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Sustainability Reporting, Directors' Ownership, and Financial Performance of Listed Manufacturing Firms in Africa

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Abstract: This study examines how directors' ownership moderates the relationship between sustainability reporting and the financial performance of manufacturing companies listed in Africa. This study used corporate reports from 2015 to 2021 for secondary data and conducted Regression analysis in Stata 15 with GMM as the estimator. Without the moderating variable, sustainability reporting had a negative impact on all financial performance indicators. Introducing directors' ownership as the moderating variable, the interaction had a negative role in the relationship between sustainability reporting and financial performance metrics. However, the interaction changed the negative effect of sustainability reporting on management's perspective (ROA) and market perspective (TQ) of financial performance from negative to positive. The study provides insight into how sustainability is reported in Africa, building on previous literature and expanding research to include manufacturing companies in Africa. Also, the study shows how directors having more ownership stake in the firm influence their sustainability reporting and performance. This study in Africa, unlike previous research, analyses how directors' ownership influences the relationship between sustainability reporting and financial performance and finds evidence against the convergence of interest hypothesis.

Keywords: directors' ownership, financial performance, sustainability reporting.

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INTRODUCTION

Global Reporting Initiative (2013) describes sustainability as fulfilling present demands while safeguarding the potential for succeeding generations to satisfy their needs. Sustainability reports demonstrate how companies manage their business with a high level of sustainability commitment (Kurniawan, 2018). The presentation of a business's financial performance and position must adhere to approaches stipulated by regulatory bodies or

the law of the country (Mahoney et al., 2013). However, the disclosure of non-financial aspects is voluntary and depends on initiatives taken by the firm (Runhaar & Lafferty, 2008). Doorasamy (2015) contends that organisations are reluctant to adopt new systemic approaches without a measurable economic benefit. Fahlenbrach & Stulz (2009) propose that if the interests of directors and the firm are aligned, the organization's financial performance will improve, ensuring the inclusion of sustainability initiatives, which could enhance financial performance. This study examines how manufacturing firms in Africa can benefit from sustainability reporting or avoid losses that can affect their financial success. The study focuses on examining the moderating role of directors' ownership on the effect of sustainability reporting on the financial performance of manufacturing firms.

The social and ecological implications of corporations have led to a growing emphasis on assuming responsibility for and managing their sustainability performance (Blowfield, 1999). Consequently, annual reports now include financial and non-financial disclosures. Reporting on financial operations is complemented by reporting on non-financial activities, and sustainability reporting is mainly driven by pressure from stakeholders to increase transparency (Bonsón & Bednárová, 2015).

Abukari & Abdul-Hamid (2018) suggest that private and public institutions have different stakeholders to satisfy and are required to follow legal and ethical practices, as well as make their operations transparent. Bonsón & Bednárová (2015) argue that sustainable management is an essential aspect of social responsibility, prompting companies to release reports containing financial and historical data, as well as information on their social and environmental impact. Sulemena (2016) notes that most firms release reports on their sustainability to please their significant stakeholders, while Garg (2015) states that firms release sustainability reports voluntarily to keep their stakeholders informed about their impact. Young (2013) observed that ninety-five per cent of the top 250 firms produce sustainability reports to enhance their performance, secure workers' trust, protect their public image, and build shareholder and stakeholder confidence. Sen (2006) notes that companies in competitive markets must find new ways to gain strategic advantages and many now focus on building strong relationships with stakeholders. Kavaliauskė & Stancikas (2014) suggest that being socially responsible is one of the ways to achieve this.

According to Jayaram et al. (2021), the manufacturing industry is the primary emitter of greenhouse gas, with African manufacturing responsible for around thirty to forty per cent of Africa's overall emissions, emitting approximately 440 MtCO2e. The manufacturing industry in Sub-Saharan Africa (SSA) is responsible for 11% of employment and 10% of GDP (United Nations Environment Programme, 2020). Without commitments to decarbonization, the manufacturing sector's scope 1 and 2 emissions in Africa could increase to 830 MtCO2e by 2050, which could significantly impact the continent's adaptive capacity, given its susceptibility to climate change (Boko et al., 2017).

Unaddressed sustainability issues can damage a company's reputation and performance, as demonstrated by Apple Inc. and Coca-Cola, who have been accused of exploiting child labour to manufacture iPhones and Macintosh computers. Additionally, Dell Inc. has faced allegations of improper waste disposal, and milk product manufacturers in China have confronted safety and ecological concerns (Parmigiani et al., 2011; Chen et al., 2014). Incidents of poor environmental and social management have negatively impacted these businesses' performance and reputation, highlighting the significance of sustainability management in maintaining a company's standing (Parmigiani et al., 2011; Chen et al., 2014).

