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SUSTAINABILITY DISCLOSURE AND FINANCIAL PERFORMANCE OF LISTED BREWERY FIRMS IN AFRICA

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Abstract

The study aims to investigate the effect of sustainability disclosure on the financial performance of selected brewery firms in Africa. The focus is to examine the influence of Governance Disclosure (G_DSCO), Social Disclosure (S_DSCO), and Environmental Disclosure (E_DSCO) on Return on Assets (ROA) and Tobin Q of brewery firms in Africa respectively. Firm Size (FSZA) was included as a control variable to explore its moderating effect. Using regression analysis across multiple regions and models, the study finds that Governance Disclosure positively impacts ROA, particularly in Southern African firms, while Social Disclosure significantly enhances Tobin Q in Eastern African firms. However, Environmental Disclosure shows minimal influence on financial performance across the regions. The study concludes that the relationship between sustainability disclosures and financial performance is context-dependent, varying across regions and firm characteristics. The study's recommendations include enhancing governance and social disclosures to improve performance and preparing firms for evolving environmental regulations.

Keywords: Sustainability reporting, governance disclosure, social disclosure, environmental disclosure, financial performance

Introduction

Sustainability disclosure involves reporting on a company's environmental, social, and governance (ESG) practices, reflecting its commitment to sustainable development. Sustainability disclosure, which involves reporting on environmental, social, and governance (ESG) factors, has become a major part of corporate transparency (Clarkson et al., 2020). It reflects a firm's commitment to responsible business practices and long-term value (Bebbington & Unerman, 2018). While environmental disclosure covers practices like waste management, social disclosure involves labour practices and community engagement, and governance disclosure focuses on corporate governance structures, such as board composition and executive compensation (Eccles et al., 2019; Clarkson et al., 2019; Freeman & Reed, 2020; Gillan et al., 2021). It is pertinent to know that sustainability disclosure plays a significant role in the transparency of financial performance and reporting.

In today's business world, financial performance remains essential for firms to stay competitive. It is a key measure of profitability, stability, and efficiency, providing insights into management and operational effectiveness (Al-Matarneh, 2021). Strong financial performance attracts investors, boosts shareholders' confidence, and ensures sustainable growth (Baker & Wurgler, 2020). This is especially crucial in Africa, where market volatility and economic challenges are prevalent, making financial health vital for long-term survival (Mensah et al., 2019; Abor, 2020). In Africa's brewery industry, sustainability reporting is on the rise as firms realize its role in enhancing corporate reputation, operational efficiency, and risk management (Appiah et al., 2021). Disclosure of these factors helps align

with global standards and meet expectations from socially-conscious investors (KPMG, 2021).The relationship between sustainability disclosure and financial performance is complex. While higher ESG disclosures are often linked to better financial outcomes, such as improved stakeholder relations and enhanced brand reputation (Ioannou & Serafeim, 2017), environmental disclosures, in particular, are tied to cost-saving initiatives, improving Return on Asset (ROA) (Wang et al., 2018). Similarly, social disclosures enhance Tobin Q by boosting consumer loyalty (Freeman & Reed, 2020), while governance disclosures foster investor confidence by reducing agency costs (Gillan et al., 2021). However, these relationships may vary depending on the context, especially in African markets, where regulatory frameworks are underdeveloped (Ali et al., 2020).

Sustainability disclosure and financial performance transparency are key to the growth and survival of the firm, as users of these financial statements are privy to the information required for making informed investment and financing decisions. Despite increasing interest, there are several gaps in the literature regarding sustainability disclosure and financial performance, especially in African markets. Although, theories such as stakeholder, institutional, and legitimacy have been widely and variously applied in prior studies to strengthen the concept of sustainability disclosure, however, recent works on sustainability disclosure covering 2024 period with focus on brewery firms cutting across South, East and West African countries, to the best of our knowledge are scarce within African markets. Similarly, many studies on sustainability disclosure rely on cross-sectional data, which may not capture the true causal relationship, as weak regulatory environments further complicate the relationship between sustainability disclosures and financial outcomes in Africa. Given these gaps, more empirical studies are needed, especially in the African brewery sector, where sustainability practices are still evolving. It is therefore important to explore how contextual factors like regulatory environments influence ESG disclosures in Africa. This study also seeks to examine the relationship between sustainability disclosure and financial performance in the African brewery sector using the stakeholders' theory and historical data for analysis thus, offering insights that will help corporate managers and policymakers enhance both financial and sustainability outcomes. This is the knowledge gap that motivated this study.

