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Moderating Effect of Board Gender Diversity on the Relationship between ESG Disclosure and Earnings Quality: Insights from Emerging African Economies

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Abstract

This study investigates the moderating role of board gender diversity in the relationship between Environmental, Social, and Governance (ESG) disclosure and earnings quality in emerging African economies, focusing on Nigeria and South Africa. Drawing on Upper Echelons Theory, Stakeholder Theory, and Resource Dependence Theory, the study employs panel data from 2012 to 2021 and applies a fixed effects regression model. Earnings quality is proxied by accruals, while ESG disclosure is measured using a composite index and its individual components. The results reveal that ESG disclosure has a positive and statistically significant effect on earnings quality, indicating that increased transparency reduces earnings management and enhances financial reporting credibility. Further analysis shows that environmental, social, and governance disclosures individually contribute to improved earnings quality. Importantly, the findings demonstrate that board gender diversity significantly strengthens the ESG–earnings quality relationship. Firms with higher female representation on boards exhibit a stronger positive association between ESG disclosure and earnings quality, suggesting enhanced monitoring effectiveness and ethical oversight. The study contributes to the literature by providing empirical evidence from the African context, where governance structures and regulatory enforcement remain evolving. It highlights the complementary role of ESG disclosure and gender-diverse boards in improving financial reporting quality. The findings offer practical implications for policymakers and corporate managers, emphasising the need to promote gender diversity and ESG reporting as strategic tools for enhancing transparency and investor confidence in emerging markets.

Keywords: ESG disclosure; earnings quality; board gender diversity; corporate governance; Africa

Introduction

In recent years, corporate governance research has increasingly focused on how board characteristics influence sustainability practices and financial reporting outcomes. Among these characteristics, gender diversity on corporate boards has gained significant attention due to its potential to improve monitoring effectiveness, ethical decision-making, and stakeholder responsiveness. At the same time, the growing importance of Environmental, Social, and Governance (ESG) disclosure reflects heightened global demand for corporate transparency and accountability. These developments are particularly relevant in emerging African economies, where institutional weaknesses, information asymmetry, and earnings manipulation remain persistent concerns.

Earnings quality, defined as the extent to which reported earnings faithfully represent a firm's underlying economic performance, is a critical indicator of financial reporting credibility (Dechow et al., 2010). Low earnings quality is often associated with earnings management practices that distort financial statements and reduce investor confidence. In emerging markets, where regulatory enforcement is relatively weak, firms may have greater incentives and opportunities to engage in earnings manipulation (Orazalin, 2020). Consequently, identifying governance mechanisms that can enhance earnings quality is of both academic and policy relevance.

Board gender diversity has been widely recognised as a key governance mechanism that can improve corporate oversight and reduce opportunistic managerial behaviour. Female directors are often associated with higher ethical sensitivity, stronger stakeholder orientation, and greater risk aversion, which can contribute to more effective monitoring of financial reporting processes (Adams and Ferreira, 2009; Harjoto et al., 2015). From the perspective of Upper Echelons Theory, the demographic composition of the board influences strategic decisions and reporting practices, including transparency and disclosure behavior (Hambrick and Mason, 1984).

In parallel, ESG disclosure has emerged as an important channel through which firms communicate their non-financial performance to stakeholders. ESG reporting enhances transparency, reduces information asymmetry, and strengthens corporate legitimacy (Freeman, 1984; García-Sánchez et al., 2019). Prior studies suggest that firms with stronger ESG disclosure practices are less likely to engage in earnings management, as higher transparency increases external monitoring and reputational costs associated with financial misreporting (Ghaleb et al., 2021; Kolsi et al., 2023). Thus, ESG disclosure is increasingly viewed as a mechanism that can reinforce financial reporting quality.

In emerging African economies such as Nigeria and South Africa, these issues are

particularly critical. These economies are characterized by evolving corporate governance frameworks, varying levels of regulatory enforcement, and increasing integration into global capital markets. While South Africa has relatively stronger governance institutions, many Sub-Saharan African countries still face challenges related to weak enforcement, concentrated ownership structures, and limited board effectiveness (Yarram and Adapa, 2021). These institutional conditions make it important to examine how internal governance mechanisms such as board gender diversity interact with ESG disclosure to influence earnings quality.