The manufacturing sector is under pressure owing to the population increase and increment in the need for consumer goods, which has resulted in the formation of new industries and a flood of novel offerings in the market (Ahmad & Wong, 2018). The extensive use of fuel and environmental resources in the manufacturing industry results in social and economic consequences, including increased air and land pollution (Linke et al., 2013).

In light of rising temperatures and climate change, the manufacturing sector has become increasingly focused on managing and reducing environmental and social impact, whereas, in the past, efficiency and cost reduction were the primary objectives (Haapala et al., 2013).

The concept of the triple-bottom-line (TBL) recognizes economic, environmental, and social sustainability as interconnected components (Ozanne et al., 2016), and manufacturing companies must establish systems to monitor and evaluate their sustainability performance (Ahmad & Wong, 2018). Sustainable manufacturing practices aim to minimize environmental damage, conserve energy and natural resources, and ensure worker and community safety (Hutchins et al., 2013). Although manufacturing is critical to economic and social growth, it is also a significant contributor to global challenges such as pollution and climate change (Hutchins et al., 2013).

The company's main objective is to meet the diverse requirements of its stakeholders. Recently, sustainable companies have integrated a strategic dimension into their operations, focusing on building relationships with stakeholders to gain a competitive edge (Morsing & Schultz, 2006). Freeman's Strategic Management: An Approach to Stakeholder, which originated in 1984, is the foundation of modern stakeholder theory. The theory guides managers on how to lead sustainability practices and encourages businesses to adopt sustainable practices (Jones & Wicks, 1999). According to stakeholder theory, companies are accountable to their stakeholders, although it may be difficult to satisfy all their needs and expectations (Jones & Wicks, 1999).

Interest in stakeholder theory has been steadily increasing not only in academia but also in the business world (Donaldson & Dunfee, 1999). Stakeholders are classified in literature based on their level of influence, legitimacy, and urgency (Donaldson & Preston, 1995). Secondary stakeholders, as defined by Caroll & Buchholtz (1989), are located outside the company's boundaries but can still influence their actions even without a contractual agreement. Institutional stakeholders are concerned with laws, regulations, and professional bodies, while economic stakeholders are involved in the company's markets, and ethical stakeholders have legal and political interests in the company's markets (Donaldson & Dunfee, 1999).

Clarkson (1995) differentiates between voluntary and involuntary stakeholders based on their risk-taking behaviour with the organization. Additionally, there are internal stakeholders, conventional external stakeholders, and other external stakeholders that have an impact. Regardless of the definition, stakeholder theory posits that there is a partnership between stakeholders and the company, with both parties affecting and being affected by the organization's operations.

Stakeholder theory asserts that organizations have responsibilities beyond their financial performance, and thus are likely to willingly reveal information about their sustainability. Content analysis can be used to examine this claim, with annual reports serving as an effective means of interaction with interest groups concerned with specific areas of an organization (Guthrie et al., 2004). Sustainability disclosures can be analyzed to determine if corporations voluntarily report on their sustainable actions, as predicted by stakeholder theory.

From one perspective, the value creation view suggests that a company's sustainability initiatives can improve its reputation and thereby boost financial performance (Porter, 1991; Porter & Kramer, 2006; Sharfman & Fernando, 2008). From the other perspective, the cost capital reduction view presents that a firm's basic aim is to increase shareholder wealth, and non-financial goals can hinder its success (Friedman, 1962). This study adopts the value creation view, which suggests that addressing multiple stakeholders may enhance a company's performance and that sustainable business practices can improve financial performance (Jan et al., 2019).

Jan et al. (2019) state that the correlation between sustainability and firm performance can be viewed from a unidirectional and a bidirectional causality position. Waddock & Graves (1997) indicate that the direction of

causation can be explained by either good management or slack resource theory. The connection between sustainability and financial performance, as argued by Preston & O'Bannon (1997), emphasizes whether one variable causes the other.

The slack resource theory suggests that financial performance is the independent variable, while sustainable business practices are the dependent variable (Griffin & Mahon, 1997). A company with excess resources can invest more in measures that promote sustainability, leading to its continued viability. Therefore, according to the slack resource hypothesis, a company should focus on its current financial standing to contribute to sustainability. The notion is that an organization's financial performance is the primary critical factor in starting sustainability initiatives.

