SUSTAINABILITY PRACTICE AND FINANCIAL PERFORMANCE OF LISTED MANUFACTURING FIRMS IN SELECTED COUNTRIES IN SUB-SAHARAN AFRICA

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ABSTRACT

As the global incidence of environmental mismanagement escalated, the significance of sustainability concerns in corporate practices grew progressively pronounced. Despite the presence of favourable business conditions characterized by increased profitability, the improper utilization and exhaustion of air resources emerged as an alarming indicator that the sustainability of future economic expansion could be compromised. This study explored the relationship between sustainability practices and financial performance among listed manufacturing firms in selected Sub-Saharan African countries. The study employed ex-post facto and explanatory research designs. Descriptive statistics characterized each variable, while regression design assessed relationship magnitude and independent variables' influence. Secondary sources provided data from audited annual and sustainability reports of 146 manufacturing companies publicly listed on stock exchanges in sub-Saharan African nations. Criterion sampling technique determined the sample size, including companies listed before 2011 and remaining listed without delisting, totaling 62 companies classified into material products, consumer goods, healthcare goods, and industrial sectors. The regression analysis revealed significant findings regarding the impact of different types of disclosure (social, economic, and environmental) on the return on assets (ROA, ROE, and EVA) of these firms across three models. Overall, sustainability practices were found to have a positive and statistically significant effect on the financial performance of the listed manufacturing firms in the region. The study's findings underscore the importance of sustainability practices in enhancing the financial performance of manufacturing firms in Sub-Saharan Africa. This study recommends

that manufacturing firms in Sub-Saharan Africa should prioritize the integration of sustainability practices into their operations to improve financial performance.

KEYWORDS: - Sustainability practices, Economic disclosure, Social disclosure, Environmental disclosure, Return on assets (ROA), Return on equity (ROE), Economic value added (EVA).

1. INTRODUCTION

In recent years, sustainability has emerged as a critical aspect of corporate strategy for businesses worldwide. As concerns about environmental degradation, social inequality, and ethical governance continue to rise, companies are increasingly pressured to integrate sustainable practices into their operations (Lawal et al., 2024). This paradigm shift is particularly pronounced in the manufacturing sector, where environmental impact, resource efficiency, and social responsibility are under scrutiny.As the global incidence of environmental mismanagement escalated, the significance of sustainability concerns in corporate practices grew progressively pronounced (Botchwey et al., 2022). Despite the presence of favourable business conditions characterized by increased profitability, the improper utilization and exhaustion of air resources emerged as an alarming indicator that the sustainability of future economic expansion could be compromised (Dagunduro et al., 2024).

For organizations to achieve sustained financial performance, they must possess a comprehensive sustainability strategy and allocate resources toward relevant domains, including environmental preservation, social welfare, occupational health, and community safety. In many developing nations, sustainability reporting is generally regarded as a discretionary disclosure obligation in financial statements (Boluwaji et al., 2024). However, there are indications that enterprises that incorporate sustainability practices into their strategic agendas, as advised by the corporate governance code, could potentially experience enhancements in their financial performance.

African firms have suffered performance evaluation setbacks in the global financial markets because of inadequacies in business and reporting practices occasioned by their inability to meet up with the dynamic changes in stakeholder expectations in recent times (Constantinescu, 2021).Sub-Saharan Africa represents a region of significant economic potential and development opportunities. Within this context, the role of sustainability practices in enhancing the financial performance of manufacturing firms has become a topic of considerable interest and importance. However, research examining the relationship between sustainability initiatives and financial outcomes within this specific geographical context remains limited.

This study aims to address this gap by investigating the relationship between sustainability practices and financial performance among listed manufacturing firms in selected countries in Sub-Saharan Africa. By focusing on listed companies, this study aims to provide insights that are relevant not only to individual firms but also to investors, policymakers, and stakeholders interested in the economic and environmental sustainability of the region's manufacturing sector. This study seeks to contribute to both academic literature and practical insights that can inform business strategies and policy interventions aimed at fostering sustainable development in the region.

The significance of this research lies in its potential to inform strategic decision-making among manufacturing firms, investors, and policymakers in Sub-Saharan Africa. By understanding the relationship between sustainability practices and financial performance, stakeholders can identify opportunities for value creation, risk mitigation, and long-term resilience in the face of evolving environmental and social challenges. In the subsequent sections of this article, we will review relevant literature on sustainability practices and financial performance, present our research methodology, analyze our findings, and discuss their implications for theory, practice, and future research directions. Through this comprehensive approach, we aim to contribute valuable insights to the ongoing discourse on sustainability and economic development in Sub-Saharan Africa and beyond.

2. LITERATURE REVIEW

Sustainability

Olatunde et al. (2021) defined sustainability in accounting and reporting as the documentation, assessment, and disclosure of the financial implications of socially and environmentally motivated changes, alongside their ecological and social consequences within a specific economic framework. Pham et al. (2021) emphasize that sustainability reporting involves measuring, analyzing, and disclosing the interconnectedness of the three sustainability dimensions. The widespread adoption of sustainability reporting stems from its recognized impact on company performance, stakeholders' demand for transparency, and the imperative for businesses to address sustainable development concerns. Adnyana et al. (2021) stress that sustainability reporting communicates a company's performance and progress against set targets to all stakeholders, employing a global framework with clear, measurable objectives. The sustainability reporting requires organizations to monitor and disclose their environmental, social, and economic impacts, reflecting corporate responsibility (Dagunduro et al., 2024). Sustainability reporting, as defined by the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), involves evaluating, disclosing, and being accountable for organizational performance regarding sustainable development goals (GRI & SASB, 2021).