Literature Review and Hypotheses Development

Sustainability Disclosure and Financial Performance

Sustainability disclosure has become a necessary practice for companies, promoting transparency and accountability in addressing environmental, social, and governance (ESG) issues. Through sustainability reports, companies communicate their efforts to mitigate risks related to climate change, social equity, and governance failures (Clarkson et al., 2020). Investors increasingly demand detailed sustainability disclosures to evaluate a company's long-term risk and profitability potential (Eccles & Serafeim, 2021), while such reports also enhance a company's reputation and foster trust with stakeholders (Brown & Fraser, 2022). On the other hand, financial performance is essential in today's business world as it provides an indication of a firm's overall health, sustainability, and ability to generate profits, ensuring long-term growth. Financial performance measures a corporate firm's profitability and overall economic success. It indicates how well a company uses resources to generate profits and meet strategic goals. Firms exhibiting strong financial performance often attract investors and secure financing more easily, which enhances their competitive advantage (Lee, 2020; Davis & Thompson, 2021). This study includes Return on Assets (ROA), which reflects a company's operational efficiency, and Tobin Q, a market-based metric that measures the firm's market value relative to its asset replacement cost (Demsetz & Villalonga, 2020; Lindenberg & Ross, 2020). Metrics such as Return on Assets (ROA) and Tobin Q are commonly used to evaluate operational efficiency, resource utilization, and market value, enabling businesses to make strategic decisions (Johnson et al., 2019; Okeke, 2022).

It is on this note that this study explores the relationship between sustainability disclosure (independent variable) and financial performance (dependent variable) using proxies like environmental, social, and governance disclosure while ROA and Tobin Q serve as financial performance metrics, with firm size as a control variable to establish the relationship between sustainability disclosures and

financial performance with a view to validating or refuting extant literature. This model therefore, highlights how the different dimensions of sustainability influence financial outcomes.

Environmental Disclosure and Financial Performance

Environmental disclosure communicates a firm's environmental efforts, such as energy consumption and waste management (Sulaiman et al., 2020). Firms with robust environmental disclosure often enjoy consumer loyalty and investor confidence, leading to financial benefits (Schaltegger & Wagner, 2017). Empirical study by Wang et al. (2018) on the relationship between environmental disclosure and ROA is positive and significant. This indicates that firms with high environmental disclosure experience greater efficiency and cost reductions, thus, enhancing ROA. However, Appiah et al. (2021) in a similar finding in the African brewery sector noted a negative and significant relationship. In the same vein, Ali et al. (2020) and Okoye et al. (2020) found that environmental disclosure could lead to lower ROA due to regulatory costs, especially in regions with weak enforcement, while Eccles et al. (2019) and Abor (2020) in their studies found no significant impact of environmental disclosure on ROA in emerging markets, this may likely be attributed to low investor awareness.

Similarly, an empirical study on the relationship between environmental disclosure and Tobin Q conducted by Ioannou and Serafeim (2017) and Freeman and Reed (2020) showed a positive and significant relationship. The study affirms that firms with higher environmental disclosure enjoy increased investor confidence, which boosts Tobin Q. Conversely, a study by Gillan et al. (2021) revealed a negatively significant relationship. This indicates that excessive environmental compliance costs can reduce market valuation, as noted by Ali et al. (2020). However, Clarkson et al. (2019) in their study found no significant relationship in emerging markets, as investors may not fully value ESG factors. Flowing from the above and premised on the mixed findings in the literature, especially in emerging markets like Africa, the first hypothesis is stated in the null form as follows:

H_{01}: There is no significant relationship between environmental disclosure and financial performance (ROA and Tobin Q) of listed brewery firms in Africa.