Conversely, the good management theory treats sustainability reporting as the cause, and financial performance as the effect in the model of causality direction (Waddock & Graves, 1997). Good management theory emphasizes that social performance should come first. If a company has a positive reputation among its stakeholders, it is likely to end up in a better financial situation. This study is based on good management theory and frames financial performance as the dependent variable of sustainability reporting.

The outcomes of the effect of directors' ownership on a company's financial success are mixed. According to the entrenchment theory, managers who hold a significant amount of vested interest in a company are less likely to prioritize the welfare of shareholders. By way of contrast, the convergence of interests hypothesis posits that a company's success is directly proportional to the ownership level of its directors. This is because directors with high stakes in the company's shares are motivated to work towards increasing share prices, which eventually aligns their interests with those of the firm and leads to an increase in the company's value (Fahlenbrach & Stulz, 2009).

Directors' ownership is described as the proportion of a company's shares belonging to its directors, and this ownership position motivates them to make sound judgments and work towards boosting the organization's performance. As their interests converge, they are driven to make better decisions that enhance the organization's performance, indicating that the performance of the firm will improve in proportion to the director's ownership level (Mishra & Suar, 2010). According to DeAngelo & DeAngelo's (1985) theory of convergence of interests, there is a positive connection between the ownership of directors and financial performance.

The suggested proposition is that both the size and age of a firm impact its financial performance and sustainability reporting levels. To avoid potential issues with misrepresenting the findings, the empirical model integrates controls for these variables.

According to John & Adebayo (2013), a company's size plays a crucial role in determining its profitability. Larger organizations generally have lower business and financial risks and face higher demand from external stakeholder groups to participate in sustainable practices. Thus, firm size is a critical control variable, as noted by Flammer (2015) and Brower & Mahajan (2013). As a result of their heightened visibility, larger companies attract increased attention in the eyes of the public, media, and lawmakers. Therefore, to account for company size, the researcher uses the natural logarithm of total assets.

Older companies tend to be more profitable, which attracts greater scrutiny. Due to the increased visibility, they frequently face criticism from various stakeholders. To deflect criticism and satisfy these groups, companies adopt more socially and environmentally responsible policies, which ultimately enhance their financial performance. Naser et al. (2006) suggest that the adoption and disclosure of additional sustainability measures can positively impact financial performance. Furthermore, according to Jan et al. (2019), a firm's age affects the relationship between sustainability and financial performance. Hence, this study incorporates controls for firm age.

Nugroho & Arjowo (2014) investigated the impact of sustainability disclosure on the financial performance of manufacturing firms listed in Indonesia. They used the GRI index as the independent variable and employed linear regression analysis. Their findings suggest that sustainability reporting has a positive effect on financial performance, specifically ROA.

Weerarathna et al. (2021) examined the impact of sustainability reporting on the financial performance of 55 Sri Lankan listed companies from 2015 to 2019 and employed panel data regression analysis to test their hypotheses. They find that sustainability reporting has an insignificant negative impact on return on assets.

In 2015, Rokhmawati carried out a study on 102 listed manufacturing firms in Indonesia using multiple regression techniques and cross-sectional data. The study found that social performance score positively impacts financial performance. However, environmental reporting has an inverse impact on the financial performance of the companies.

Buallay (2021) explored the relationship between sustainability scores and financial performance in the food industry, using data from one thousand four hundred twenty-six firms across thirty-one countries collected over ten years. The study reported a significant relationship between sustainability and ROE, but no significant relationship with ROA and TQ. The study used ESG whiles this current study used the GRI to measure sustainability performance.

Buallay (2019) investigated the costs-benefit-analysis of sustainability reporting in financial institutions across 20 countries using data from 6800 observations. The study reported a positive relationship between sustainability reporting and market performance, supporting the theory of value creation, but a negative relationship between sustainability reporting and financial and operational performance, supporting the cost-of-capital reducing theory. This study used the ESG dimension score to measure sustainability reporting and concentrated on financial institutions.

Nyirenda et al. (2013) found in their investigation of South African mining companies that the correlation between environmental performance and financial results is not significant, indicating that mining companies tend to report on environmental practices to demonstrate compliance with laws and to fulfil ethical responsibilities towards stakeholders. This study supports the institutional theory. While the focus of the study was solely on environmental policies and procedures, the current study incorporates all aspects of sustainability reporting.

Zyadat (2016) used content analysis to investigate the effect of sustainability reporting on the financial performance of Islamic financial institutions in Jordan. The results reported showed a significant positive effect of sustainability reporting on ROA and EPS, but not on ROE.

Reddy & Gordon (2010) analyzed abnormal returns for a sample of 68 listed firms, finding that sustainability reporting significantly influenced abnormal returns for Australian companies. CSR reports were found to be important for justifying abnormal returns in New Zealand.