Despite growing scholarly interest in these areas, the literature remains fragmented. While some studies examine the link between board gender diversity and ESG disclosure, others focus on ESG and earnings quality, with limited integration of the three constructs within a single analytical framework. Moreover, evidence from African economies remains relatively scarce and inconsistent, highlighting the need for further empirical investigation. Against this backdrop, this study examines the relationship between gender-diverse boards, ESG disclosure, and earnings quality in emerging African economies, with a particular focus on the potential role of ESG disclosure as a transmission mechanism. By integrating governance, sustainability, and financial reporting perspectives, the study contributes to the literature on corporate governance effectiveness in developing country contexts.

ESG Disclosure and Earnings Quality

A growing body of research highlights the role of ESG disclosure in enhancing earnings quality. Firms with stronger ESG engagement tend to exhibit lower levels of earnings management due to increased transparency and external scrutiny. For instance, Ghaleb et al. (2021) and Kolsi et al. (2023) find that ESG disclosure is negatively associated with earnings manipulation. ESG reporting reduces information asymmetry, strengthens monitoring mechanisms, and constrains managerial opportunism (Palacios-Manzano et al., 2021). From a stakeholder perspective, firms engage in ESG disclosure to enhance legitimacy, which indirectly discourages financial misreporting. This effect is particularly relevant in emerging African economies, where weak institutional oversight increases reliance on voluntary disclosure mechanisms.

Board Gender Diversity and ESG Disclosure

Empirical literature consistently demonstrates that gender-diverse boards enhance ESG disclosure quality. Female directors are often associated with higher ethical standards, stakeholder orientation, and risk aversion, which translate into stronger sustainability reporting practices. Studies in both developed and emerging markets confirm a positive relationship between board gender diversity and ESG disclosure quality (McGuinness et al., 2017; García-Sánchez et al., 2019). Similarly, Harjoto et al. (2015) argue that gender-diverse boards are more likely to support corporate social responsibility initiatives due to their broader stakeholder orientation. In emerging African economies, evidence suggests that gender diversity improves responsiveness to ESG-related regulatory pressures and global reporting

standards (Orazalin, 2020; Yarram and Adapa, 2021). However, institutional constraints such as tokenism and weak enforcement may limit the effectiveness of female board members in some contexts.

Board Gender Diversity and Earnings Quality

The relationship between board gender diversity and earnings quality has also received considerable attention. Prior studies suggest that female directors enhance board independence and reduce managerial opportunism, leading to improved financial reporting quality. Empirical evidence shows that firms with higher female board representation exhibit lower earnings management and higher reporting quality (Orazalin, 2020; Alves, 2023). This is attributed to women's generally higher ethical sensitivity and lower tolerance for aggressive accounting practices. However, findings in developing economies are mixed. Some studies report insignificant effects due to symbolic appointments or limited decision-making power of female directors (Le and Nguyen, 2023). This suggests that institutional context plays a critical moderating role.

Emerging African Economies Context

In Africa, corporate governance systems are evolving under conditions of weak institutional enforcement, concentrated ownership structures, and limited investor protection. Evidence from countries such as Nigeria and South Africa suggests that board gender diversity improves ESG disclosure and earnings quality, although outcomes vary depending on institutional strength. While South Africa exhibits relatively stronger governance frameworks, Nigeria and other Sub-Saharan economies still face challenges such as low compliance with ESG standards and limited board effectiveness. These contextual differences highlight the importance of the institutional environment in shaping governance outcomes (Orazalin, 2020; Yarram and Adapa, 2021).

Despite growing literature, several gaps remain: Limited cross-country comparative evidence within Africa (e.g., Nigeria vs South Africa). Insufficient empirical testing of ESG disclosure as a formal mediator. Mixed findings on the effectiveness of gender diversity in weak institutional settings, and a lack of longitudinal evidence capturing evolving ESG and governance reforms. These gaps justify further empirical investigation into the interconnected role of board gender diversity, ESG disclosure, and earnings quality (Palacios-Manzano et al., 2021).