Social Disclosure and Financial Performance

Social disclosure refers to a company's systematic disclosure of information on its social performance to the stakeholders for informed decision making.Social disclosure reports on a firm's social practices, such as labour welfare and community engagement (Freeman & Reed, 2020). It enhances reputation and relationships with stakeholders (Bebbington & Unerman, 2018). Freeman and Reed (2020) who studied the relationship between social disclosure and ROA showed a positively significant relationship. This implies that higher social disclosure leads to better employee productivity and higher ROA. Similarly, Appiah et al. (2021) in their study, observed that socially responsible African brewery firms enjoy greater profitability due to enhanced corporate reputation. On the other hand, a study by Ali et al. (2020) found a negatively significant relationship between social disclosures and ROA. They argued that social responsibility initiatives can strain financial resources, reducing ROA, especially in regions with weaker regulations. However, Eccles et al. (2019) found no significant relationship in emerging markets, where social disclosure may not be a key driver of financial performance.

Furthermore, in a similar study by Gillan et al. (2021) and Freeman and Reed (2020) on the relationship between social disclosure and Tobin Q, the outcome shows a positive and significant nexus, indicating a strong relationship between social disclosure and Tobin Q, as firms gain investors' confidence through responsible practices. Conversely, Ali et al. (2020) found that high social spending might reduce profitability, negatively affecting Tobin Q. Clarkson et al. (2019) found similar results in industries where social factors are less valued. However, Eccles et al. (2019) found no significant relationship between social disclosure and Tobin Q in African markets. Premised on the conflicting views of the above scholars, the second hypothesis is formulated in the null form as follows:

H_{02}: There is no significant relationship between social disclosure and financial performance (ROA and Tobin Q) of listed brewery firms in Africa.

Governance Disclosure and Financial Performance

Governance disclosure refers to disclosing and making transparent corporate governance policies and structures by a firm, thus, giving the stakeholders, the regulators and the public at large a glimpse of how the company operates and the state of its finances.Governance disclosure reports on corporate governance practices, including board structure and executive compensation. According to Gillan et al. (2021) and Clarkson et al. (2020), effective governance reduces agency problems and enhances financial performance. Studies on the relationship between governance disclosure and ROA by Gillan et al. (2021) and Wang et al. (2018) respectively, indicate a positively significant connection, showing that firms with high governance disclosure enjoy better managerial oversight and higher ROA. This was not the case with the study done by Ali et al. (2020) who found a negative and significant relationship, indicating that governance reforms increase costs, and negatively impacting on ROA in emerging markets. Eccles et al. (2019) found no significant impact of governance disclosure on ROA in African markets in their study. Likewise, therelationship between governance disclosure and TobinQ was undertaken by Ioannou and Serafeim (2017) and Clarkson et al. (2020) with a positive and significant outcome, implying that governance transparency boosts investors confidence and enhanced Tobin Q. The findings is quite different from that of Ali et al. (2020) whose outcome showed a significant but negative connection, indicating that compliance costs may reduce profitability, leading to lower Tobin Q. However, Eccles et al. (2019) in their study on governance disclosure and TobinQ performance, found no significant relationship in African markets. Given the conflicting findings by scholars and with a view to validating and/or refuting existing literature, the third hypothesis is stated in the null form as follows:

H_{03}: There is no significant relationship between governance disclosure and financial performance (ROA and Tobin Q) of listed brewery firms in Africa.

Theoretical Framework

Diverse theories such as the stakeholder theory which emphasizes the importance of managing relationships with various stakeholders for financial success (Freeman, 1984; Clarkson et al., 2019), Legitimacy theory which posits that firms disclose ESG information to align with societal expectations (Suchman, 1995; Bebbington & Unerman, 2018), and Agency theory which argues that governance disclosure reduces agency problems (Jensen & Meckling, 1976), have been variously used by prior researchers to motivate studies on sustainability disclosure and financial performance of corporate firms in different jurisdictions and economies globally.