Economic Sustainability Practices

Economic sustainability, as defined by Lawal et al. (2024), involves the optimal utilization of available resources to achieve a responsible equilibrium, impacting local, national, and international economic systems, as well as stakeholders' financial circumstances. Asuquo et al. (2018) describes sustainability as conducting business in compliance with governance principles to meet current demands without compromising those of future generations. Atanda et al. (2021) argue that sustainable economic development requires efficient resource use, prioritization of needs, maximization of returns, and realization of economic justice. Sustainability in economics emphasizes balancing present demands with the welfare of future generations, requiring companies to mitigate risks, adopt organized operating procedures, and ensure effective corporate governance (Boluwaji et al., 2024). Strategies for achieving economic sustainability include enhancing cost efficiency through streamlined operations and resource utilization, with businesses playing a vital role in enhancing micro and macro economies and meeting stakeholder demands (Kaya & Akbulut, 2019).

Social Sustainability Practice

Social sustainability practices are crucial for businesses, as they depend on community support and engagement for survival. Prioritizing stakeholders' interests is integral, ensuring that communities benefit from business operations affecting society (Ibrahim al., 2021). This entails more than just paying workers' salaries; it includes considerations such as occupational health, retirement plans, and safe work environments. Reports on social sustainability aim to enhance the company's reputation among investors, thereby increasing its value (Nzekwe et al., 2021). Corporate social responsibility encompasses an organization's impact on the social system, covering aspects like human rights, labor, and product responsibility. Demonstrating social responsibility not only upholds societal morals but also serves as a unique selling point for investors, potentially boosting sales and profitability. Engaging in socially responsible activities that benefit the local community can have a positive impact on financial performance (Rahi et al., 2021).

Environmental Sustainability Practice

Environmental sustainability involves firms adopting practices to achieve financial performance while ensuring long-term growth without compromising internal and external resources (Kolawole et al., 2023). This includes reducing the impact of operations on the natural and ecosystem systems. Employee competence plays a crucial role, as it contributes to minimizing environmental risks, while incompetence can lead to mistakes, accidents, and negligence, adversely affecting the environment (Nazim et al., 2017). Improving employee welfare and the ecological environment can positively impact business operations, profitability, and value. To mitigate the impact of operational activities on the environment, regular analysis and measures are necessary (Okpala &Iredele, 2019). Neglecting environmental damage can result in negative consequences for the organization's reputation, turnover, profitability, and sustainability, including high costs of compensation, penalties, and litigation (GRI & SASB, 2021).

Financial performance

According to Aluko et al. (2022), financial performance denotes a company's achievement of its financial goals over a specific period, involving the acquisition and allocation of funds based on factors such as capital adequacy, liquidity, solvency, efficiency, leverage, and profitability. The success of a corporation financially indicates its ability to manage and control resources within established parameters. Adewara et al. (2023) suggest that financial performance serves as an indicator of a company sector's overall financial health during a specific period, reflecting the outcomes of the sector and the extent to which a corporation efficiently utilizes its resources to maximize profitability (Dagunduro et al., 2022; Asubiojo et al., 2023).

Financial performance metrics like return on equity (ROE), return on capital employed (ROCE), and return on assets (ROA) can be used to assess a company's productivity and profitability (Awotomilusi et al., 2023). A higher profit margin signifies the company's strong market position relative to shareholders' investments (Oluwagbade et al., 2023).

Return on assets (ROA) is a widely recognized financial performance indicator used by financial experts and researchers (Dada et al., 2023; Dagunduro et al., 2023). The study examines three

financial performance metrics: return on equity, return on assets, and earnings per share. Return on equity (ROE) measures a firm's profitability within a fiscal year, calculated by deducting interest charges and corporate income tax from earnings before distributing dividends to shareholders (Awotomilusi et al., 2023). Equity in ROE represents shareholders' residual interest in the company (Oluwagbade et al., 2023). A consistent improvement in ROE over time may prompt enhancements in policy design and implementation by the board of directors (Dada et al., 2023). Return on assets (ROA) quantifies a company's fiscal success and the efficiency of resource utilization by its executives.

Theoretical Framework

The foundation of this research stems from sustainability theory, evident in the identified parallels within existing literature. It extends beyond primary stakeholders to include secondary ones and unforeseen future circumstances, reflecting a broad scope of protection regarding sustainability interests. Sustainability theory does not have a single founder or profounder in the same way that some scientific theories might. Instead, it has emerged and evolved over time through the contributions of various scholars, researchers, and practitioners from multiple disciplines such as environmental science, ecology, economics, sociology, and more. The concept of sustainability, broadly defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs, has been shaped by the works of individuals like Rachel Carson (1962), Meadows et al. (1972), Gro Harlem Brundtland (1987), and many others. These thinkers have contributed to the development and popularization of sustainability principles, leading to the formation of sustainability theory as a framework for understanding and addressing complex socio-environmental challenges.

Implementing sustainability practices can potentially boost organizational value, leading to increased recognition and favorable perceptions of the business (Gimenez & Sierra, 2013; Sharma, 2014). The study aims to provide a comprehensive understanding of the relationship between sustainability practices and financial performance. One benefit of anchoring this study in sustainability theory is its inclusive integration of various ideologies from agency, stewardship, stakeholders, and legitimacy theories. Economic sustainability aligns with agency and stewardship theory, emphasizing a firm's fiduciary responsibility to shareholders. Social sustainability connects with stakeholder theory, advocating consideration for all individuals or groups impacted by a firm's actions. Environmental sustainability reflects legitimacy theory, highlighting the importance of addressing environmental concerns. Thus, this research on sustainability theory amalgamates these theories effectively to address a theoretical gap.

