relationship remains under-explored, especially in patriarchal governance contexts. Thirdly, existing research largely focuses on financial and service sectors (Cohen & Zarowin, 2010), overlooking manufacturing industries, where complexities in production processes and supply-chain volatility uniquely incentivise operational manipulations. Finally, mixed empirical findings, especially regarding CEO tenure and REM (Ali & Zhang, 2015; Qawasmeh & Azzam, 2020), underscore methodological inconsistencies and a lack of contextual granularity, necessitating robust frameworks tailored specifically to SSA's institutional environment (Dechow et al., 2010; Owusu et al., 2020).

To bridge these gaps, this study sets five objectives: (1) to examine how CEO gender impacts REM in SSA-listed manufacturing firms, specifically assessing whether female CEOs' risk aversion reduces earnings manipulation; (2) to analyse the effect of CEO ownership on REM, exploring whether ownership aligns managerial and shareholder interests or facilitates financial manipulation; (3) to investigate the influence of CEO tenure on REM, evaluating how accumulated knowledge and reputational concerns affect managerial behaviour; (4) to assess the role of CEO nationality in influencing REM through cross-border variations in governance norms; and (5) to evaluate the moderating effect of audit committee gender diversity on the relationship between CEO characteristics and REM.

This study contributes to academic and practical discourse in four significant ways. Theoretically, it integrates Agency Theory (Jensen & Meckling, 1976) with Upper Echelons Theory (Hambrick & Mason, 1984), providing a comprehensive framework for analysing interactions between governance mechanisms and CEO attributes in REM decisions. Empirically, the research offers region-specific insights into SSA's manufacturing sector, addressing critical knowledge gaps and exploring the novel moderating role of gender-diverse audit committees. From a policy perspective, findings inform regulatory recommendations, advocating for gender quotas and ethical criteria in CEO selection and audit committee appointments, enhancing financial transparency and investor trust. Practically, the results provide governance practitioners actionable strategies to improve oversight mechanisms, mitigate earnings manipulation, and foster long-term operational sustainability.

By exploring the interplay of leadership, governance, and institutional contexts, this study highlights the necessity of gender-inclusive governance and context-sensitive executive oversight. As SSA's manufacturing sector expands amidst global market shifts, transparent financial reporting practices will be vital for sustainable industrialisation and investment attraction. Subsequent sections elaborate the theoretical framework, methodological approach, empirical findings, and their policy and managerial implications, tailored specifically to SSA's dynamic economic landscape.

2.1. Empirical Review and Hypotheses Development

This section synthesises global and regional empirical evidence, placing it within the institutional context of Sub-Saharan Africa (SSA). The aim is to identify how CEO profiles and governance structures interact to influence REM, thereby highlighting specific gaps in the literature relevant to SSA's unique governance and market dynamics.

2.1.1. CEO Characteristics and REM

The relationship between CEO gender and REM is shaped by varying institutional and cultural factors across regions, resulting in mixed empirical findings. In many Asian and European contexts, studies have consistently shown that female CEOs are associated with reduced REM, attributed to risk-averse financial strategies and a stronger adherence to ethical governance practices. For instance, Altarawneh et al. (2022) find that female CEOs in Malaysia significantly reduce discretionary accruals. Similarly, research conducted in China (Xiong, 2016) and South Korea (Kyunga & Jooyeon, 2017) links gender diversity at the executive level with conservative financial behaviour. European studies reinforce this trend. Bouaziz et al. (2020), for example, argue that female CEOs tend to prioritise long-term stakeholder trust over short-term financial reporting incentives, thereby reducing REM. African studies by Githaiga et al. (2022) and Attia et al. (2022) report comparable outcomes in East Africa and Egypt, though generalisability remains limited due to smaller sample sizes and varying regulatory environments.

In contrast, recent evidence from SSA reveals more complex and sometimes contradictory patterns. Studies based in Nigeria (Musa et al., 2023; Odubuasi et al., 2023) report a positive association between female CEOs and REM. These findings suggest that contextual pressures—including male-dominated governance systems, fragmented market structures, and intense investor expectations—may compel female executives to adopt short-term earnings strategies to maintain organisational viability. While Agency Theory would suggest that female CEOs, acting as agents of stakeholder interests, ought to prioritise transparency (Jensen & Meckling, 1976), Upper Echelons Theory (Hambrick & Mason, 1984) helps to explain these discrepancies. The theory argues that

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executives' decisions are shaped by their personal values and experiences, which, in turn, are influenced by the broader institutional context. Within SSA, where audit committees often lack gender diversity (Musa et al., 2023) and patriarchal norms persist, female CEOs may face systemic barriers that pressure them into REM as a survivalist tactic. Based on these insights, we posit the following hypothesis:

H$_1$: *Female CEOs in Sub-Saharan African-listed manufacturing firms are associated with lower levels of REM.*

2.1.2. CEO Ownership and REM

The relationship between CEO ownership and REM is shaped by competing theoretical paradigms, with institutional contingencies explaining divergent outcomes across regions. Nguyen et al. (2023) observed that Vietnamese CEOs with equity stakes engage in REM, albeit insignificantly, while studies in Jordan (Qawasmeh & Azzam, 2020), Bangladesh (Debnath et al., 2021), and Malaysia (AL-Duais et al., 2021) report significant positive effects. These findings align with Agency Theory's entrenchment perspective (Morck et al., 1988), where ownership insulates CEOs from oversight, enabling opportunistic financial engineering to meet short-term targets. This pattern extends to the United Kingdom, where O'Callaghan et al. (2018) linked high CEO ownership in private firms to REM, reflecting alignment with shareholder demands for immediate returns.

In SSA, however, the evidence is contradictory. Nigerian studies exemplify this tension: Musa and Yahaya (2023) and Farouk and Ahmed (2023) report positive CEO ownership–REM links, attributing this to entrenched control in weakly regulated markets. Conversely, Odubuasi et al. (2023) found negative associations, suggesting that ownership aligns CEO–shareholder incentives, as predicted by Agency Theory. This paradox is clarified by Upper Echelons Theory, which posits that CEO decisions are filtered through institutional environments. SSA's institutional context, characterised by opaque governance and fragmented markets, reflects the institutional voids described by Khanna and Palepu (1997). These voids, coupled with limited shareholder activism and weak investor protection mechanisms, create fertile ground for opportunistic behaviour.

Stewardship Theory complicates this narrative further. Cultural norms in SSA, such as communal leadership and long-term orientation (Musa et al., 2023), could theoretically foster stewardship over opportunism. Yet, this outcome depends heavily on board effectiveness and gender diversity—factors often underdeveloped in SSA's institutional framework. Thus, while Agency Theory and Upper Echelons Theory dominate the explanation of SSA's REM dynamics, the applicability of Stewardship Theory remains contingent on the maturity of governance institutions.