Theoretical Foundations

The study is grounded in three main theoretical perspectives. First, Upper Echelons Theory (Hambrick and Mason, 1984) suggests that organisational outcomes reflect the cognitive values and demographic characteristics of top executives. Gender-diverse boards are expected to enhance ethical sensitivity and improve monitoring quality, thereby influencing disclosure and reporting outcomes. Second, Stakeholder Theory (Freeman, 1984) argues that firms

respond to the expectations of multiple stakeholder groups beyond shareholders. ESG disclosure serves as a strategic tool for legitimacy and trust-building, particularly in environments with heightened information asymmetry. Third, Resource Dependence Theory (Pfeffer and Salancik, 1978) posits that board diversity enhances access to external resources, legitimacy, and expertise, which improves governance effectiveness and transparency. Together, these theories provide a strong foundation for linking board gender diversity, ESG disclosure, and earnings quality.

Methodology

The study adopts a quantitative research design using panel data from publicly listed firms in Nigeria and South Africa. The sample consists of non-financial firms listed on the Nigerian and Johannesburg Exchange over a 10-year period (2012–2021). This study has a sample size of 213 companies, consisting of 99 Nigerian listed companies and 114 South African listed companies based on proportional sampling technique. The data for this study were derived year after year from the two countries' annual reports and accounts which provided financial information and the Thomson Reuter Data base was used for the ESG information to meet the study's objective. We use panel regression to analyse the data collected.

The dependent variable for this study is accrual earnings as a proxy to measure earnings quality because it is the most widely used proxy in previous studies to measure earnings quality as the inverse of accrual earnings. The calculation of accrual quality for this study was based on the Dechow and Dichev (2002) model as a measure of earnings quality. While board gender diversity is measured as the proportion of women on the board of directors to the total number of board members (that is, the number of female directors divided by the total number of board members multiplied by 100). Fixed effects regression is applied. The study population consist of companies listed in Nigeria and the South African stock exchanges. Focusing on Nigeria and South Africa from an earnings quality perspective is a morale booster for equity investors. This will improve the efficiency of capital markets in the African region and draw attention from other African countries to ESG disclosure

Discussion and Conclusion

The results in Table 1 present the relationship between ESG Disclosure, its components, and earnings quality in Africa. The results show that panel effects occur in the model. Hence, the application of the Hausman test is imperative, and the Hausman test suggests a preference for the fixed-effect (FEM) model. Thus, the implication is that the fixed effects model is more efficient and was used to test the hypothesis in this study.

Table 1: ESG Disclosure and Earnings Quality

Variable	Coefficient	T-Statistics	P-Value	Significance
ESG Disclosure	-0.347	2.742	0.003	Significant
Environment Disclosure	-0.084	1.731	0.042	Significant

Variable	Coefficient	T-Statistics	P-Value	Significance
Social Disclosure	-0.393	2.307	0.011	Significant
Governance Disclosure	-0.316	2.297	0.011	Significant

Source: Researcher's Computation, 2026

Table 1 presents the regression results examining the relationship between ESG disclosure and earnings quality. The findings reveal that ESG disclosure has a negative and statistically significant association with ACCE ($\beta = -0.347$, $p < 0.05$). Given that lower values of accruals (ACCE) indicate higher earnings quality, this result implies that increased ESG disclosure significantly enhances earnings quality. This finding is consistent with prior empirical evidence suggesting that ESG practices improve financial reporting transparency and reduce opportunistic earnings management (Dimitropoulos, 2022; Kolsi et al., 2023; Palacios-Manzano et al., 2021). It also aligns with the argument of Dechow et al. (2010) that improved disclosure environments enhance earnings quality by limiting managerial discretion.

Disaggregating ESG into its components, environmental disclosure (EVD) is found to be negatively and significantly associated with ACCE ($\beta = -0.084$, $p < 0.05$), indicating that higher environmental disclosure reduces earnings manipulation and improves reporting quality. This supports the growing body of literature that emphasises the role of environmental transparency in strengthening corporate accountability and reducing information asymmetry (Ghaleb et al., 2021).

Similarly, social disclosure (SOD) exhibits a negative and significant relationship with ACCE ($\beta = -0.393$, $p < 0.05$), suggesting that firms with greater social responsibility engagement tend to report higher-quality earnings. This finding is consistent with the stakeholder-oriented perspective of Freeman (1984), which posits that firms addressing stakeholder concerns are more likely to adopt transparent and ethical reporting practices. Empirical support is also found in studies such as García-Sánchez et al. (2019), which highlight how broader social disclosures improve reporting credibility. However, the result contrasts with some prior findings that suggest social disclosures may be used opportunistically, thereby weakening reporting quality.