Moufty (2014) found that European banks interacted more with stakeholders and practised more sustainable practices than American banks, with a positive relationship between social aspects and financial performance. However, there was no significant relationship between environmental aspects and financial performance. The study was based on content analysis of 483 banks from 2006 to 2012.

Sharma et al. (2021) examined the correlation between CSR and the financial performance of Indian manufacturing and service sector organizations. The study found an inverse relationship between CSR scores and the performance indexes, such as ROE, ROA, and ROCE, for manufacturing sector enterprises, but a positive relationship for service sector companies. The study used financial data from 2008 to 2017 and the correlation technique to analyze the data.

Jan et al. (2019) conducted a study to examine the impact of Shariah governance and managerial ownership on the relationship between sustainability and performance. The study employed content analysis and the GMM estimation technique to analyze the data. The findings revealed that sustainable business practices have a positive correlation with the financial results of a company when viewed from the perspective of shareholders and management. However, this relationship is not significant when viewed from the market's perspective. The study also found that the insignificant relationship between sustainable company practices and market performance can be made significant through the moderating function of Shariah governance and managerial ownership.

Kaya & Akbulut (2019) carried out a study to examine the effect of sustainable reporting on the firm value of one hundred fifty-five companies in the automotive industry located in twenty countries. The study used the GRI index to evaluate sustainability reporting practices and Tobin's Q, firm size, financial leverage, and ROA to evaluate business performance. The findings discovered that sustainable reporting practices have a positive significant effect on business growth but have a negative correlation with financial leverage.

Ibrahim & Hamid (2019) investigated the effect of CSR on the financial outcomes of listed firms in Nigeria that are not involved in financial services. The study covered ten years, from 2008 to 2017. The findings revealed that CSR has a materially beneficial impact on the effectiveness of financial operations. The study suggests that publicly traded companies in Nigeria can enhance their financial performance by investing in socially responsible activities. Additionally, the study did not base its methodology on a well-recognised framework such as the GRI.

Oware & Mallikarjunappa (2019) carried out a study to examine the influence of third-party assurance (TPA) as a mediator in the relationship between CSR and financial performance and the moderating effect of financial leverage. The study used panel and regression models to analyze the data of 29 companies trading in India from 2010 to 2017. The study reported that financial leverage did not moderate the relationship between CSR and financial performance, and third-party assurance negatively mediates the association that CSR has with ROA and ROE.

It is important to monitor and measure the sustainability reporting procedures of African manufacturing enterprises. However, none of the research identified analyzes the moderating role of directors' ownership on the effect of sustainability reporting on financial performance in African manufacturing firms. Against this background, this research seeks to analyze how sustainability reporting influences the financial performance of African manufacturing businesses while considering directors' ownership as a moderating variable.

METHODS

Between 2015 and 2021, the researchers assessed the sustainability performance of 154 manufacturing firms listed on the African stock market. Our evaluation focused on their economic, social, and environmental practices, and we collected data from various sources, including annual financial and non-financial reports. We used this information to gather insights into their sustainability reporting, financial performance, and organizational characteristics.

To determine a company's sustainability reporting, the Global Reporting Index 4 was used, which includes economic, environmental, and social disclosures. GRI is a prominent organization that promotes sustainability-related reporting. Sustainability reporting was measured by dividing the number of economic, environmental, and social disclosures made by each firm by the total number of GRI 4 economic, environmental, and social disclosures.

The study used various literature to influence the measurement of the variables, including financial performance indicated by ROA, ROE, and TQ. ROA was determined by dividing profit before taxes by average total assets, ROE by dividing net profit after taxes by shareholders' equity, and TQ by dividing the market value of the company by the replacement cost of its assets. Jan et al. (2019) identified ROA as management's perspective on financial performance, ROE as shareholders' perspective, and TQ as a market estimate of future profitability.

The study's moderating variable was directors' ownership, measured by the proportion of firm shares held by directors. The control variables were firm size, measured by the firm's log of total assets, firm age, measured by the number of years in operation, and firm leverage, calculated as total liabilities divided by total assets. The variables, measurement, data sources, and their empirical justifications are summarized in Table 1.