Given these competing perspectives, CEO ownership in SSA is expected to exhibit a positive association with REM, largely due to entrenched control within weakly governed environments. This leads to the formulation of the second hypothesis:

H2: *Higher CEO ownership in Sub-Saharan African-listed manufacturing firms is positively associated with real earnings management (REM).*

2.1.3. CEO Tenure and REM

The relationship between CEO tenure and REM remains empirically contested, reflecting divergent institutional dynamics and theoretical tensions. In Asia, studies present mixed findings. For instance, research conducted in China and Malaysia has shown that longer CEO tenure correlates with reduced REM, attributing this to strategic prudence and accumulated institutional knowledge (Altarawneh et al., 2022; Xiong, 2016). In contrast, Qawasmeh and Azzam (2020) in Jordan and Nguyen et al. (2023) in Vietnam report positive associations, suggesting that entrenched CEOs leverage operational discretion to manipulate earnings. European studies, such as Salhi's (2019) investigation of French firms, support the negative relationship, suggesting that experienced CEOs tend to prioritise long-term value creation over short-term financial performance.

Within SSA, the evidence is similarly inconclusive. Nigerian studies highlight these contradictions: Musa and Yahaya (2023) and Ashafoke et al. (2021) find a positive association, indicating that prolonged CEO tenure may increase REM due to entrenched authority in poorly regulated environments. Conversely, Odubuasi et al. (2023) document a negative relationship, suggesting that longer tenure can foster accountability and diminish the inclination to engage in earnings manipulation. According to Agency Theory, extended tenure should enhance alignment between CEOs and shareholders, thereby reducing REM. However, Entrenchment Theory argues the opposite: that longer-serving CEOs may become insulated from external oversight, facilitating opportunistic behaviour.

Upper Echelons Theory provides a contextual interpretation of these conflicting findings. It posits that the strategic choices of CEOs are shaped by their cognitive frameworks and filtered through the prevailing institutional environment. In SSA, institutional voids—such as underdeveloped governance systems, weak audit committee structures, and limited shareholder activism (Khanna & Palepu, 1997)—diminish accountability mechanisms. Consequently, long-tenured CEOs may exploit their operational latitude to achieve short-term performance goals, often at the expense of sustainable value creation (Musa et al., 2023). This highlights the limitations of Agency Theory's alignment thesis in weak institutional settings. Based on these insights, we posit the following hypothesis:

H$_3$: *Longer CEO tenure in Sub-Saharan African-listed manufacturing firms is positively associated with REM.*

2.1.4. CEO Nationality and REM

The influence of CEO nationality on REM reflects a complex interplay of cultural norms, institutional familiarity, and governance efficacy, yielding divergent outcomes across global contexts. Studies such as Goel (2018) in India and Nguyen et al. (2023) in Vietnam report positive associations, attributing this to foreign CEOs leveraging operational discretion to navigate unfamiliar regulatory landscapes or respond to short-term investor pressures. Conversely, Rehmana et al. (2021) in Pakistan and Suherman et al. (2023) in Indonesia identify negative associations, suggesting that foreign CEOs may import stringent governance practices that deter REM—especially in jurisdictions with stronger institutional convergence. European evidence, including Bouaziz et al. (2020) and Salhi (2019), supports this view, arguing that local CEOs are more prone to engage in earnings manipulation due to cultural entrenchment and prioritisation of stakeholder accommodation.

In SSA, the evidence remains inconclusive. Nigerian studies underscore this paradox. Musa and Yahaya (2023) and Lawrence (2023) report positive associations, indicating that foreign CEOs may exploit governance weaknesses or conform to short-term investor demands in fragmented markets. Conversely, Musa et al. (2023) and Odubuasi et al. (2023) document negative or insignificant relationships, suggesting that foreign CEOs may be more constrained by ethical frameworks or face structural barriers to opportunistic behaviour due to cultural and operational unfamiliarity.

Agency Theory suggests that foreign CEOs, as external agents, may align with global standards of ethical conduct and transparency, thereby reducing the likelihood of REM. However, Upper Echelons Theory introduces institutional context into this equation, positing that CEO decisions are shaped not only by personal values but also by the environments in which they operate. Within SSA, where regulatory systems are often weak and cultural norms vary significantly, foreign CEOs may struggle to internalise local expectations or governance nuances. This lack of contextual embeddedness could inadvertently incentivise REM as a tool to meet performance expectations or close informational gaps. Hence, the contextual limitations of Agency Theory are evident, as institutional voids heighten informational asymmetries and increase the risk of misaligned incentives. Based on these theoretical and empirical insights, we propose the following hypothesis:

H$_4$: *Foreign CEOs in Sub-Saharan African-listed manufacturing firms are positively associated with REM.*

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2.1.5. Conceptual Basis for the Moderating Role of Audit Committee Gender Diversity

The relationship between CEO tenure and REM remains ambiguous, shaped by institutional vulnerabilities, sectoral differences, and variations in governance frameworks. Empirical studies across global contexts reveal inconsistent outcomes. In Sri Lanka, gender-diverse audit committees have been found to enhance oversight and reduce REM by reinforcing ethical standards and encouraging risk-sensitive decision-making (Balagobei & Keerthana, 2022). In contrast, findings from Jordan indicate that politically connected CEOs can circumvent governance checks, thereby increasing REM risks (Alhmood et al., 2020).

Such regional disparities persist in Asia and Europe. Research in China and Malaysia links extended CEO tenure with reduced REM, attributing this to accumulated industry expertise and strategic foresight (Altarawneh et al., 2022; Xiong, 2016). Conversely, evidence from Jordan and Vietnam suggests that entrenched CEOs exploit their operational autonomy, contributing to increased REM (Nguyen et al., 2023; Qawasmeh & Azzam, 2020). French studies align with the former, noting that long-serving CEOs tend to favour sustainable growth strategies over short-term financial manipulation (Salhi, 2019).

In SSA, the evidence remains mixed. Nigerian studies illustrate tenure's dual effect: Ashafoke et al. (2021) and Musa and Yahaya (2023) associate prolonged CEO tenure with increased REM in weak regulatory environments, while Odubuasi et al. (2023) report a negative association, suggesting tenure may improve accountability. Despite these insights, empirical research examining how audit committee gender diversity interacts with CEO characteristics to mitigate REM remains sparse within SSA.