Empirical Review

Boluwaji et al. (2024) explored the impact of sustainable business practices on the longevity of listed manufacturing firms in Nigeria, with a focus on stakeholder inclusiveness, dynamic workplace environments, and community engagement. Employing an ex-post facto research design, data from 60 consumer and industrial goods manufacturing companies listed on the Nigerian exchange group as of December 31, 2021, were analyzed. Their findings indicated that stakeholder

inclusiveness, dynamic workplace environments, and community engagement positively and significantly affected the net asset per share of these listed manufacturing firms.

Lawal et al. (2024) delved into the influence of sustainability reporting on the value creation of listed manufacturing companies in Nigeria. Their longitudinal study involved 45 quoted manufacturing firms on the Nigeria Exchange Group as of May 30, 2023. Using annual reports from 2012 to 2021, they conducted multivariate regression analysis to examine the impact of sustainability reporting variables on firm value creation. Their results revealed that social sustainability disclosure had a positive and significant effect on the earnings per share of the listed manufacturing firms under scrutiny.

Dagunduro et al. (2024) investigated the relationship between non-financial disclosure and firm performance within the context of listed consumer goods manufacturing companies in Nigeria. Focusing on 21 such companies within the consumer goods manufacturing sector, they utilized thorough census sampling techniques to select the sample size. Spanning from 2013 to 2022, their research employed the FGLS regression model to analyze the association between the variables. Their findings indicated that environmental and social disclosures had a positive and significant impact on firm performance, whereas governance disclosure had a negative and significant effect. This suggests that companies embracing robust non-financial disclosure practices tend to achieve better overall performance.

Turuianu (2023) aimed to assess the impact of sustainability and non-financial reporting on companies' engagement in earnings management practices. Through the evaluation of three earnings management metrics using multiple linear regression models, a sample of 31 companies listed on BSE was analyzed. The findings revealed a decrease in income smoothing practices by sampled companies in the post-adoption period of 2017-2019 compared to the period preceding the implementation of the EU directive related to mandatory disclosure of non-financial information (2015-2016). Hence, firms characterized by higher transparency in sustainability reporting are less likely to engage in earnings management practices.

Pham et al. (2021) undertook a study investigating the impact of sustainable practices on financial performance, using Sweden as a case study. They analyzed a total of 116 Swedish firms in 2016 and found a positive correlation between business sustainability and financial performance, as demonstrated by metrics such as returns on equity, earnings yield, return on assets, and return on capital employed. However, the study revealed inconclusive results when employing Tobin Q, a financial metric based on market indicators. One key contribution of this study is its extension of the time frame and its cross-country analysis, which has the potential to yield unique findings, particularly given the significant shifts in the global financial landscape. Notably, the financial performance metrics utilized in this study closely resemble those used in prior research.

Rahi et al. (2021) conducted a study examining the influence of sustainability on the financial performance of the Nordic banking system. They extracted and analyzed the ESG index of 152 enterprises in the Nordic region. The findings indicated that common financial performance metrics

such as return on equity, earnings per share, and return on investment were utilized in assessing financial performance. However, the analysis revealed a negative correlation between environmental, social, and governance (ESG) policies and financial performance; although a positive association was observed between return on assets and governance. The study focused solely on ESG factors without considering additional elements that could potentially affect a company's financial performance. An integrated assessment of this proposed study would provide a more comprehensive understanding of the issue.

Constantinescu (2021) examined the relationship between the market value of European energy and healthcare firms and their level of sustainability disclosure. This was evaluated through their individual and aggregated environmental, social, and governance (ESG) scores. The study was motivated by the growing attention towards sustainability disclosure, the global impact of the COVID-19 pandemic on the economy, and the inclusion of non-financial data in corporate reporting to enhance organizational value. The sample comprised 305 data points from 61 European energy corporations and 225 observations from 45 European healthcare companies, spanning various categories. Two linear regression models were constructed to analyze the panel data samples of firms, with each model employing a distinct dependent variable to enhance the reliability of the findings. The study revealed a statistically significant negative relationship between environmental factors and business value within the energy industry. However, it found that sustainability disclosure had no discernible impact on corporate value within the healthcare sector.

Adnyana et al. (2021) investigated the influence of sustainability report disclosure on the performance of LQ45 companies listed on the Indonesia Stock Exchange (IDX). Focusing on 45 LQ45 companies following GRI-G4 standards, they selected 19 firms using purposive sampling, resulting in a sample of 57 companies from 2016 to 2018. Data were collected through documentation analysis of sustainability reports and financial statements. Multiple regression analysis showed that economic, environmental, and social performance disclosures related to supply chain management positively affected company performance.

Ibrahim et al. (2021) studied the impact of sustainability reporting on the financial performance of listed Nigerian oil and gas firms. Their sample included 12 listed oil and gas firms in Nigeria, selected using census sampling with specific criteria. Return on Asset (ROA) measured financial performance, with secondary sources providing relevant data. Regression analysis indicated that environmental sustainability had a significantly positive effect on ROA, while economic sustainability had a positive but insignificant effect, and social sustainability had no significant effect on ROA.