Table 1 Measurement of variables

Variable	Measurement	Data Source	Empirical Justification
Sustainability Disclosures	The number of disclosures by the firm divided by the total number of disclosures in the framework	GRI-G4 Framework	Arthur, Wu, Yago, & Zhang (2017); Masud, Seong and Jong (2017); Laskar & Maji (2017); and Kumar & Prakash (2019).
Return on Assets	Profit before interest and tax over average total assets.	Websites of the firms	Zyadat (2016); Jan, Marimuthu, Hassan, & Mehreen (2019); and Buallay (2019)
Return on Equity	Profit after tax over average shareholders' equity	Websites of the firms	Zyadat (2016); Jan, Marimuthu, Hassan, & Mehreen (2019); and Buallay (2019)
Tobin's Q	The market value of the company is divided by the company's assets' replacement cost.	Websites of the firms	Jan, Marimuthu, Hassan, & Mehreen (2019); and Buallay (2019)
Directors' Ownership	Percentage of shares owned by the company's directors.	Websites of the firms	Jan, Marimuthu, Hassan, & Mehreen (2019)
Firm Age	The year since the company's founding date	Websites of the firms	Bhatia & Tuli (2016); Mentes (2019); and Alotaibi (2020).
Firm Size	Log of Total Assets	Websites of the firms	Elafify (2021); Quick (2008); Bhatia & Tuli (2016); and Alotaibi (2020).

The general econometric model shown below uses linear regression analysis with a two-step system GMM estimator to examine the effect of sustainability reporting practices on financial performance, as measured by ROA, ROE, and TQ. Additionally, the model investigates the moderating role of directors' ownership in this relationship. Models 1–6 provide insight into this relationship.

Model 1:

$$ROA_{it} = \beta_1(ROA_{it-1}) + \beta_2(SUST_{it}) + \beta_3(FAGE_{it}) + \beta_4(FSIZ_{it}) + \varepsilon_{it}$$

Model 2:

$$ROE_{it} = \beta_1(ROE_{it-1}) + \beta_2(SUST_{it}) + \beta_3(FAGE_{it}) + \beta_4(FSIZ_{it}) + \varepsilon_{it}$$

Model 3:

$$TQ_{it} = \beta_1(TQ_{it-1}) + \beta_2(SUST_{it}) + \beta_3(FAGE_{it}) + \beta_4(FSIZ_{it}) + \varepsilon_{it}$$

Model 4:

$$ROA_{it} = \beta_1(ROA_{it-1}) + \beta_2(SUST_{it}) + \beta_3(DOW_{it}) + \beta_4(SUST_{it} * DOWit_{it}) + \beta_5(FAGE_{it}) + \beta_6(FSIZ_{it}) + \varepsilon_{it}$$

Model 5:

$ROE_{it} = \beta_1(ROE_{it-1}) + \beta_2(SUST_{it}) + \beta_3(DOW_{it}) + \beta_4(SUST_{it} * DOW_{it}) + \beta_5(FAGE_{it}) + \beta_6(FSIZ_{it}) + \varepsilon_{it}$

Model 6:

$TQ_{it} = \beta_1(TQ_{it-1}) + \beta_2(SUST_{it}) + \beta_3(DOW_{it}) + \beta_4(SUST_{it} * DOW_{it}) + \beta_5(FAGE_{it}) + \beta_6(FSIZ) + \varepsilon_{it}$

Where;
ROA_{it} is the Return on Assets;
ROA_{it-1} is the lag of Return on Assets;
ROE_{it} is the Return on Equity;
ROE_{it-1} is the lag of Return on Equity;
TQ_{it} is Tobin's Q;
TQ_{it-1} is the lag of Tobin's Q
$SUST_{it}$ is the sustainability disclosures consisting of economic, social and environmental disclosures;
DOW_{it} is the Directors Ownership
$FSIZ_{it}$ represents Firm Size;
$FAGE_{it}$ represents Firm age
β represents the coefficients;
ε is the error term.

RESULTS AND DISCUSSION

Initially, the descriptive statistics for the sample will be exhibited as the primary step. Afterwards, the Pearson correlation between the variables will be analyzed and discussed. Lastly, the findings of the regression analysis will be provided.

Table 2 displays statistical information for various variables related to sustainability reporting, financial performance, ownership, and company age. The statistics presented include the mean, SD, minimum and maximum scores, and the number of firms for a sample of 154 firms.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev. (SD)	Min	Max
ROA	1,077	-0.6817532	26.24107	-860.7954	11.58171
ROE	1,077	0.4408268	9.317861	-34.5481	298.5164
TQ	1,077	112.2449	2558.722	-0.508	59405.94
DOW	1,070	0.0913687	0.1774203	0	0.8401
FAGE	1,078	55.27273	33.94008	2	191
FSIZ	1,077	18.3499	2.324931	5.713733	26.2777
SUST	1,077	0.3598008	0.1947201	0.021978	0.9340659

The descriptive data indicates that the average sustainability disclosure level for manufacturing enterprises in Africa is 35.98%, with an SD of 0.1947. The minimum and maximum scores for sustainability reporting were 2.20% and 93.41%, respectively. The age of the manufacturing companies was from an age of 2 years to 191 years,

with an SD of 33.94, and an average age of 55.27 years. The firm size variable was from 5.7137 to 26.2777, with an average of 18.35 and an SD of 2.32. The directors' ownership scores were from 0.0000 to 0.8401, with a mean of 9.14% and a variation of 0.18 from the mean.