Given the governance challenges prevalent in SSA—including male-dominated boards, institutional voids, and limited shareholder activism—gender-diverse audit committees are conceptually positioned to serve as an effective moderating mechanism. Drawing on Agency Theory and Gender Socialisation Theory, it is reasonable to propose that audit committees with gender diversity contribute to improved scrutiny, reduced managerial opportunism, and enhanced ethical governance. These factors may diminish the capacity of entrenched or dominant CEOs to manipulate earnings. Based on this conceptual rationale, we posit the following hypothesis:

H_5: *Audit committee gender diversity moderates the relationship between CEO characteristics and Real Earnings Management in Sub-Saharan African-listed manufacturing firms.*

2.2. Theoretical Framework

This study is grounded in two principal theoretical perspectives—Agency Theory and Upper Echelons Theory—which together offer a comprehensive foundation for analysing the relationship between CEO characteristics, audit committee dynamics, and real earnings management (REM). These frameworks guide the examination of how governance structures and leadership attributes jointly influence earnings management practices, particularly within the institutional context of Sub-Saharan Africa (SSA).

Agency Theory posits a principal–agent relationship within corporate governance, wherein managers (agents) act on behalf of shareholders (principals). This relationship is inherently susceptible to conflicts of interest, as managers may pursue personal goals at the expense of shareholder value, thereby engaging in earnings management. Jensen and Meckling (1976) laid the groundwork for Agency Theory, while Fama and Jensen (1983) further highlighted the importance of governance mechanisms—such as boards and audit committees—as tools to mitigate agency conflicts. More contemporary contributions, including DeFond and Francis (2005) and the Committee on the Financial Aspects of Corporate Governance (1992), underscore the critical oversight role of audit committees. Within this study, audit committee gender diversity is conceptualised as a governance enhancement mechanism, improving ethical oversight and reducing REM. Female directors have been associated with stronger monitoring and higher-quality financial reporting

(Lakhal et al., 2015), often attributed to their risk-averse dispositions and ethical orientation (Adams & Ferreira, 2009; Bear et al., 2010).

Upper Echelons Theory, introduced by Hambrick and Mason (1984), focuses on the impact of top executives' characteristics on organisational outcomes. This theory contends that CEOs' demographic attributes—such as gender, tenure, ownership, and nationality—inform their strategic decisions, ethical judgements, and management style. For instance, longer-tenured CEOs may be less inclined towards REM due to their accumulated institutional knowledge, while female CEOs are typically associated with more conservative financial approaches. This study builds on the theory by exploring how the interaction between CEO characteristics and audit committee gender diversity influences REM within manufacturing firms in SSA.

Integrating these theoretical perspectives enables a holistic assessment of the drivers of REM. Agency Theory emphasises the importance of robust monitoring through governance mechanisms, while Upper Echelons Theory highlights the role of individual leadership traits in shaping financial behaviour. Together, they provide a multidimensional lens through which the moderating influence of audit committee gender diversity on the CEO–REM relationship can be analysed. This integrative framework not only addresses key gaps in the literature but also offers practical insights for enhancing corporate governance and financial transparency in emerging markets such as SSA.

3. Methodology

This section outlines the methodological framework adopted to examine the relationship between CEO characteristics, audit committee gender diversity, and REM in listed manufacturing firms across SSA. It presents the research design, data sources, variable measurement, model specification, and estimation techniques applied to ensure a rigorous and contextually grounded analysis.

3.1. Research Design

This study adopts an ex post facto research design to explore causal relationships between CEO attributes, governance structures, and REM using historical, non-experimental data. Consistent with prior studies in corporate governance, the design relies on observable firm-level variables—such as CEO gender and audit committee composition—to infer their influence on REM outcomes. This approach enhances ecological validity and supports the empirical testing of theory-driven hypotheses.

The population consists of all publicly listed non-financial firms across thirteen SSA countries over the period 2012 to 2022. Through purposive sampling, 142 firms with complete financial and governance information were selected, yielding a balanced panel of 1,189 firm-year observations. The sample is geographically representative, with major contributions from Nigeria (28.17%), South Africa (25.15%), Mauritius (12.20%), Zimbabwe (11.10%), and Kenya (8.58%), reflecting the region's diverse regulatory and institutional environments.

Data were collected from company annual reports, corporate governance disclosures, and audited financial statements available through firm websites, national stock exchanges, and financial databases such as Bloomberg. CEO-related variables (e.g., gender, tenure, ownership, nationality) were manually extracted from board profile sections, while REM was operationalised using Roychowdhury's (2006) model, ensuring methodological consistency with established earnings management literature.

3.2. Real Earnings Management (REM) Adoption

This study employs the Roychowdhury (2006) model to measure REM, a widely validated framework for detecting operational manipulation. The model quantifies deviations from normal business activities through three proxies:

1. Abnormal Cash Flows from Operations (CFO):

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$$\frac{CFO_t}{A_{t-1}} = \alpha_0 + \alpha_1\left[\frac{1}{A_{t-1}}\right] + \beta 1\left[\frac{S_t}{A_{t-1}}\right] + \beta 2\left[\frac{\Delta S_t}{A_{t-1}}\right] + \varepsilon_t$$

2. Abnormal Production Costs (PROD):

$$\frac{PROD_t}{A_{t-1}} = \alpha_0 + \alpha_1\left[\frac{1}{A_{t-1}}\right] + \beta_1\left[\frac{S_t}{A_{t-1}}\right] + \beta_2\left[\frac{\Delta S_t}{A_{t-1}}\right] + \beta_3\left[\frac{\Delta S_t}{A_{t-1}}\right] + \varepsilon_t$$

3. Abnormal Discretionary Expenses (DISX):

$$\frac{DISEXP_t}{A_{t-1}} = \alpha_0 + \alpha_1\left[\frac{1}{A_{t-1}}\right] + \beta\left[\frac{S_t}{A_{t-1}}\right] + \varepsilon_t$$

Where:

A_t: Total assets at time *t*

S_t: Total sales at time *t*

ΔS_t: Change in sales between *t*−1 and *t*

ε_t: Error term

A composite REM index is constructed by summing the absolute values of residuals from these regressions (Cohen & Zarowin, 2010; Owusu et al., 2020; Zang, 2012). This approach provides a holistic measure of earnings manipulation, capturing deviations across operational activities.

3.3. Variable Measurement

Table 1 below presents a summary of the variables, their proxies, measurement approaches, and supporting references used in this study:

Table 1. Variable Measurement.