However, for the purpose of this study, the stakeholder theory was adopted as the most relevant theory for this study as it emphasizes how managing relationships with a broad set of stakeholders can improve a firm's financial performance. In the African brewery industry, where ESG concerns are growing, this theory provides the most comprehensive explanation for the potential impacts of sustainability practices.

Methodology

This study adopts an ex-post facto research design which is the most appropriate design for determining the relationship, impact, or effect of an independent variable on a dependent variable. In this study, the design is suitable for analyzing the relationship between sustainability disclosure and financial performance using historical data. This design technique allows the researchers to collect data from secondary sources. Secondary data was collected from the annual reports and accounts of these sampled brewery companies, covering sustainability disclosures indicators (environmental, social, and governance) and financial performance over a specified period covering 2012 to 2024 in assessing the influence of sustainability disclosure on the financial performance of brewery firms in African markets. This method of data collection ensures that all relevant data points for the variables are sourced directly from audited financial documents, increasing the study's validity and reliability. The research is grounded in a positivist research philosophy, which emphasizes the use of empirical data to test

hypotheses and draw objective conclusions. The study's population includes all listed brewery companies in Africa, from which a purposive sampling technique was employed based on the availability of data to select a sample of 17 listed brewery firms. The choice of purposive sampling ensures that only firms with complete and accessible data are included, thus enhancing the reliability of the analysis.

Measurement of Variables and Model Specification

The measures of sustainability disclosure and financial performance, as well as model specification were discussed in this section. The dependent variables in this study are financial performance measures, namely Return on Assets (ROA) and Tobin Q. ROA is calculated as (Profit After Tax/Total Assets) * 100; while Tobin Q is measured as [(Number of Ordinary Shares * Year Share Price) + Total Liabilities – Cash Equivalent)]/Total Assets. The independent variables are sustainability disclosure proxies: Environmental Disclosure (E_DSCO); Social Disclosure (S_DSCO) and Governance Disclosure (G_DSCO), measured through disclosure checklists. Firm size (FSZ) is used as a control variable, measured by the natural logarithm of total assets; β_0= Constant term, β_1, β_2, β_3, β_4 = coefficient attached to explanatory variable, and ϵ = Stochastic error term.

On the strength of the above, we specify functionally, the relationship between ROA, Tobin Q and ED_DSCO, S_DSCO, G_DSCO respectively. The models are functionally presented below:

ROA= f(E_DSCO, S_DSCO, G_DSCO)……..….. (1)

Tobin Q = f(ED, SD, GD)……..……...(2)

From the above functional relationship, two regression models are specified to analyse the relationship between sustainability disclosure and financial performance. The models are stated as follow:

$$ROA_{it} = \beta_0 + \beta_1 E\_DSCO_{it} + \beta_2 S\_DSCO_{it} + \beta_3 G\_DSCO_{it} + \beta_4 FSZ_{it} + \epsilon_{it} \text{…….....(3)}$$

$$Tobin\_Q_{it} = \beta_0 + \beta_1 E\_DSCO_{it} + \beta_2 S\_DSCO_{it} + \beta_3 G\_DSCO_{it} + \beta_4 FSZ_{it} + \epsilon_{it} \text{…....(4)}$$

These models are estimated using panel regression analysis, which accounts for both time-series and cross-sectional data, making it suitable for analyzing the dynamic relationship between sustainability disclosure and financial performance across multiple firms over time. The use of regression analysis is justified as it allows for the testing of hypotheses and determination of the statistical significance of the relationship between the independent and dependent variables. Reliability and validity are ensured through the consistent measurement of variables using established disclosure checklists and widely accepted financial metrics.

Data Analysis and Interpretations

Frequency Analysis

In this section, we examine the frequency table of the earnings quality categories of our sampled brewery companies in African.