Atanda et al. (2021) analyzed the effect of sustainability disclosure on firm value using data from ten randomly selected listed deposit money banks from 2014 to 2018. They applied qualitative content analysis to audited reports and accounts to measure overall sustainability disclosure index and its dimensions (environmental, social, and economic). Descriptive tools and ordinary least

square fixed-effects regression revealed that overall sustainability and environmental sustainability disclosures negatively impacted firm value.

The gap in research lies in the limited exploration of the relationship between sustainability practices and financial performance among listed manufacturing firms in Sub-Saharan Africa. Despite the increasing importance of sustainability in corporate strategy globally, particularly in the manufacturing sector, there is a lack of comprehensive studies addressing this relationship within the specific context of Sub-Saharan Africa. African firms face challenges in meeting evolving stakeholder expectations and incorporating sustainability practices into their operations, potentially impacting their performance evaluation in global financial markets. This study aims to fill this gap by examining how sustainability practices influence financial performance in listed manufacturing firms in selected Sub-Saharan African countries. Hence, the null hypotheses formulated as follows:

H_{01}: Sustainability practices have no significant effect on the financial performance of listed manufacturing firms of selected sub-Saharan Africa.

Conceptual Framework
Figure 2.1 shows the interaction between sustainability practices and financial performance of listed manufacturing firms of selected sub-Saharan Africa.
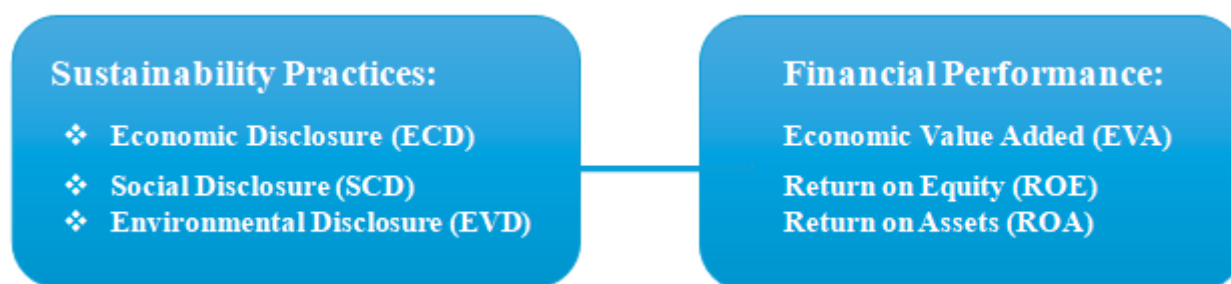

Sustainability Practices:
- ❖ Economic Disclosure (ECD)
- ❖ Social Disclosure (SCD)
- ❖ Environmental Disclosure (EVD)

Financial Performance:
Economic Value Added (EVA)
Return on Equity (ROE)
Return on Assets (ROA)

Figure 2.1: Conceptual Framework
Source: Authors' Concepts (2024)

3. METHODOLOGY
The study employed ex-post facto and explanatory research designs. Ex-post facto design utilized pre-existing data from annual reports of selected industrial businesses due to data manipulation difficulty. Explanatory research approach was chosen due to identified associations among variables. Descriptive statistics characterized each variable, while regression design assessed relationship magnitude and independent variables' influence. Panel research accommodated substantial data volume for accurate population representation. Secondary sources provided data from audited annual and sustainability reports of 146 manufacturing companies publicly listed on stock exchanges in sub-Saharan African nations, including Kenya, Tanzania, Uganda, Ghana, Nigeria, South Africa by primarily concentrating on firms that are listed on stock exchanges, therefore emphasizing countries with vibrant stock exchange markets. Seven nations were selected based on market capitalization and compliance with International Financial Reporting norms (IFRS). Criterion sampling technique determined the sample size, including companies listed before

2011 and remaining listed without delisting, totaling 62 companies classified into material products, consumer goods, healthcare goods, and industrial sectors.

Model Specification

The disclosures of the sustainability index encompass a range of social, economic, and environmental aspects, serving as a reflection of the organization's commitment to sustainable operations. In consideration of the previous study conducted by Pham et al. (2021) regarding the influence of sustainable practices on financial performance, the functional relationship may be articulated as follows.

$$FP = f(SID) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \; 3.1$$
$$FP = f(ECD, SCD, EVD) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \; 3.2$$

The acronym SID refers to the disclosure of the sustainability index, whereas FP represents firm performance. The items are categorized into the following groups: There are three distinct categories of disclosure, which can be identified as follows: EVD is an acronym that represents the environmental dimension, SCD represents the social dimension, and ECD represents the economic dimension. To mitigate the potential bias arising from omitted factors, which may lead to endogeneity, the study will incorporate control variables for age and company size. The subsequent expression represents the econometric formulation of the association between financial performance and disclosures of sustainability index.

$$FP_{it} = \beta_0 + \beta_i SDC_{it} + \beta_2 ECD_{it} + \beta_3 EVD_{it} + eit \ldots \ldots \ldots \ldots \ldots .3.3$$

Financial performance (FP) is further broken down to show the effect of sustainability disclosure on internal and external perspectives which is represented with the Return on Assets (ROA) Return on Equity (ROE) and Economic Value Added (EVA)

$$ROA_{it} = \beta_0 + \beta_i SDC_{it} + \beta_2 ECD_{it} + \beta_3 EVD_{it} + eit \ldots \ldots \; \ldots \ldots \ldots 3.4$$
$$ROE_{it} = \beta_0 + \beta_i SDC_{it} + \beta_2 ECD_{it} + \beta_3 EVD_{it} + eit \ldots \ldots \; \ldots \ldots \ldots 3.5$$
$$EVA_{it} = \beta_0 + \beta_i SDC_{it} + \beta_2 ECD_{it} + \beta_3 EVD_{it} + eit \ldots \ldots \ldots \ldots \ldots .3.6$$