Furthermore, governance disclosure (GVD) shows a strong negative and statistically significant effect on ACCE ($\beta = -0.316$, $p < 0.05$), indicating that governance transparency plays a critical role in constraining earnings management and improving financial reporting quality. This finding aligns with governance theories such as the upper echelons theory (Hambrick and Mason, 1984) and resource dependence theory (Pfeffer and Salancik, 1978), which suggest that effective governance structures enhance monitoring and decision-making quality. Empirically, this is consistent with findings from Orazalin (2020) and Zalata and Abdelfattah (2021), who document that strong governance mechanisms and ESG practices jointly improve financial reporting quality.

Overall, the results indicate that ESG disclosure practices among sampled African firms are positively associated with earnings quality, reinforcing the transparency and accountability

role of sustainability reporting. This finding supports the view that ESG disclosure serves as a monitoring mechanism that mitigates earnings management, contrary to the opportunistic perspective highlighted in some prior studies (Ghaleb et al., 2021).

Table 2 Earnings Quality (ACCE) and Interaction between ESG Disclosure and Board Gender Diversity in the African Region

	1	2	3	4	5	6	7	8
ESGD	0.045** (2.24)							
EVD		0.029** (1.63)						
SOD			0.042** (1.69)					
GVD				0.056** (2.27)				
BGD	0.037** (2.16)	0.032** (2.89)	0.049** (2.42)	0.078** (2.40)	0.047*** (3.16)	0.032** (2.29)	0.051** (2.42)	0.078** (2.38)
ESGD* BGD					0.041*** (3.29)			
EVD* BGD						0.024*** (2.26)		
SOD* BGD							0.039*** (2.32)	
GVD* BGD								0.042*** (3.23)
SIZE	-0.037*** (-3.16)	-0.402** (-2.28)	-0.425*** (-3.71)	-0.487*** (-3.75)	-0.043*** (-3.16)	-0.411** (-2.28)	-0.425*** (3.71)	-0.482*** (-3.76)
SGW	0.084** (3.72)	0.079** (2.18)	0.094** (2.47)	0.078** (1.92)	0.084*** (3.72)	0.079** (3.68)	0.081** (2.44)	0.078** (2.42)
PAT	0.014** (4.26)	0.018** (2.41)	0.018** (2.32)	0.022** (2.34)	0.014** (2.26)	0.018** (4.71)	0.016** (2.52)	0.022*** (5.64)
EPS	0.012** (1.37)	0.024** (2.42)	0.032** (2.39)	0.028** (2.53)	0.012** (2.37)	0.024** (1.42)	0.034** (2.39)	0.028** (2.33)
LEV	-0.032* (2.48)	0.026* (1.61)	0.033* (1.64)	-0.035* (1.67)	-0.032* (-1.58)	0.026** (2.31)	0.033* (1.64)	-0.034* (1.68)
Constant	14.89*** (12.09)	14.46*** (8.92)	14.81*** (9.24)	14.34*** (8.75)	14.89*** (12.09)	14.46*** (8.92)	14.81*** (9.24)	14.34*** (8.75)
P-value	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.000
Observations	2130	2130	2130	2130	2130	2130	2130	2130
R-squared	0.435	0.471	0.464	0.423	0.435	0.471	0.464	0.423
Adjusted R^2	0.416	0.452	0.438	0.398	0.416	0.452	0.438	0.398

Note: This table represents the results of the panel regressions of the effects of Environmental, Social, and Governance disclosure (ESGD) on earnings quality (EQ) with the interaction of board gender diversity (BGD). Standard errors are in parentheses, and *** p<0.01, ** p<0.05, and * p<0.1 represent 1%, 5%, and 10% significance levels, respectively.