Description	Proxy(ies)	Measurement	Reference
Dependent Variable (DV)	Real Earnings Management (REM)	Abnormal cash flows, production costs, and discretionary expenses	Roychowdhury (2006); Owusu et al. (2020)
Independent Variables (IV)	CEO Gender (CEOGen)	An indicator variable set equal to 1 if female CEO and 0 if male CEO	Odubuasi et al. (2023)
	CEO Ownership (CEOOwn)	% of stock owned by the CEO at the end of the year	Qawasmeh and Azzam (2020)
	CEO Tenure (CEOTen)	Number of years served as CEO	Alhmood et al. (2020)
	CEO Nationality (CEONat)	An indicator variable = 1 if the CEO is foreign, 0 otherwise	Amelia and Eriandani (2021)
Moderating Variable	Audit Committee Gender Diversity (A_DIV)	Ratio of female audit committee members to total audit committee size	Zalata et al. (2018)
Control Variables	Firm Size	Natural log of total assets	Bouaziz et al. (2020)
	Leverage	Debt to total assets × 100	Qawasmeh and Azzam (2020)

3.4. Model Specification

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The empirical estimation of the impact of CEO characteristics on real earnings management (REM), as moderated by audit committee gender diversity, is based on three complementary model specifications:

(i) Pooled OLS Model with Country Dummies:

$$REM_{it} = \beta_0 + \sum_{j=1}^{4} \beta_j CEOChar_{it} + \beta_5 \mathrm{A\_DIV_{it}} + \sum_{j=6}^{9} \beta_j (A_{DIV} \times CEOChar)_{it} + \sum_{k=10}^{12} \beta_k Controls_{it} + \sum_{c \neq Nigeri} \gamma_c CountryDummy_c + \epsilon_{\mathrm{it}}$$

Where;

REM_{it}= Real Earnings Management for firm i at time t

$CEOChar_{it}$ denotes the set of CEO characteristics: Gender, Ownership, Tenure, and Nationality

A_DIV_{it} = Audit Committee Gender Diversity

Interactions = Multiplicative terms between A_DIV and CEO variables

Controls = Firm Size (Fsize), Leverage (LEV), and ROA (Profitability)

CountryDummies = Set of binary indicators for country c, with Nigeria as the reference category

This model assumes homogeneity across firms and time, ignoring individual firm effects, but controls for country-specific heterogeneity through dummies.

(ii) Random Effects (RE) Model with Country Dummies:

$$REM_{it} = \beta_0 + \sum_{j=1}^{4} \beta_j CEOChar_{it} + \beta_5 \mathrm{A\_DIV_{it}} + \sum_{j=6}^{9} \beta_j (A_{DIV} \times CEOChar)_{it} + \sum_{k=10}^{12} \beta_k Controls_{it} + \sum_{c \neq Nigeria} \gamma_c CountryDummy_c + u_i + \epsilon_{\mathrm{it}}$$

Where:

u_i = Unobserved firm-specific effects

ϵ_{it} = Idiosyncratic error term

This specification allows for unobserved heterogeneity that is uncorrelated with the regressors, while still estimating the effects of time-invariant variables like CEO nationality and country.

(iii) Fixed Effects (FE) Model without Country Dummies:

$$REM_{it} = \beta_0 + \sum_{j=1}^{4} \beta_j CEOChar_{it} + \beta_5 \mathrm{A\_DIV_{it}} + \sum_{j=6}^{9} \beta_j (A_{DIV} \times CEOChar)_{it} + \sum_{k=10}^{12} \beta_k Controls_{it} + \alpha_{\mathrm{i}} + \epsilon_{\mathrm{it}}$$

Where:

α_i = Firm-specific fixed effects (absorbing all time-invariant effects including country)

Country dummies are omitted due to perfect collinearity with fixed effects.

3.5. Estimation Technique

To estimate the relationship between CEO characteristics, audit committee gender diversity, and REM, four econometric approaches were employed, addressing panel data complexities:

1. Pooled OLS with Country Dummies: Estimates cross-sectional effects, controlling for country heterogeneity via dummies (Nigeria as reference).
2. Random Effects (RE) with Country Dummies: Accounts for time-invariant firm-level heterogeneity, assuming independence between firm effects and regressors.
3. Fixed Effects (FE) without Country Dummies: Controls for unobserved firm-specific traits using within-firm variation, omitting time-invariant variables (e.g., country dummies).
4. Feasible Generalized Least Squares (FGLS): Robustness check addressing heteroskedasticity and serial correlation, validated via Breusch-Pagan/Cook-Weisberg tests (χ^2 = 2.60, p = 0.1068).

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The Hausman test ($\chi^2 = 23.16$, $p = 0.0102$) favored FE, confirming firm-specific effects correlate with regressors. FGLS complemented FE/RE results, ensuring robustness (e.g., female CEOs: β = -0.376, $p < 0.10$).

Diagnostics:

I. Multicollinearity: Mean VIF = 2.20 (all < 10), ruling out severe correlation.

II. Heteroskedasticity: Residuals exhibited homoscedasticity, validated for FGLS application.

The final analysis prioritized FE estimates, supported by RE, OLS, and FGLS, ensuring methodological rigor across 1,189 firm-year observations (142 firms, 2012–2022).

3.6. Justification of Method

The FE model is prioritized to address unobserved firm-level heterogeneity and time-invariant variables (e.g., CEO nationality, institutional norms), ensuring unbiased estimates where firm-specific traits correlate with regressors. Interaction terms (e.g., audit diversity × CEO gender) enable nuanced analysis of moderation effects, critical for testing governance dynamics.

To strengthen robustness, FGLS supplements FE by correcting for potential heteroskedasticity and serial correlation, validated via Breusch-Pagan/Cook-Weisberg tests ($\chi^2 = 2.60$, $p = 0.1068$). FGLS results align with FE/RE estimates (e.g., female CEOs: β = -0.376, $p < 0.10$), reinforcing methodological credibility.

This approach aligns with Attia et al. (2022) and Musa et al. (2023), who similarly integrate FE and FGLS in governance studies. Together, these methods ensure rigorous hypothesis testing while accommodating SSA's institutional heterogeneity and panel data complexities.

4.1. Descriptive Statistics

Table 2 below provides summary statistics for the key variables used in the study, including central tendencies and measures of dispersion:

Table 2. Descriptive Statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
REM	1189	1.246	1.214	-1.885	2.375
CEOGen	1189	.065	.246	0	1
CEOOwn	1189	.029	.099	0	.636
CEOTen	1189	6.143	5.012	1	28
CEONat	1189	.17	.376	0	1
A DIV	1189	.175	.21	0	1
Fsize	1189	11.648	1.91	5.171	16.403
LEV	1189	47.261	15.263	11.455	74.944
ROA	1189	6.256	10.048	-98.731	57.683

Source: Process data by authors via Stata 18.

The mean value of Real Earnings Management (REM) is 1.246 with a standard deviation of 1.214, indicating moderate dispersion around the mean. The minimum and maximum values range from -1.885 to 2.376, respectively, suggesting that some firms engage in significantly high or low levels of real earnings manipulation.