Where:
ROA= Return on Asset
ROE= Return on Equity
EVA= Economic Value Added
SDC= Social Disclosure
ECD= Economic Disclosure
EVD= Environmental Disclosure

A priori Expectation
$\beta_1, \beta_2, \beta_3 > 0$
Measurement of Variables

The dependent variable of the study pertains to the financial performance, which is evaluated from both internal and external perspectives. More specifically, the variables used to analyze financial performance include return on equity, return on assets, and economic value added. The variable under investigation is corporate governance, which encompasses sustainability standards, openness, and assurance. The moderating variable in this study is investment in information technology. To mitigate the impact of statistical noise during the analysis period, the study also endeavors to include several relevant control variables. Table 3.1 presents a comprehensive breakdown of the variables, accompanied by their respective descriptions, measurements, and sources.

Table 1: Operationalization, Description, and Measurement of Variables

SN	Variable	Acronym	Role	Measurement	Source
1	Firm Performance	FP	Dependent		
1a	Return on Assets	ROA	Dependent	Measured as earnings after tax divided by the total asset (%)	Oluwagbade et al. (2023)
1b	Returns on Equity	ROE	Dependent	Measured as earnings after tax divided by total equity (%)	Oluwagbade et al. (2023)
1c	Economic Value Added	EVA	Dependent	It is calculated by subtracting the cost of capital from the net operating profit after tax (NOPAT).	Lawal et al. (2024)
2	Sustainability Practices	SUSP	Independent		
2a	Economic Disclosure	ECD	Independent	Indicator variable that is assigned the value of 1 if the firm adheres to the economic disclosure rules and assigned 0 if not.	Jaggi and Tsui (1999), Asthana (2014)
2b	Social Disclosure	SCD	Independent	Indicator variable that is assigned the value of 1 if the firm adheres to the social disclosure rules and assigned 0 if not.	Rusmin and Evans (2017)
2c	Environmental Disclosure	(EVD)	Independent	Indicator variable that is assigned the value of 1 if the firm adheres to the environmental disclosure rules and assigned 0 if not.	Fitrianyet al. (2016); Chungyalpa (2019).

Authors' Compilation (2024)

4. ANALYSIS OF DATA AND DISCUSSION OF RESULTS
Descriptive statistics

Table 2 gives descriptive information for both the independent variable proxy by ECD, SDC and EVD) as well as the dependent variable, ROA, ROE, and EVA. The variables can be construed as possessing a mean value of 0.3214 for economic transparency, suggesting that, on average, the companies included in the dataset exhibit a somewhat moderate degree of economic openness. The

statement is derived from the results shown in Table 2. The median value of economic disclosure, which is 0.0000, suggests that around half of the companies exhibit positive values, while the remaining half exhibit values of zero. The economic disclosure values of the observed companies demonstrate a significant level of variability, as evidenced by the standard deviation of 0.4674 for economic disclosure. The average value of social disclosure is 0.0565. This suggests that the companies within the sample exhibit a relatively low level of social disclosure, on average. The social disclosure values of a significant proportion of businesses are likely to be zero, as seen by the median value of 0.0000 for social disclosure. The companies under study exhibit variety in their social transparency values, as seen by a standard deviation of 0.2311.

Furthermore, the findings indicate that the companies within the dataset exhibit a moderately moderate level of environmental disclosure, as seen by an average value of 0.4248. Based on the median value of 0.0000, it can be deduced that around half of the companies possess environmental disclosure values of zero, while the remaining half could exhibit positive values. Nevertheless, the standard deviation of environmental disclosure was 0.4947, suggesting a noteworthy level of variability in the environmental disclosure figures across the observed companies. The financial performance component of the variables reveals that the companies in the dataset generate an average return of approximately 6.33% on their assets, as represented by the mean return on assets of 6.33%. The observed companies exhibit a notable variability in the return on asset values, as evidenced by the standard deviation of 30.8385. Additionally, the median value of 5.44% serves as an indicator of the middle value, suggesting that half of the companies possess a return on asset lower than this value, while the remaining half have a higher return.

In contrast, the companies within the dataset exhibit an average return on equity of approximately 9.63%, as evidenced by the mean return on equity of 9.63%. According to the median value of 11.73%, it can be observed that around 50% of the companies exhibit a return on equity lower than this threshold, while the remaining 50% demonstrate a higher return. The return on equity numbers of the investigated companies displays a significant level of variability, as evidenced by the standard deviation of 68.2006. The companies within the dataset generally demonstrate a positive economic value added, which suggests that they have created value beyond the required return on invested capital. This is evident from the mean economic value added of 0.0314. Furthermore, the median value of 0.0200 indicates that 50% of the firm's own economic value added that is lower than this figure, while the remaining 50% have a value that exceeds it. There exists a degree of variability in the economic value supplied by the examined firms, as seen by the standard deviation of 0.3363.