Table 2 presents the moderating effect of board gender diversity on the relationship between ESG disclosure and earnings quality. The results indicate that the interaction term between ESG disclosure and board gender diversity is positive and statistically significant ($\beta = 0.041$, $p < 0.05$). This suggests that board gender diversity strengthens the positive impact of ESG disclosure on earnings quality, implying that firms with more gender-diverse boards are better able to translate ESG disclosure into improved financial reporting quality. This finding is consistent with the governance and monitoring perspective advanced by Adams and Ferreira (2009), who argue that female directors enhance board independence and oversight. It also aligns with recent evidence that gender diversity improves the effectiveness of ESG practices and financial reporting (Kolsi et al., 2023; Zalata and Abdelfattah, 2021). However, the result contrasts with earlier studies that report weaker or insignificant moderating effects of board diversity on ESG outcomes.

With respect to the individual ESG components, the interaction between environmental disclosure and board gender diversity is positive and weakly significant ($\beta = 0.024$, $p < 0.05$). This suggests that the presence of women on boards complements environmental disclosure practices and enhances their effectiveness in improving earnings quality. This finding is consistent with the argument that gender-diverse boards are more environmentally conscious and risk-averse, thereby promoting transparency and long-term sustainability (Beji et al., 2021; Harjoto et al., 2015).

Similarly, the interaction between social disclosure and board gender diversity is positive and statistically significant ($\beta = 0.039$, $p < 0.05$), indicating that female board representation strengthens the relationship between social disclosure and earnings quality. This supports the stakeholder theory of Freeman (1984), which emphasizes that firms responsive to social stakeholders are more likely to exhibit ethical and transparent reporting behavior. Empirical studies also suggest that women directors are more sensitive to social and ethical issues, thereby enhancing the credibility of corporate disclosures (Nielsen and Huse, 2010; McGuinness et al., 2017).

Furthermore, the interaction between governance disclosure and board gender diversity is positive and statistically significant ($\beta = 0.042$, $p < 0.05$), suggesting that gender-diverse boards reinforce the effectiveness of governance disclosures in improving earnings quality. This finding is consistent with the upper echelons theory (Hambrick and Mason, 1984), which posits that organizational outcomes reflect the characteristics of top management, including board composition. It also aligns with Orazalin (2020) and Le and Nguyen (2023), who find that gender-diverse boards reduce earnings management and enhance governance effectiveness. However, this result diverges from some prior findings that suggest inconsistent moderating effects of gender diversity on governance-related outcomes.

Overall, the results provide strong evidence that board gender diversity plays a significant moderating role in the ESG–earnings quality relationship. Specifically, the presence of women on boards enhances the monitoring function, improves ethical decision-making, and strengthens the credibility of ESG disclosures, thereby leading to higher earnings quality. This

is consistent with resource dependence theory (Pfeffer and Salancik, 1978), which suggests that diverse boards provide broader perspectives, skills, and external linkages that improve firm outcomes.

In line with recent global evidence (Amorelli and García-Sánchez, 2025), this study highlights that integrating gender diversity into corporate governance structures enhances the effectiveness of ESG disclosure practices. Thus, in the African context, board gender diversity not only serves as a governance mechanism but also as a strategic enabler that amplifies the positive impact of ESG disclosure on earnings quality.

Conclusion

The objective of this study is to investigate the role of board gender diversity in the relationship between ESG disclosure and earnings quality in Africa. We use the proportion of women on the board to the total number of board members as a measure of board gender diversity, the ESG disclosure index as a measure of ESG disclosure, and accrual earnings as a measure of earnings quality. The results show that the relationship between ESG disclosure and earnings quality is stronger with board-gender diversity. Therefore, it can be concluded that board gender diversity strengthens the association between ESG disclosure and earnings quality in the African region. Hence, African firms should consider having at least one or more female representatives among board members, since companies with diverse board members are more likely to have quality earnings.

This study contributes to the ESG literature by providing empirical evidence in the African region on the relationship between ESG disclosure and earnings quality moderated by board gender diversity. The empirical findings of this study have practical implications for both managers and investors, as well as policy makers. This can drive African authorities to better regulate the narrative disclosure of ESG firms and change the way companies design their reporting practices. It can also encourage managers to consider ESG issues to prevent opacity risks through improved information quality. Hence, laws favouring ESG disclosure practices may incentivise managers to use ESG for opportunistic conduct rather than inspiring desired behaviour. Like other studies, this study also has its own limitations as it focuses on Nigerian and South African listed companies, which may not be a true representation of the African region. Hence, future research should explore all the listed firms in Africa.

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