For CEO characteristics, the proportion of female CEOs (CEOGen) is approximately 6.5%, highlighting a male-dominated executive landscape across SSA. CEO Ownership (CEOOwn) shows a mean of 2.86%, with a maximum value of 63.6%, indicating considerable heterogeneity in managerial shareholding. CEO Tenure (CEOTen) averages about 6.14 years, reflecting a stable leadership structure. CEO Nationality (CEONat) reveals that 17% of CEOs are foreigners.

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The mean value for Audit Committee Gender Diversity (A_DIV) is 0.175, suggesting low female representation on audit committees. Firm size (Fsize), measured as the natural log of total assets, has a mean of 11.65, while leverage (LEV) averages 47.26%. Profitability (ROA) shows an average return of 6.26%, though with a wide dispersion (SD = 10.05), ranging from -98.73% to 57.68%, indicating that some firms are experiencing extreme losses or high profits.

4.2. Correlation Matrix

Table 3 presents the pairwise correlation coefficients among all variables:

Table 3. Correlation Matrix.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) REM	1.000								
(2) CEOGen	-0.117	1.000							
(3) CEOOwn	0.114	-0.039	1.000						
(4) CEOTen	0.019	-0.044	0.141	1.000					
(5) CEONat	-0.180	0.008	-0.054	-0.192	1.000				
(6) A_DIV	-0.098	0.107	0.088	-0.044	-0.059	1.000			
(7) Fsize	-0.138	-0.083	-0.090	0.056	0.037	0.220	1.000		
(8) LEV	-0.133	0.085	-0.008	0.115	0.064	0.106	0.189	1.000	
(9) ROA	-0.094	0.094	-0.122	-0.059	0.175	-0.037	0.130	-0.214	1.000

Source: Process data by authors via Stata 18.

REM is negatively correlated with CEOGen (-0.117), CEONat (-0.180), A_DIV (-0.098), Fsize (-0.139), LEV (-0.133), and ROA (-0.094), indicating that female CEOs, foreign CEOs, larger firms, and more profitable firms are less likely to engage in REM. Conversely, a positive correlation is observed between REM and CEOOwn (0.114), suggesting that ownership-aligned CEOs might be more involved in earnings manipulation.

No pair of variables shows a correlation coefficient exceeding 0.8, indicating the absence of serious multicollinearity issues at this preliminary stage. The modest correlation among independent variables (e.g., between A_DIV and Fsize = 0.220) warrants further diagnostics.

4.3. Regression Results

This section analyses three models, OLS (Model 1), RE (Model 2), and FE (Model 3). Table 4 details coefficients, standard errors, and significance levels. A robustness check using FGLS addresses heteroskedasticity and serial correlation, with results discussed later (Section 4.4). Diagnostics validate model robustness: the Hausman test favours Fixed Effects, and multicollinearity tests confirm independent variables lack severe correlation. Results reveal consistent patterns across methodologies, highlighting the interplay of CEO attributes, governance diversity, and REM.

Table 4. Regression Results Pooled OLS, Random Effects, Fixed Effects, and FGLS Models.

Variable	OLS	RE	FE	FGLS

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CEOGen	-0.937 (0.211)****	-1.002 (0.211)****	-1.063 (0.227)****	-0.376 (0.204)*
CEOOwn	0.513 (0.457)	0.377 (0.470)	-0.274 (0.557)	0.099 (0.188)
CEOTen	-0.008 (0.008)	-0.010 (0.013)	-0.040 (0.379)	0.001 (0.004)
CEONat	-0.035 (0.127)	-0.100 (0.199)		0.011 (0.034)
A_DIV	-0.510 (0.269)*	-0.349 (0.315)	-0.225 (0.367)	-0.032 (0.096)
A_DIV × CEOGen	2.651 (0.649)****	2.083 (0.647)****	1.851 (0.687)****	0.701 (0.501)
A_DIV × CEOOwn	3.259 (1.302)**	2.363 (1.284)*	2.177 (1.518)	1.173 (0.669)*
A_DIV × CEOTen	-0.047 (0.032)	-0.047 (0.040)	-0.045 (0.047)	-0.004 (0.014)
A_DIV × CEONat	-0.748 (0.506)	-1.076 (0.535)**	-1.204 (0.577)**	-0.840 (0.408)**
Fsize	-0.122 (0.020)****	-0.075 (0.029)****	0.086 (0.048)*	-0.016 (0.007)**
LEV	0.005 (0.002)**	0.007 (0.003)**	0.009 (0.003)****	0.001 (0.000)
ROA	0.002 (0.003)	0.007 (0.004)*	0.008 (0.004)**	0.000 (0.001)
Ghana	0.282 (0.212)	0.246 (0.374)		1.108 (0.278)****
Kenya	0.911 (0.127)****	0.879 (0.227)****		1.342 (0.132)****
Malawi	-0.125 (0.249)	-0.323 (0.479)		-0.091 (0.447)
Mauritius	1.657 (0.115)****	1.581 (0.210)****		1.469 (0.089)****
Namibia	1.427 (0.329)****	1.257 (0.656)*		1.032 (0.495)**
Rwanda	-0.788 (0.535)	-0.877 (0.752)		-0.847 (0.162)****
South Africa	0.948 (0.109)****	0.771 (0.184)****		1.124 (0.113)****
Tanzania	0.580 (0.179)****	0.460 (0.326)		0.996 (0.197)****
Uganda	-0.451 (0.258)*	-0.504 (0.480)		-0.209 (0.446)
Zambia	0.145 (0.187)	0.089 (0.329)		0.052 (0.325)
Zimbabwe	0.492 (0.118)****	0.427 (0.209)**		0.931 (0.167)****
Constant	1.961 (0.226)****	1.440 (0.347)****	0.148 (2.339)	1.053 (0.112)****
Observations	1,189	1,189	1,189	1,183

Note. Standard errors are in parentheses. **** p<.01, ** p<.05, * p<.1.

4.3.1. CEO Gender and REM

Across all three main models, CEO gender exhibits a statistically significant negative relationship with real earnings management (REM). In Model 1, the coefficient is -0.937 (standard error = 0.211, $p < 0.001$); in Model 2, the coefficient is -1.103 ($p < 0.001$); and in Model 3, it is -1.069 ($p <$ 0.001). The consistency of these estimates suggests that firms led by female CEOs are associated with significantly lower levels of REM.

This finding supports the view that gender plays a substantive role in shaping managerial decisions related to financial reporting. It reinforces prior empirical evidence suggesting that female executives may be more ethically inclined and risk-averse in navigating discretionary accounting and operational choices. The robustness of this relationship across model specifications highlights the importance of considering CEO gender as a structural variable in corporate governance and earnings quality studies.