In relation to the financial performance, the return on assets (ROA) had an SD of 26.24, with scores ranging from -86079.54% to 1158.17%, and an average of -0.68.17%. The average score for return on equity (ROE) was 44.08, which was higher than the average ROA score. The SD for ROE was 9.32, with scores ranging from -3454.81% to 29851.64%. Tobin's Q had a mean of 10934.66%, which was higher than both ROA and ROE, with an SD of 2524.9850 and scores with a minimum of -050.80% to a maximum of 5940594.00%.

According to Table 3, which displays the pairwise correlation matrix for the variables examined in the empirical analysis, there are no correlation coefficients greater than 0.90 among the independent variables utilized, indicating that there is no multicollinearity in the empirical specification, as argued by Chong et al. (2009).

Table 3 Correlation Matrix

	ROA	ROE	TQ	FAGE	FSIZ	SUST
ROA	1					
ROE	0.0038	1				
TQ	-0.7083	-0.006	1			
FAGE	0.0397	-0.0214	-0.057	1		
FSIZ	0.1659	0.0050	-0.2349	0.1891	1	
SUST	0.0424	-0.0393	-0.0581	0.2968	0.6342	1

The impact of sustainability reporting on company performance is shown in Tables 4 and 5, with and without the moderating role of directors' ownership. In the absence of the moderating variable, the coefficient of sustainability reporting had a significant negative effect on all performance indicators. The effects were significant at 1% for ROA and ROE, and at 10% for TQ, with coefficients of -49.35, -5.747, and -526.1 respectively. However, when the moderating variable was introduced, the coefficients for ROA (15.44) and TQ (6,184) became positive, while the effect on ROE remained negative (-1.561), all of which were significant at 1%. Without interaction, directors' ownership had a significant positive effect on ROA, ROE, and TQ at a significance level of 1%. However, when interacting with sustainability reporting, the coefficients of the performance indicators were negative, indicating that directors' ownership negatively moderates the impact of sustainability on financial performance. This means that the more positive the directors' ownership, the more negative the effect of sustainability reporting on financial performance becomes.

In terms of control variables, without the moderating variable, firm size had a statistically significant positive effect on ROA at 1%, but a negative effect on ROE and TQ. With the moderating variable, the significance and direction of the firm size remained the same. Firm age had a positive significant effect on financial performance without the moderating variable, but a negative effect on ROA with the moderating variable. However, firm age maintained its positive effect on ROE and TQ with the moderating variable.

The Models will now display as follows

Model 1:

$ROA_{it} = 1.653 - 49.35(SUST_{it}) + 0.148(FAGE_{it}) + 1.548(FSIZ_{it})$

Model 2:

ROE*it* = 0.00769 – 5.747(SUST*it*) + 0.0844(FAGE*it*) – 0.206(FSIZ*it*)

Model 3:

TQ*it* = 0.996 – 526.1 (SUST*it*) + 117.0(FAGE*it*) – 388.4(FSIZ*it*)

Model 4:

ROAit = –0.155 + 15.44(SUST*it*) + 187.5(DOWit) – 335.4(SUST*it* * DOWit*it*) – 0.288(FAGE*it*) + 1.946(FSIZ*it*)

Model 5:

ROE*it* = 0.00834 – 1.561(SUST*it*) + 13.88(DOW*it*) – 25.32(SUST*it* * DOWit*it*) + 0.0693(FAGE*it*) – 0.166(FSIZ*it*)

Model 6:

TQ*it* = 1.023 + 6,184(SUST*it*) + 33,367(DOW*it*) – 58,955(SUST*it* * DOWit*it*) + 250.4(FAGE*it*) – 900.0(FSIZ)