Table 2: Descriptive statistics

	ROA	ROE	EVA	SDC	ECD	EVD
Mean	6.3348	9.6320	0.0314	0.0565	0.3214	0.4248
Median	5.4400	11.7300	0.0200	0.0000	0.0000	0.0000
Maximum	617.4300	255.6600	6.1700	1.0000	1.0000	1.0000
Minimum	-235.9900	-989.3800	-2.8900	0.0000	0.0000	0.0000
Std. Dev.	30.8385	68.2006	0.3363	0.2311	0.4674	0.4947

Skewness	11.4307	-7.9384	7.9664	3.8400	0.7644	0.3039
Kurtosis	259.8617	101.7117	196.0799	15.7456	1.5843	1.0923
Jarque-Bera	1709619.	256982.5	964929.4	5711.154	111.9740	103.3868
Probability	0.0000	0.0000	0.000000	0.0000	0.0000	0.0000
Observations	617	617	617	619	619	619

Source: Author's Computation (2024)

Panel unit root test

The probability value of 0.0000 in Table 3 in the case of size; and the Levin, Lin, and Chu t* test statistic being 6.53022 supports the rejection of the null hypothesis. For EVD, the probability value is 0.0000, and the test statistic of 4.35860suggests that the null hypothesis about the presence of a unit root is rejected. The probability value is 0.0000 and test statistic of 5.98912 indicates the rejection of the null hypothesis for ECD. The p-value is 0.0000, and test statistic of -5.50395 in the case of SDC suggests a significant deviation from the expected values; suggests a rejection of the null hypothesis. The probability value is 0.0000 for EVA, while the test statistic is calculated as -10.2204. based on these results, the unit root null hypothesis is rejected. The value of probability for ROE is 0.0000, and test statistic is -16.0682. The null hypothesis of the presence of a unit root is deemed statistically significant and ROE is therefore characterized by stationary. In the case of ROA, the probability of 0.0000, and test statistic of 8.67905 indicate strong evidence against the null hypothesis, therefore, it is rejected. The probability value for Age is 0.0000, and the test statistic is -12.0298, the result indicates that Age is a constant variable. Based on the results of the panel unit root tests, it can be concluded that all the variables, namely EVD, ECD, SDC, EVA, ROE, and ROA, exhibit stationary. This implies that these variables do not possess a unit root and can be utilized in following analyses that rely on the assumption of stationarity.

Table 3: Panel Unit Root Test

	Levin, Lin & Chu t*			PP - Fisher Chi-square		
	Test statistics	p-value	Stationarity	Test statistics	p-value	Stationarity
EVD	-4.35860	0.0000	1(0)	61.1274	0.0029	1(0)
ECD	-5.98912	0.0000	1(0)	120.6507	0.0000	1(0)
SDC	-5.50395	0.0000	1(0)	24.2166	0.0000	1(0)
EVA	-10.2204	0.0000	1(0)	258.525	0.0000	1(0)
ROE	-16.0682	0.0000	1(0)	263.315	0.0000	1(0)
ROA	-8.67905	0.0000	1(0)	215.634	0.0000	1(0)

Source: Authors' Computation (2024)
Variance Inflation Factor

Table 4 displays Variance Inflation Factors (VIF) in a regression model serve as a measure of the degree of multicollinearity among the predictor variables. The VIF (Variance Inflation Factor) of the SDC (Social Disclosure) is approximately 1.20, indicating a minimal level of multicollinearity. This observation indicates a lack of significant correlation between self-driving cars (SDC) and the other predictor variables included in the model. The variable inflation factor (VIF) for ECD is approximately 1.32, indicating the presence of a modest level of multicollinearity. The potential correlation between ECD and other predictor variables may exhibit a lack of statistical significance.

The variable of interest, EVD, exhibits a Variance Inflation Factor (VIF) of approximately 1.08, indicating a moderate level of multicollinearity. Ebola Virus Disease (EVD) does not exhibit a significant correlation with other predictive markers, like Severe Dengue Fever (SDC). Based on the Variance Inflation Factor (VIF) values, it can be concluded that there is no significant issue of multicollinearity among the predictor variables in the model. This implies that there is a limited association between the independent variables, hence enhancing the reliability of the regression analysis.

Table 4: Variance Inflation Factors

Variance Inflation Factors

Variable	Coefficient Variance	Centered VIF
SDC	0.004115	1.199689
ECD	0.001112	1.323848
EVD	0.000808	1.076368
C	0.007657	NA

Source: Authors' Computation (2024)

Regression Estimate of Sustainability Practices and Financial Performance

The model examines sustainability practices and financial performance of listed manufacturing firms in Africa using three different measures: Return on Assets (ROA), Return on Equity (ROE), and Economic Value Added (EVA). The coefficients, t-values, and p-values provide information about the significance and direction of the relationships between the independent variables (sustainability practices) and the dependent variables (financial performance measures). The interpretation and discussion of the model results are as follows: The Social Disclosure (SCD) coefficient is estimated to be -5.9018, based on a t-value of -5.3425 and a p-value of 0.0005. The negative coefficient suggests a statistically significant relationship between an increase in social transparency and a decrease in return on assets (ROA). A statistically significant negative association between SCD and ROA is evident, as indicated by the substantial t-value and low p-value. In conjunction with a t-value of 3.1371, a p-value of 0.0120, and an Economic Disclosure (ECD) coefficient of 3.0132. The positive coefficient indicates a statistically significant relationship between an increases in return on assets (ROA) and an increase in economic disclosure. A statistically significant positive association between ECD and ROA is evident, as seen by the substantial t-value and low p-value. The Environmental Disclosure (EVD) exhibited statistical significance with a p-value of 0.3730, a t-value of -0.9374, and a coefficient of -1.5666. Although the t-value does not reach statistical significance at the conventional level ($p > 0.05$), it is worth noting that the coefficient exhibits a negative relationship. Therefore, there is limited empirical evidence to support the existence of a significant association between EVD and ROA.