Table 1(a): Frequency Distribution by Region

Sampling	Frequency	Percentage
South	6	35.29%
West	6	35.29%
East	5	29.41%
Total	17	100.00%

***Source**:* Researchers' Computation (2024)

The frequency distribution in Table 1(a) shows that the 17 sampled brewery firms are fairly and evenly distributed across the South, West, and East African regions. The South and West regions each accounts for 6 firms (35.29%), while the East accounts for 5 firms (29.41%) out of the 17 sampled brewery firms. This balanced representation across the regions ensures a comprehensive understanding of the brewery industry from the different parts of Africa.

Table 1(b): Frequency Distribution by Region and Countries

Sampling	East	South	West	Total Percentage
Ghana	0	0	1	5.88%
Kenya	1	0	0	5.88%
Mauritius	2	0	0	11.76%
Namibia	0	1	0	5.88%
Nigeria	0	0	5	29.41%
Rwanda	1	0	0	5.88%
South Africa	0	1	0	5.88%
Tanzania	1	0	0	5.88%
Zambia	0	2	0	11.76%
Zimbabwe	0	2	0	11.76%

Source: Researchers' Computation (2024)

Table 1(b) provides a more detailed country-level breakdown, revealing that Nigeria, with 5 firms (29.41%), dominates the West African region, while Mauritius, Zimbabwe, and Zambia contribute the largest shares in the East and South regions with 2 firms each (11.76%). The other countries, including Kenya, Ghana, Namibia, Rwanda, South Africa, and Tanzania, contribute 1 firm each, highlighting the diversity of the sample across multiple African countries and regions

Descriptive Statistics

In this section, we examine the descriptive statistics for both the independent and dependent variables of interest.

Table 2: Descriptive Statistics of Listed Brewery Firms in Africa

Region	Variable	Mean	Median	Max	Min	Std. Dev	JB (Normality)
East	ROA	11.00	11.00	26.00	-1.50	7.20	2.84 (0.24)
	TOBIN_Q	2.80	2.10	10.00	0.92	1.70	21.18 (0.0000)***
	G_DSCO	77.00	86.00	100.00	0.00	25.00	21.09 (0.0000)***
	S_DSCO	23.00	20.00	60.00	0.00	21.00	5.42 (0.0664)
	E_DSCO	0.00	0.00	0.00	0.00	0.00	.
	FSZA	12.00	12.00	14.00	11.00	0.87	2.90 (0.23)
South	ROA	7.50	9.60	44.00	-89.00	19.00	44.07 (0.0000)***
	TOBIN_Q	3.10	2.70	8.30	1.20	1.70	16.41 (0.0003)***
	G_DSCO	83.00	86.00	100.00	0.00	24.00	38.48 (0.0000)***
	S_DSCO	38.00	40.00	100.00	0.00	30.00	6.02 (0.0494)*
	E_DSCO	12.00	0.00	100.00	0.00	28.00	27.80 (0.0000)***
	FSZA	12.00	12.00	14.00	8.60	1.70	8.21 (0.0165)**
West	ROA	2.40	2.20	17.00	-20.00	7.10	4.73 (0.0939)
	TOBIN_Q	2.10	1.70	5.50	0.50	1.30	6.96 (0.0308)*
	G_DSCO	90.00	86.00	100.00	57.00	8.60	9.99 (0.0068)**
	S_DSCO	61.00	80.00	80.00	0.00	23.00	8.86 (0.0119)**
	E_DSCO	0.00	0.00	0.00	0.00	0.00	.

	FSZA	12.00	12.00	15.00	9.30	1.50	7.20 (0.0273)*
Total	ROA	6.80	7.70	44.00	-89.00	13.00	. (0.0000)***
	TOBIN_Q	2.70	2.30	10.00	0.50	1.60	39.88 (0.0000)***
	G_DSCO	84.00	86.00	100.00	0.00	21.00	. (0.0000)***
	S_DSCO	42.00	40.00	100.00	0.00	30.00	24.63 (0.0000)***
	E_DSCO	4.60	0.00	100.00	0.00	18.00	. (0.0000)***
	FSZA	12.00	12.00	15.00	8.60	1.40	8.28 (0.0159)**

Note:ROA: Return on Assets; Tobin Q: TOBIN_Q; E_DSCO: Environmental Disclosure; S_DSCO: Social Disclosure; G_DSCO: Governance Disclosure; and FSZA: Firm Size (Control Variable).