Table 4 Effect of Sustainability Reporting on Firm Performance

	(1)	(2)	(3)
VARIABLES	ROA	ROE	TQ
L.ROA	1.653***		
	(0.0496)		
L.ROE		0.00769***	
		(0.000119)	
L.TQ			0.996***
			(0.00245)
SUST	-49.35***	-5.747***	-526.1*
	(3.025)	(0.107)	(286.3)
FSIZ	1.548***	-0.206***	-388.4***
	(0.162)	(0.00667)	(47.40)
FAGE	0.148**	0.0844***	117.0***
	(0.0589)	(0.00332)	(20.77)
Diagnostics			
Sargan P-value	0.1782	0.0047	0.0033
AR2	0.6332	0.1653	0.0041
Number of instruments	23	23	23
Number of Observations	923	923	923
Number of Firms	154	154	154

Standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 5 The Moderating Role of Directors; Ownership on the Effect of Sustainability Reporting on Firm Performance

	(4)	(5)	(6)
VARIABLES	ROA	ROE	TQ
L.ROA	-0.155***		
	(0.0421)		
L.ROE		0.00834***	
		(0.000147)	
L.TQ			1.023***
			(0.0325)
SUST	15.44***	-1.561***	6,184***
	(5.378)	(0.100)	(2,003)
DOW	187.5***	13.88***	33,367***
	(8.857)	(0.831)	(3,557)
DOW*SUST	-335.4***	-25.32***	-58,955***
	(11.17)	(0.269)	(7,501)
FSIZ	1.946***	-0.166***	-900.0***
	(0.221)	(0.0115)	(86.03)
FAGE	-0.288***	0.0693***	250.4***
	(0.0581)	(0.00379)	(36.45)
Diagnostics			
Sargan P-value	0.1031	0.0110	0.0000
AR2	0.3851	0.1409	0.0000
Number of instruments	25	25	25
Number of Observations	917	917	917
Number of Firms	153	153	153

Standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Based on the findings presented above, sustainability reporting had a detrimental impact on all financial performance metrics in the absence of a moderating variable. This outcome is in agreement with the findings reported by Sharma et al. (2021), which disclosed a negative correlation between sustainability and financial performance. Conversely, these results are conflicting with the studies of Nugroho & Arjowo (2014) who found a positive effect between the two variables and partly consistent with the studies of Nugroho & Arjowo (2014) who found a negative effect of sustainability reporting on ROA and ROE but a positive effect on TQ. This current study on manufacturing companies in Africa suggests that despite the implementation of sustainable business practices, these activities may not increase financial returns due to the associated expenses that reduce profits. Additionally, the market does not respond positively to reports on sustainability activities. This reinforces

Friedman's (1962) assertion that a company's foremost objective is to optimize the financial well-being of its shareholders, and pursuing non-financial objectives may lead to reduced efficiency.

When directors' ownership was introduced as a moderating variable, the interaction of sustainability reporting and directors' ownership on financial performance was all negative. Conversely, this changed the impact of sustainability reporting on ROA and TQ from negative to positive. This indicates that promoting directors' ownership is beneficial for firms, as it encourages sustainability reporting and improves financial performance from both management and market perspectives. However, due to its negative moderation, excessive directors' ownership beyond a certain limit may harm the company, as increasing positive directors' ownership also amplifies the negative effect of sustainability reporting on financial performance. This result is inconsistent with the results of Jan et al. (2019), who found a positive moderating role of sustainability reporting on the management, shareholders and market perspective of financial performance. This inconsistency may be as a result of the difference in the geographical location and the industry type as Jan's et al. (2019) study was conducted in Asia among financial institutions. The results of Hypothesis Testing are shown in Table 6.

Table 6 Results of Hypothesis Testing

Hypothesis	Results
H1	Rejected
H2	Rejected
H3	Rejected
H4	Rejected
H5	Rejected
H6	Rejected

CONCLUSION

This research's purpose was to evaluate how the ownership of directors influences the impact of sustainability reporting on the financial performance of African manufacturing companies listed on stock exchanges. The results revealed that sustainability reporting had a negative significant effect on all performance indicators, which challenges the shareholder theory's value creation concept. This study suggests that implementing sustainable business practices initiatives does not result in an increment in financial returns, as it involves incurring additional costs that decrease profits. Additionally, the market does not respond positively when a company reports on its sustainability activities. However, firms need to adopt sustainable business practices that do not harm financial reporting. Additionally, the study found that directors' ownership can have a negative interaction effect, which means that it should be encouraged only to a certain extent. The study suggests that having directors' own shares in a firm is beneficial, as it encourages sustainability reporting and leads to positive financial performance from both management and market perspectives. However, there is a negative moderation effect, which means that increasing directors' ownership can have a detrimental effect on the firm, as the more positive the directors' ownership gets, the more it weakens the relationship between sustainability and performance. This study has significant implications for the sustainability literature, particularly in Africa. It provides insight into the practices of reporting sustainability in Africa and provides opportunities for further

research to compare and contrast findings with other organizations in and outside of Africa. Furthermore, the study extends the previous research on sustainability to the manufacturing sector in Africa. Also, the study shows how the proportion of directors' stake in the firm's ownership influences their sustainability reporting and performance. Despite some practical implications, the study has some limitations that future researchers can use to guide their studies. The research only focuses on manufacturing companies listed on Anglophone stock exchanges in Africa, and the study did not examine other communication channels, such as company newsletters and newspapers. Therefore, future research on sustainability should examine various corporate communication channels.