The coefficient of the variable under consideration is estimated to be 0.0731, with a t-value of 2.6197 and a p-value of 0.0278. The positive coefficient suggests a statistically significant relationship between an upward trend in Return on Assets (ROA) and a higher level of company age. The statistically significant positive correlation between age and return on assets (ROA) is suggested by the considerable t-value and the low p-value. The coefficient of 0.9575 is associated

with a t-value of 0.1903 and a p-value of 0.8533. Despite the lack of statistical significance of the t-value at the conventional threshold (p > 0.05), it is noteworthy that the coefficient remains positive. The R-squared value of 0.5952 suggests that approximately 59.52% of the variance in ROA can be attributed to the independent variables included in the model. The adjusted R-squared score of 0.520 provides a more accurate measure of model fit when considering the sample size and number of variables. The overall model demonstrates significance in elucidating the variability observed in the return on assets (ROA), as evidenced by the statistically significant F-statistic of 23.1850 (p-value = 0.0000). The present study examines the impact of sustainability practices on the return on equity (ROE) of manufacturing companies listed in Africa, as assessed by the ROE model.

The social disclosure coefficient, which is determined by a t-value of -2.669555 and a p-value of 0.0078, is -14.71776. The negative coefficient suggests a relationship between an increase in social disclosure and a decrease in return on equity (ROE). A statistically significant negative association between SDC and ROE is seen, as evidenced by the significant t-value and low p-value. The coefficient for the ECD variable is 2.810728, with a t-value of 0.591311 and a p-value of 0.5545. Despite the lack of statistical significance of the t-value at the conventional significance level (p > 0.05), it is noteworthy that the coefficient remains positive. Hence, the available evidence does not strongly support the existence of a significant correlation between ECD and ROE. The Environmental Disclosure (EVD) variable exhibits a coefficient of -7.202198, a t-value of -0.881755, and a p-value of 0.3783. Although the t-value does not reach statistical significance at the conventional level (p > 0.05), it is worth noting that the coefficient exhibits a negative relationship. Therefore, there is less empirical evidence to support a significant correlation between EVD and ROE.The R-squared value of 0.3068 suggests that approximately 30.68% of the variability in the return on equity (ROE) can be accounted for by the independent variables included in the model. The adjusted R-squared score of 0.2012 considers both the sample size and the number of variables, resulting in a more accurate measure of how well the model fits the data. The whole model demonstrates significance in elucidating the variability in Return on Equity (ROE), as evidenced by the statistically significant F-statistic of 10.4846 (p-value = 0.0000). It is observed that social disclosure (SCD) has negative impact on return on equity (ROE) of listed industrial firms operating in Africa. However, in this model, there are no statistically significant connections seen between Return on Equity (ROE) and variables such as firm age (AGE), firm size (SIZE), environmental disclosure (EVD), or economic disclosure (ECD).

The EVA model examines the impact of sustainable practices on the Economic Value Added (EVA) within the context of African listed manufacturing enterprises. The t-value of -7.2660, the p-value of 0.0000, and the estimated coefficient of -0.0721 for the standard deviation of change (SCD) are observed. Based on the negative coefficient, a negative relationship may be shown between an increase in social transparency and a decrease in EVA. The analysis reveals a statistically significant inverse relationship between SCD and EVA, as evidenced by the significant t-value and low p-value. ECD is an acronym that stands for economic disclosure. The t-value of the given data is 2.7691, the p-value is 0.0218, and the estimated coefficient of determination (ECD) is 0.0336. Based on the positive coefficient, a significant link can be shown between an increase in economic disclosure and an increase in Economic Value Added (EVA). A statistically significant

positive association between ECD and EVA is seen, as indicated by the substantial t-value and low p-value. The coefficient of the variable under consideration is -0.0138, with a t-value of -0.8032 and a p-value of 0.4425. Although the t-value does not reach statistical significance at the conventional threshold (p > 0.05), it is worth noting that the coefficient remains negative. Therefore, there is limited empirical evidence to support a significant correlation between EVD and EVA.The R-squared value of 0.3669 infer that the independent variables of the model explain approximately 36.69% of the observed variability in EVA. The adjusted R-squared score of 0.3212 accounts for both the number of variables and the sample size, providing a more accurate measure of the model's goodness of fit. The overall significance of the model in explaining the variability in EVA is supported by the statistically significant F-statistic of 14.5195 (p-value = 0.0000). Based on the results of the study, it can be observed that social disclosure (SCD) and economic disclosure (ECD) have a substantial influence on the EVA (Economic Value Added) of manufacturing companies listed in Africa. There exists a positive correlation between increased levels of economic transparency and elevated levels of Economic Value Added (EVA). Conversely, an inverse relationship is shown between heightened levels of social disclosure and reduced EVAs.