Source: Researchers' Computation (2024)

The descriptive statistics table 2 provides valuable insights into the relationship between financial performance (ROA and Tobin Q) and sustainability disclosure proxies (Environmental, Social, and Governance Disclosure) across East, South, and West African brewery firms, with Firm Size (FSZA) as a control variable.

In the East African region, the mean Return on Assets (ROA) is 11%, indicating that firms, on average, generate a moderate return on their assets. The minimum ROA is -1.5%, showing that some firms have experienced losses, while the maximum is 26%, reflecting strong performance in certain firms. The standard deviation of 7.2% shows moderate variability in performance across firms.The JB test indicates normality with a probability of 0.24, suggesting that ROA is not significantly different from a normal distribution. The mean Tobin Q is 2.8, indicating moderate market valuation, but the JB test highlights significant non-normality ($p < 0.001$). Governance Disclosure (G_DSCO) in East Africa averages 77%, with significant non-normality ($p < 0.001$), suggesting variation in governance transparency across firms. Social Disclosure (S_DSCO) has a mean of 23%, showing limited social responsibility efforts, with a near-normal distribution. Environmental Disclosure (E_DSCO) is non-existent, indicating that no firm in the East has disclosed environmental metrics.

In the South African region, the mean ROA is 7.5%, but there is a high variability (standard deviation of 19%) due to extreme values, with a minimum of -89% and a maximum of 44%. The JB test indicates significant non-normality ($p < 0.001$), suggesting that outliers heavily influence ROA. Tobin Q is relatively higher than in the East, at 3.1 on average, indicating stronger market valuations, but again, non-normality is present ($p < 0.001$). Governance Disclosure is high at 83%, though highly variable, with significant non-normality ($p < 0.001$). Social Disclosure is more prominent than in the East, averaging 38%, and Environmental Disclosure is 12%, showing that some firms are beginning to report environmental metrics. Both social and environmental disclosures show non-normality, indicating varied practices across firms in these areas.

For the West African region, the mean ROA is the lowest across regions at 2.4%, with a standard deviation of 7.1%, reflecting lower and more stable performance. The JB test does not indicate significant non-normality for ROA ($p = 0.09$). Tobin Q is also lower in West Africa, with a mean of 2.1, indicating conservative market valuations. Governance Disclosure is the highest among the regions at 90%, with relatively low variability and significant non-normality ($p < 0.01$). Social Disclosure is much higher in West Africa, with a mean of 61%, showing that firms here are more focused on social responsibility efforts. However, Environmental Disclosure is non-existent, as in the East, suggesting that environmental reporting is not a priority in West Africa.

In the total sample across all regions, the average ROA is 6.8%, with significant non-normality ($p < 0.001$), showing that firm performance is skewed by extreme values. Tobin Q across all regions averages 2.7, indicating moderate market valuations overall, but again with significant non-normality ($p < 0.001$). Governance Disclosure averages 84%, with firms in all regions showing high governance transparency. Social Disclosure averages 42%, indicating moderate social responsibility practices across

regions, with some firms providing robust disclosures. Environmental Disclosure remains minimal, with an average of 4.6%, reflecting limited efforts to report environmental practices.

The Firm Size (FSZA) variable remains fairly consistent across regions, with a mean of 12 across all areas. In terms of variability, the standard deviation for FSZA is lowest in East Africa at 0.87 and highest in South Africa at 1.7. The JB tests for FSZA indicate significant non-normality in South and West Africa, suggesting that firm size varies significantly in these regions.

In conclusion, the descriptive statistics reveal that while Governance and Social Disclosures are relatively higher, Environmental Disclosure is minimal across all regions. Firm financial performance, measured by ROA and Tobin Q, shows considerable variation across regions, with South Africa showing the highest market valuations (Tobin Q) and East Africa having the highest returns on assets (ROA). The presence of non-normal distributions for most variables suggests that outliers and firm-specific characteristics significantly influence the dataset.