4.3.2. CEO Ownership and REM

The relationship between CEO ownership and real earnings management (REM) varies across the three main models. Model 1 reports a positive but statistically non-significant coefficient (0.513, p

= 0.278). Model 2 produces a slightly lower coefficient (0.385, $p = 0.413$), while Model 3 reverses direction, showing a negative and statistically non-significant effect (-0.274, $p = 0.623$).

The absence of a consistent and significant relationship suggests that CEO ownership does not systematically influence REM within the sampled firms. This finding contrasts with agency-based arguments that posit either an entrenchment effect (where high ownership leads to greater managerial discretion in financial reporting) or an alignment effect (where ownership harmonises CEO and shareholder interests, reducing earnings manipulation). The mixed results could be attributed to contextual factors such as weak shareholder activism, varying governance structures, and institutional voids in Sub-Saharan African markets, which may dilute the conventional incentives associated with CEO equity stakes.

4.3.3. CEO Tenure and REM

CEO tenure does not exhibit a statistically significant relationship with real earnings management (REM) in all the three models. Model 1 reports a coefficient of -0.008 ($p = 0.331$), Model 2 shows -0.010 ($p = 0.367$), and Model 3 produces a coefficient of -0.040 ($p = 0.915$). The lack of significance across models suggests that the length of a CEO's tenure does not systematically influence REM within the sample period.

This result indicates that, unlike other CEO attributes such as gender, tenure does not play a decisive role in shaping earnings management practices. While some theories suggest that longer tenure allows CEOs to accumulate institutional knowledge that enhances financial reporting quality, others argue that entrenched CEOs may manipulate earnings to protect their position. The findings in this study, however, do not provide conclusive evidence to support either argument, suggesting that CEO tenure alone may not be a key determinant of REM in SSA manufacturing firms.

4.3.4. CEO Nationality and REM

The results indicate that CEO nationality does not exhibit a statistically significant relationship with REM in models one and two, while it was omitted in model three due to collinearity issue. In Model 1 (Pooled OLS), the coefficient is -0.035 ($p = 0.127$), in Model 2 (Random Effects), the coefficient is -0.100 ($p = 0.589$). None of these estimates reach conventional significance levels, suggesting that the presence of a foreign CEO does not systematically influence REM in the sample.

The non-significant results imply that CEO nationality alone may not be a decisive factor in shaping earnings management practices. Additionally, the lack of significance across models could indicate that foreign and domestic CEOs in the sample operate under similar incentives and constraints when making financial reporting decisions.

4.3.5. Audit Committee Gender Diversity and REM

The results indicate a negative but inconsistent relationship between audit committee gender diversity (A_DIV) and REM across the three models. In Model 1, the coefficient is -0.510 ($p < 0.10$), suggesting a marginally significant negative association. In Model 2, the coefficient is -0.349 ($p = 0.386$), and in Model 3 (Fixed Effects), the coefficient is -0.225 ($p = 0.541$), both of which are not statistically significant.

These findings suggest that while gender diversity in audit committees may have a role in mitigating REM, its effect is not consistently significant across different model specifications. The weak or non-significant relationship observed in the panel models (RE and FE) could indicate that the impact of audit committee gender diversity on REM is context-dependent, possibly influenced by governance quality, firm culture, or regulatory enforcement mechanisms.

4.3.6. Interaction Effects

The interaction terms between audit committee gender diversity (A_DIV) and CEO characteristics provide deeper insights into how governance structures influence REM.

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The interaction between audit committee gender diversity and CEO gender (A_DIV × CEOGen) is positive and statistically significant across the three models. In Model 1 (Pooled OLS), the coefficient is 2.651 ($p < 0.001$), while in Model 2 (Random Effects) and Model 3 (), the coefficients are 2.083 ($p < 0.001$) and 1.851 ($p < 0.001$), respectively. These findings suggest that audit committee gender diversity strengthens the negative relationship between CEO gender and REM, reinforcing the idea that female-led firms with gender-diverse audit committees engage in lower earnings manipulation.

For CEO ownership (A_DIV × CEOOwn), the results are positive and statistically significant in Model 1 (3.259, $p < 0.05$) and Model 2 (2.363, $p < 0.10$), while Model 3 (2.177, $p > 0.10$) fails to reach statistical significance. This suggests that CEO ownership, when coupled with gender-diverse audit committees, may contribute to lower REM, but the effect is not consistently strong across all models.

The interaction between audit committee gender diversity and CEO tenure (A_DIV × CEOTen) is negative but statistically non-significant across all models. This suggests that audit committee gender diversity does not significantly alter the effect of CEO tenure on REM.

For CEO nationality (A_DIV × CEONat), a strong negative and significant effect is observed in the Random Effects (-1.076, $p < 0.05$) and Fixed Effects (-1.204, $p < 0.05$) models. These results suggest that gender-diverse audit committees reduce the likelihood of REM in firms led by foreign CEOs.

These interaction effects indicate that audit committee gender diversity plays a significant role in shaping the impact of CEO characteristics on REM, particularly for CEO gender and nationality. The findings highlight the importance of governance structures in mitigating earnings manipulation through enhanced oversight mechanisms.

4.3.7. Control Variables and Country Dummies

Control variables exhibit mixed associations with REM. Firm size negatively correlates with REM in Pooled OLS ($\beta = -0.122$, $p < 0.01$) and Random Effects ($\beta = -0.075$, $p < 0.01$) but reverses in Fixed Effects ($\beta = 0.086$, $p < 0.10$), suggesting larger firms face scrutiny externally but firm-specific heterogeneity internally. Leverage shows a positive REM relationship across models (Model 1: $\beta = 0.005$, $p < 0.05$; Model 3: $\beta = 0.009$, $p < 0.01$), implying indebted firms manipulate earnings to manage constraints. ROA gains marginal significance in later models (Model 3: $\beta = 0.008$, $p < 0.05$), hinting profitable firms engage in mild REM.

Country dummies reveal cross-national disparities. Relative to Nigeria, Kenya ($\beta = 0.911$), Mauritius ($\beta = 1.657$), Namibia ($\beta = 1.427$), South Africa ($\beta = 0.948$), Tanzania ($\beta = 0.580$), and Zimbabwe ($\beta = 0.492$) exhibit higher REM ($p < 0.01$), signalling weaker governance. Conversely, Uganda ($\beta = -0.451$, $p < 0.10$) and Rwanda ($\beta = -0.788$, $p > 0.10$) show negative trends, though less robust.

4.4. Robustness Checks

To ensure the reliability of the findings, the study conducted a robustness check using FGLS estimation. This method accounts for heteroskedasticity and serial correlation, which are common concerns in panel data analysis. Unlike the FE and RE models, which assume homoscedastic residuals and no cross-sectional correlation, the FGLS approach adjusts for panel-specific heteroskedasticity, making it a suitable alternative for robustness validation.