Table 5: Sustainability Practices and Financial Performance

	ROA Coeff.	t-value	p-value	ROE Coeff.	t-value	p-value	EVA Model Coeff.	t-value	p-value
SCD	-5.9018***	-5.3425	0.0005	-14.7177	-2.669555**	0.0078	-0.0721**	-7.2660	0.0000
ECD	3.0132**	3.1371	0.0120	2.810728	0.591311	0.5545	0.0336**	2.7691	0.0218
EVD	-1.5666	-0.9374	0.3730	-7.202198	-0.881755	0.3783	-0.0138**	-0.8032	0.4425
C	-0.9988	-0.0375	0.9709	-25.20800	-0.661547	0.5085	-0.0756	-0.2770	0.7880
R-squared	0.5952			0.3068			0.3669		
Adjusted R-squared	0.520			0.2012			0.3212		
F-statistic	23.1850			10.4846			14.5195		
Prob(F-statistic)	0.0000			0.0000			0.0000		

*** & ** connotes 1% and 5% levels of significance respectively.
Source: Authors' Computation (2024)

Discussion of Findings

In recent years, sustainability has emerged as a critical aspect of corporate strategy for businesses worldwide. As concerns about environmental degradation, social inequality, and ethical governance continue to rise, companies are increasingly pressured to integrate sustainable practices into their operations. This paradigm shift is particularly pronounced in the manufacturing sector, where environmental impact, resource efficiency, and social responsibility are under scrutiny. Hence, this study investigated the relationship between sustainability practices and financial performance among listed manufacturing firms in selected countries in Sub-Saharan Africa.

The results of the regression analysis for model one showed several significant findings regarding the impact of different types of disclosure on the return on assets (ROA) of listed manufacturing firms in selected countries in Sub-Saharan Africa. Specifically, social disclosure was found to have a negative and statistically significant effect on ROA, suggesting that higher levels of social disclosure are associated with lower returns on assets for these firms. On the other hand, economic disclosure had a positive and statistically significant effect on ROA, indicating that increased economic disclosure is linked to higher returns on assets. However, the analysis found that environmental disclosure had a negative and statistically insignificant effect on ROA, suggesting that environmental disclosure levels do not significantly influence the return on assets of these manufacturing firms in the studied countries.

The results of the regression analysis for model two revealed several significant findings regarding the impact of different types of disclosure on the return on equity (ROE) of listed manufacturing firms in selected countries in Sub-Saharan Africa. Firstly, social disclosure was found to have a negative and statistically significant effect on ROE, suggesting that higher levels of social disclosure are associated with lower returns on equity for these firms. Secondly, economic disclosure had a positive but statistically insignificant effect on ROE, indicating that changes in economic disclosure levels do not significantly influence the return on equity of these manufacturing firms. Finally, environmental disclosure was found to have a positive but statistically insignificant effect on ROE, suggesting that variations in environmental disclosure levels do not significantly impact the return on equity of these firms in the studied countries.

The results of the regression analysis for model three showed several significant findings regarding the impact of different types of disclosure on the economic value (EVA) of listed manufacturing firms in selected countries in Sub-Saharan Africa. Firstly, social disclosure was found to have a negative and statistically significant effect on EVA, indicating that higher levels of social disclosure are associated with lower economic value added for these firms. Secondly, economic disclosure had a positive but statistically insignificant effect on EVA, suggesting that changes in economic disclosure levels do not significantly influence the economic value added of these manufacturing firms. Finally, environmental disclosure was found to have a negative but statistically insignificant effect on EVA, suggesting that variations in environmental disclosure levels do not significantly impact the return on assets of these firms in the studied countries.

The summary of the results found that sustainability practices had a positive and statistically significant effect on the financial performance of listed manufacturing firms in selected countries in Sub-Saharan Africa. This suggests that companies that implement sustainable practices tend to experience improved financial performance compared to those that do not. Overall, the findings highlight the importance of integrating sustainability practices into business strategies for enhancing financial outcomes in the manufacturing sector within the studied region.

5. CONCLUSION AND RECOMMENDATIONS

In recent years, sustainability has become a crucial component of corporate strategy globally, particularly within the manufacturing sector, where environmental impact, resource efficiency, and social responsibility are key considerations. This study explored the relationship between sustainability practices and financial performance among listed manufacturing firms in selected Sub-Saharan African countries. The regression analysis revealed significant findings regarding the impact of different types of disclosure (social, economic, and environmental) on the return on assets (ROA, ROE, and EVA) of these firms across three models. Overall, sustainability practices were found to have a positive and statistically significant effect on the financial performance of the listed manufacturing firms in the region. The study's findings underscore the importance of sustainability practices in enhancing the financial performance of manufacturing firms in Sub-Saharan Africa. While social disclosure was negatively correlated with ROA, economic disclosure had a positive impact. Environmental disclosure, although not statistically significant, also demonstrated a positive trend. This suggests that companies implementing sustainable practices tend to achieve better financial outcomes. These results emphasize the need for manufacturing firms in the region to prioritize sustainability initiatives as integral components of their business strategies.

Based on the study's findings, several recommendations can be made:
  i. Manufacturing firms in Sub-Saharan Africa should prioritize the integration of sustainability practices into their operations to improve financial performance.
 ii. Companies should focus on enhancing economic disclosure practices to further leverage the positive impact on financial performance.
iii. While environmental disclosure did not show a significant effect in the regression analysis, firms should still prioritize environmental sustainability efforts as part of their long-term strategy.
 iv. Policymakers and regulatory bodies should encourage and incentivize sustainable practices among manufacturing firms through supportive policies and initiatives.

This study contributes to the existing body of knowledge by providing empirical evidence of the positive relationship between sustainability practices and financial performance in the manufacturing sector of Sub-Saharan Africa. The findings offer insights for both academics and practitioners, highlighting the importance of sustainability integration for business success in the region. Additionally, the study adds to the understanding of the specific impacts of different types of disclosure (social, economic, and environmental) on financial performance, providing valuable guidance for companies seeking to enhance their sustainability practices.

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