Correlation Matrix

In examining the association among the variables, we employed the Pearson correlation coefficient (correlation matrix) and the results are presented in table 3.

Table 3: Correlation analysis

Variable	ROA	TOBIN_Q	G_DSCO	S_DSCO	E_DSCO	FSA
ROA	1.0000					
TOBIN_Q	0.3115	1.0000				
G_DSCO	0.2856	-0.1418	1.0000			
S_DSCO	0.0010	-0.1218	0.5204	1.0000		
E_DSCO	0.0005	-0.1146	0.2219	0.4446	1.0000	
FSZA	0.1862	-0.1467	0.4426	0.5298	0.3586	1.0000

Source: Researchers' Computation (2024)

The correlation matrix shows the relationships between the key variables: Return on Assets (ROA), Tobin Q, Governance Disclosure (G_DSCO), Social Disclosure (S_DSCO), Environmental Disclosure (E_DSCO), and Firm Size (FSZA). ROA has a positive correlation with Tobin Q (0.3115), indicating that firms with higher returns on assets also tend to have better market valuations. ROA is also positively correlated with Governance Disclosure (0.2856), suggesting that firms with higher governance transparency tend to perform better financially. However, the correlation between ROA and Social and Environmental Disclosures is close to zero (0.0010 and 0.0005, respectively), indicating that these disclosures have little direct impact on ROA in the sample.

Tobin Q shows a weak negative correlation with all sustainability disclosure proxies, particularly Governance Disclosure (-0.1418) and Social Disclosure (-0.1218), suggesting that firms with higher market valuations might not necessarily engage more in transparency on governance and social issues. Firm Size (FSZA) shows a positive correlation with all sustainability disclosure proxies, especially with Social Disclosure (0.5298), indicating that larger firms are more likely to disclose social and governance-related information. This trend suggests that bigger firms are more committed to sustainability practices, possibly due to greater regulatory scrutiny or stakeholder pressure.

Linear Regression

In testing the hypotheses for this study, we used the linear regression.

Table 1(a):Regression Results for Full Sample and Eastern countries

Variables	**Model 1: ROA** (Full sample)	**Model 2: Tobin Q** (Full sample)	**Model 3: ROA** (Eastern countries)	**Model 4: Tobin Q** (Eastern countries)
Coefficient/P-Values				
G_DSCO	0.17 (0.011)**	-0.01 (0.534)	-0.01 (0.854)	-0.004 (0.676)
S_DSCO	0.15 (0.063)	-0.001 (0.919)	0.02 (0.848)	0.02 (0.033)*
E_DSCO	0.07 (0.718)	0.01 (0.690)	Omitted	Omitted
FSZA	-1.86 (0.373)	-0.34 (0.052)	-7.78 (0.218)	0.99 (0.000)***
F-value	4.62 (0.0015)***	5.92 (0.2050)	0.54 (0.6574)	21.00 (0.0000)***
Ramsey RESET	0.71 (0.5447)	2.28 (0.0818)	2.19 (0.1033)	1.63 (0.1977)
Husman test	N/A	N/A	N/A	N/A
Country Effect	Yes	Yes	Yes	Yes
Industry Effect	No	No	No	No
Year Effect	Yes	Yes	Yes	Yes
Heteroskedasticity	217.74 (0.0000)***	22.42 (0.0000)***	2.18 (0.1396)	0.02 (0.8854)
R-square	0.11	0.08	0.04	0.25
Observation	171	166	48	46

Note: p-values in parentheses indicates significance at the 5% level, ** at 1%, and *** at 0.1%.

Source: Researchers' Computation (2024)

Model 1: ROA (Full Sample) - The regression results for the full sample Return on Assets (ROA) reveal that Governance Disclosure (G_DSCO) is positively and significantly associated with ROA at the 1% level, with a coefficient of 0.17 (p = 0.011). This indicates that better governance transparency increases financial performance, measured by ROA, in the sample firms. Social Disclosure (S_DSCO) is also positively related to ROA, but the significance is only marginal at the 10% level (p = 0.063), suggesting that social responsibility practices have a weaker but still important influence on firm financial performance. Environmental Disclosure (E_DSCO) is insignificant (p = 0.718), implying that environmental practices are not a major determinant of ROA.