The FGLS results, reported in Table 4, align with the primary regression estimates from the Pooled OLS, RE, and FE models. CEO gender remains negatively associated with REM, although the magnitude of the effect is slightly attenuated compared to the fixed-effects model. Similarly, the interaction between audit committee gender diversity and CEO gender remains positive, reinforcing the notion that gender-diverse audit committees strengthen the relationship between female leadership and reduced REM. CEO ownership, while positive and significant in the pooled models, exhibits weaker statistical significance in the FGLS estimation, suggesting that the ownership-REM dynamic may be sensitive to model specification.

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The findings on CEO tenure and CEO nationality interactions also remain consistent across models, with audit committee gender diversity moderating the effects of CEO nationality in a negative direction. Control variables such as firm size and leverage show comparable trends, further supporting the robustness of the main results. The FGLS results validate the primary findings, confirming that the observed relationships are not driven by model-specific assumptions but are instead robust across different econometric techniques.

5. Conclusion and Recommendations

This study investigates the relationship between CEO characteristics, namely gender, ownership, tenure, and nationality, and REM, with a focus on the moderating role of audit committee gender diversity in SSA-listed manufacturing firms. Using pooled OLS, random effects, fixed effects, and Feasible Generalized Least Squares models, robust evidence confirms that CEO gender and nationality significantly influence REM practices. Specifically, female CEOs and foreign CEOs are associated with lower levels of REM, reflecting their adherence to ethical reporting and long-term strategic objectives.

Moreover, the interaction terms involving audit committee gender diversity and CEO characteristics revealed that diversity on audit committees enhances the corporate governance environment, particularly in mitigating the effects of gender and nationality on REM. This finding is critical as it suggests that strengthening audit oversight mechanisms, especially through gender-diverse committees, can curtail earnings manipulation.

Despite its contributions, the study finds no significant direct effect of CEO ownership and tenure on REM. However, their interaction with audit committee gender diversity does have an influence in some model specifications, suggesting the importance of a multidimensional governance structure.

Limitations of the Study

While the study makes significant contributions, several limitations must be acknowledged. First, the dataset is unbalanced, with some firms lacking data for certain years, which may affect consistency across time. Second, the study focuses only on listed firms in Sub-Saharan Africa, limiting generalisability to private firms or other developing regions. Third, while REM is measured using the Roychowdhury (2006) model, the reliance on financial statement data may not capture all aspects of managerial discretion. Finally, certain CEO attributes such as age, educational background, and risk tolerance were not included due to data unavailability, which could provide additional explanatory power.

Recommendations

Based on these findings, the study recommends that:

1. Regulatory bodies and policymakers in SSA should promote gender diversity not only in audit committees but across board structures to enhance oversight effectiveness.
2. Firms should prioritise ethical leadership, especially by fostering inclusive executive appointments, as female and foreign CEOs tend to exhibit lower tendencies towards REM.
3. Future research should consider longitudinal studies incorporating other governance mechanisms and behavioural attributes of CEOs, as well as explore the effects across different sectors and economic conditions.

Finally, the study contributes to the literature by empirically highlighting the complex interplay between executive attributes, board diversity, and earnings quality, with implications for corporate governance reforms in emerging economies.

References

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics, 94*(2), 291–309. https://doi.org/10.1016/j.jfineco.2008.10.007

AL-Duais, S. D., Mazrah, M., Hamid, M. A. A., & Almasawa, A. M. (2021). Ownership structure and real earnings management: evidence from an emerging market. *Journal of Accounting in Emerging Economies*. DOI 10.1108/JAEE-01-2021-0008.

Ali, B., & Kamardin, H. (2018). Real Earnings Management: A review of literature and future research. *Asian Journal of Finance & Accounting*, *10*(1), 440. https://doi.org/10.5296/ajfa.v10i1.13282

Ali, A., & Zhang, W. (2015). CEO tenure and earnings management. *Journal of Accounting and Economics, 59*(1), 60–79. https://doi.org/10.1016/j.jacceco.2014.11.004

Alhmood, M. A., Shaari, H., & Al-Dhamari, R. (2020). CEO characteristics and real earnings management in Jordan. *International Journal of Financial Research*, *11*(4), 255. https://doi.org/10.5430/ijfr.v11n4p255

Altarawneh, M., Shafie, R., Ishak, R., & Ghaleb, B. a. A. (2022). Chief executive officer characteristics and discretionary accruals in an emerging economy. *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2021.2024117

Amelia, R., & Eriandani, R. (2021). Female CEOs and earnings management: Evidence from Indonesia. *Asian Journal of Accounting Research*, *6*(2), 123–135.

Ashafoke, T. O., Oladipo, O. A., & Adegbie, F. F. (2021). CEO characteristics and financial reporting quality in Nigerian financial institutions. *Journal of Accounting and Management*, *11*(3), 45–60.

Attia, E. F., Ismail, T. H., & Mehafdi, M. (2022). Impact of board of directors attributes on real-based earnings management: further evidence from Egypt. *Future Business Journal*, *8*(1). https://doi.org/10.1186/s43093-022-00169-x

Avordeh, T. K., Salifu, A., Quaidoo, C., & Opare-Boateng, R. (2024). Impact of power outages: Unveiling their influence on micro, small, and medium-sized enterprises and poverty in Sub-Saharan Africa - An in-depth literature review. *Heliyon*, *10*(13), e33782. https://doi.org/10.1016/j.heliyon.2024.e33782

Balagobei, S., & Keerthana, G. (2022). Audit Committee Characteristics, Gender Diversity and Earnings Management: Evidence from Listed Companies in Sri Lanka. *Journal of Emerging Financial Markets and Policy*, *1*(2).

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics, 97*(2), 207–221. https://doi.org/10.1007/s10551-010-0505-2

Bouaziz, Z., Triki, M., & Omri, A. (2020). CEO characteristics and earnings management: Evidence from France. *Journal of Financial Reporting and Accounting*, 18(3), 351–372.

Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1), 2–19.

Committee on the Financial Aspects of Corporate Governance. (1992). Report of the Committee on the Financial Aspects of Corporate Governance (Cadbury Report). Gee Publishing. ISBN: 1853555095 URL: FRC Archive (Cadbury Report)

Debnath, N. C., Chowdhury, S. P., & Khan, S. (2021). Ownership structure and real earnings
management: An empirical study on the emerging economy. *Corporate Ownership & Control, 18(2), 74-89*. http://doi.org/10.22495/cocv18i2art6.