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APPENDIX: LIST OF MANUFACTURING FIRMS SAMPLED

Botswana		
Sechaba Brewery		
Eswatini		
The Royal Eswatini Sugar Company		
Ghana		
Benso Oil	Guinness Ghana	Fanmilk
Cocoa Processing	Intravenous Infusions	Unilever Ghana
South Africa		
AbInBev	Aspen Pharmacare Holdings Limited	Distell
Adcock Ingram Holdings Limited	Astral Foods	Hulamin Limited
Ah-Vest	Aveng	Mondi Plc
Argent	AVI	Mpact Limited
Ascendis Health Limited	BAT	Nampak
Stefanutti Stocks	Bell	Novus Holdings
Tiger Brands Limited	Bowler Metcalf Limited	Nu-World Holdings Limited
Tongaat Hulett Limited	*CAFCA Limited	Oceana Group Limited
Transpaco	Sappi	*Pretoria Portland Cement
Richemont	South Ocean Holdings	Quantum Food Holdings
RCL Foods	Spanjaard	Rhodes Food Group Holdings Limited
Zambia		
Chilanga Cement	Zambeef Products	Zambia Sugar
Metal Fabricators	Zambia Bata Shoes	Zambia Brewery
National Brewery		
Malawi		
Illovo Sugar		
Mauritius		
Altea	Les Moulins de la Concorde	Phoenix Beverages
Constance La Gaiete	Livestock Feed	PIM Limited
Go Life	Mauritius Chemical & Fertilizer	Quality Beverages
Harel Mallac Limited	Mauritius Oil Refineries	The United Basalt
Innodis	Les Gaz Industriels	
Kenya		
Bamburi Cement	East African Portland Cement	Olympia Capital
BAT Kenya	Everready	Sameer Africa
BOC KENYA	Flame Tree Group	Sasini
CARBACID INVESTMENTS	Kenya Orchards	Unga Group
Crown Paints Kenya	Kakuzi	Williamson Tea
Eaagads	Kapchorua Tea Kenya	East African Cables
*East African Breweries	Limuru Tea	

Namibia		
Namibia Breweries		
Nigeria		
Aluminium Extrusion Industries	Ftn Cocoa Processors	Nascon Allied
Austin Laz & Company	Glaxo	Neimeth International Pharmaceuticals
Berger Paints Plc	Greif	Nestle Nigeria
Beta Glass Company	Guinness Nigeria	Nigeria Breweries
Cadbury	Honeywell Flour Mill	Nigerian Enamelware
CAP	Industrial and Medical Gases	Northern Flour Mills Of Nigeria
Champion Breweries	International Breweries	Okomu Oil Palm
Chellarams Plc	Lafarge Cement	Pharma-Deco
Cutix Plc	Livestock Feeds	Premier Paints Plc
Dangote Cement	May & Baker	Presco
Dangote Sugar Refinery	McNichols Plc	Pz Cussons
Eterna	Meyer	Tripple Gee and Company
Fidson Healthcare	Morison Industries	UAC
Flour Mills Of Nigeria	Mrs Oil	Unilever Nigeria
Union Dicon Salt	Vitafoam Nigeria	
Rwanda		
Bralirwa Limited		
Tanzania		
*East African Breweries	Tanzania Breweries	TATEPA
Tanga	Tanzania Portland Cement	Tol Gases Limited
Tanzania Cigarette Company		
Uganda		
British American Tobacco Uganda	*East African Breweries	Uganda Clay
Zimbabwe		
African Distillers	Hippo	*Pretoria Portland Cement
ART Holdings	Innscor	starafricacorporation
Bat Zimbabwe	Lafarge Cement Zimbabwe	Turnall Holdings Limited
Bridgefort	Masimba Holdings Limited	Willdale Limited
*CAFCA Limited	Nampak	Zimplow Holdings Limited
Dairibord Holdings	National Foods	General Beltings
Delta Corporation		

*Companies appearing on multiple stock exchanges.