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting and Economics, 50*(2-3), 344–401. DOI: 10.1016/j.jacceco.2010.09.001

DeFond, M. L., & Francis, J. R. (2005). Audit research after Sarbanes-Oxley. Auditing: A Journal of Practice & Theory, 24(Supplement 1), 5–30. DOI: 10.2308/aud.2005.24.s-1.5

Didier, T., Levine, R., Montanes, R. L., & Schmukler, S. L. (2021). Capital market financing and firm growth. *Journal of International Money and Finance*, *118*, 102459. https://doi.org/10.1016/j.jimonfin.2021.102459

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, *26*(2), 301–325. https://doi.org/10.1086/467037

Farouk, M. A., & Ahmed, Z.R. A. (2023). Executive compensation, share ownership, and earnings management of banks in Nigeria. *Journal of Economics & Management*, *45, 26-43* https://doi.org/10.22367/jem.2023.45.02.

Gavious, I., Segev, E., & Yosef, R. (2012). Female directors and earnings management in high-technology firms. *Pacific Accounting Review*, *24*(1), 4-32.

Githaiga, P. N., Kabete, P. M., & Bonareri, T. C. (2022). Board characteristics and earnings management. Does firm size matter? *Cogent Business & Management*, *9*(1). https://doi.org/10.1080/23311975.2022.2088573

Goel, S. (2018). "Earnings management in corporate enterprises in India: A test for multi-
nationality, reputation and related variables", *International Journal of Emerging Markets, 13 (6)*, 1820-1834. https://doi.org/10.1108/IJoEM-06-2017-0206.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, *9*(2), 193-206.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.

Kang, S., Bang, J., & Ryu, D. (2023). Female CEOs' risk management and earnings performance during the financial crisis. *Asian Business & Management*, *23*(1), 110–138. https://doi.org/10.1057/s41291-023-00233-6

Kaur, S., Pahuja, A., & Kumar, P. (2023). Sustainable financing. In *Advances in logistics, operations, and management science book series* (pp. 224–241). https://doi.org/10.4018/979-8-3693-0111-1.ch012

Khanna, T., & Palepu, K. (1997). Why Focused Strategies May Be Wrong for Emerging Markets. *Harvard Business Review*

Khanna, T., Palepu, K. G., & Srinivasan, S. (2004). Disclosure Practices of Foreign Companies Interacting with U.S. Markets. *Journal of Accounting Research*, *42*(2), 475–508.
DOI: 10.1111/j.1475-679X.2004.00146.x

Kyunga, N., & Jooyeon, H. (2017). CEO gender and earnings management. Journal of Applied Business Research, 33(2), 297-308.

Lakhal, F., Aguir, A., Lakhal, N., & Malek, A. (2015). Do women on boards and in top management reduce earnings management? Evidence in France. *Journal of Applied Business Research*, *31*(3), 1107.

La Porta, R., López-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and Finance. *Journal of Political Economy*, *106*(6), 1113–1155.
DOI: 10.1086/250042

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings Management and Investor Protection: An International Comparison. *Journal of Financial Economics*, *69*(3), 505–527.
DOI: 10.1016/S0304-405X(03)00121-1

Levi, M., Li, K., & Zhang, F. (2014). Director gender and mergers and acquisitions. *Journal of Corporate Finance*, *28*, 185-200.

Lawrence, E. (2023). CEO Nationality and Environmental Sustainability Reporting Nexus
Empirical Evidence from Nigeria. *Uniport Journal of Business, Accounting & Finance Management.*

Mensah, L., & Bein, M. A. (2023). Sound Corporate Governance and Financial Performance: Is There a Link? Evidence from Manufacturing Companies in South Africa, Nigeria, and Ghana. *Sustainability*, *15*(12), 9263. https://doi.org/10.3390/su15129263

Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management ownership and market valuation: An empirical analysis. *Journal of financial economics*, *20*, 293-315.

Musa, A., Latif, R. A., & Majid, J. A. (2023). CEO attributes, board independence, and real earnings management: Evidence from Nigeria. *Cogent Business & Management*, *10*(1). https://doi.org/10.1080/23311975.2023.2194464

Musa, J. Y. & Yahaya, A. O. (2023). CEO Attributes and Financial Performance of Listed Firms in Nigeria. *International Journal of Economics, Finance and Management Sciences 11(2):* 112-124, doi: 10.11648/j.ijefm.20230502.12.

Nguyen, D. V., Nguyen, N. H., & Dinh, T. T. (2023). CEO attributes and firm performance: Evidence from companies listed on Ho Chi Minh Stock Exchange. *Cogent Economics & Finance*, *11*(2). https://doi.org/10.1080/23322039.2023.2282838

O'Callaghan, S., Ashton, J. & Hodgkinson, L. (2018). Earnings management and managerial ownership in private firms. *Journal of Applied Accounting Research, 19(4), 648-668.*

Odubuasi, A. C., Anene, J. I., & Wilson-Oshilim, U. D. (2023). Accrual Earnings Management and Chief Executive Officer (CEO) Attributes. In *8th Annual International Academic Conference on Accounting and Finance* (pp. 185-190).

Owusu, A., Zalata, A. M., Omoteso, K., & Elamer, A. A. (2020). Is there a trade-off between accrual-based and real earnings management activities in the presence of (fe) male auditors. *Journal of business ethics*, 1-22.

Qawasmeh, S. Y., & Azzam, M. J. (2020). CEO characteristics and earnings management. *Accounting*, 1403–1410. https://doi.org/10.5267/j.ac.2020.8.009

Rehmana, A., Cheng, J. J., Alam, R., Muhammad, Z., Adeel, M., Saleem, K., & Rehman, S. U. (2021). Unraveling the Nexus Between CEO Characteristics and Financial Performance in Pakistani Listed Firms. *International Journal of Innovation, Creativity and 15(6).*

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335–370.

Salhi, B., (2019). CEO characteristics and Earnings management: empirical evidence from France. *Journal of Financial Reporting and Accounting, 1-35*.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The journal of finance*, *52*(2), 737-783.

Suherman, S., Mahfirah, T.F., Usman, B., Kurniawati, H. & Kurnianti, D. (2023). CEO
characteristics and firm performance: evidence from a Southeast Asian country. 23(7), 1526-1563. https://doi.org/10.1108/CG-05-2022-0205.

World Bank Group. (2021). Industrialization in Sub-Saharan Africa: Seizing opportunities in global value chains. In *World Bank*. https://www.worldbank.org/en/region/afr/publication/industrialization-in-subsaharan-africa-seizing-opportunities-in-global-value-chainsn

Xiong, J. (2016). Chairman Characteristics and Earnings Management: Evidence from Chinese Listed Firms. Open Journal of Accounting, 05(04), 82–94. https://doi.org/10.4236/ojacct.2016.54008.

Zalata, A. M., Tauringana, V., & Tingbani, I. (2018). Audit committee financial expertise and earnings management: The moderating role of CEO duality. *Journal of Accounting and Public Policy*, 37(1), 1–18.

Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), 675–703.