The control variable, Firm Size (FSZA), has a negative but insignificant relationship with ROA (p = 0.373), suggesting that larger firms may not necessarily outperform smaller ones in this sample. The overall F-value (4.62, p = 0.0015) indicates that the model is statistically significant, confirming the joint effect of all independent variables on ROA. However, the R-squared value of 0.11 indicates that only 11% of the variability in ROA is explained by the model, implying that other factors not captured in the model may be influencing firm performance.

The heteroskedasticity test reveals the presence of heteroskedasticity in the model (p = 0.0000), indicating that the variance of the error terms is not constant. The Ramsey RESET test shows no significant mis-specification (p = 0.5447), suggesting that the model is correctly specified without omitted variables. While country and year effects are accounted for in the model, no industry effects are included.

Model 2: Tobin Q (Full Sample) - In Model 2, which uses Tobin Q as the dependent variable to measure market valuation, none of the sustainability disclosure proxies (G_DSCO, S_DSCO, E_DSCO) are significant. Governance Disclosure has a small negative coefficient of -0.01 (p= 0.534), Social Disclosure is near zero (-0.001, p = 0.919), and Environmental Disclosure shows a negligible positive relationship (0.01, p = 0.690), suggesting that sustainability practices do not significantly influence market valuations in this sample.

The control variable, Firm Size (FSZA) is marginally significant at the 10% level (p = 0.052), indicating that larger firms tend to have lower market valuations (Tobin Q). The overall model is insignificant, as indicated by the F-value of 5.92 (p = 0.2050), and the R-squared value is low at 0.08, meaning that only 8% of the variability in Tobin Q is explained by the model. The heteroskedasticity test shows significant heteroskedasticity (p = 0.0000), indicating that the model's error variance is not constant. The Ramsey RESET test (p =0.0818) suggests potential misspecification, indicating possible omitted variables. As in Model 1, country and year effects are controlled, but industry effects are not.

Model 3: ROA (Eastern Countries)- For the Eastern countries, Model 3 shows that none of the disclosure variables significantly affect ROA. Governance Disclosure (G_DSCO) and Social Disclosure (S_DSCO) are both positive but not significant, with coefficients of -0.01 (p = 0.854) and 0.02 (p = 0.848), respectively. Environmental Disclosure (E_DSCO) is omitted from the model due to data limitations. Firm Size (FSZA) has a large negative coefficient (-7.78) but remains insignificant (p = 0.218), implying that in Eastern countries, larger firms do not perform better in terms of ROA.The overall F-value is very low at 0.54 (p = 0.6574), indicating that the independent variables do not explain the variation in ROA in Eastern countries. The R-squared is also low at 0.04, implying that only4% of the variance in ROA is explained by the model. No heteroskedasticity is detected (p = 0.1396), and the Ramsey RESET test shows no evidence of model mis-specification (p = 0.1033).

Model 4: Tobin Q (Eastern Countries) - Model 4 examines Tobin Q for Eastern countries, where Social Disclosure (S_DSCO) is significant at the 5% level (p = 0.033) with a positive coefficient of 0.02, indicating that social responsibility practices improve market valuations in this region. Governance Disclosure (G_DSCO) has a small negative coefficient (-0.004, p = 0.676), while Environmental Disclosure is omitted due to lack of data. Firm Size (FSA) has a strong positive and significant relationship with Tobin Q (0.99, p = 0.000), indicating that larger firms have higher market valuations in Eastern countries.The F-value of 21.00 (p = 0.0000) shows that the model is highly significant, and the R-squared value is relatively high at 0.25, indicating that 25% of the variability in Tobin Q is explained by the model. No heteroskedasticity is detected (p = 0.8854), and the Ramsey RESET test suggests no significant misspecification (p = 0.1977).

Table 1(b): Regression Results for Western and Southern countries

Variables	**Model 5: ROA** (Western countries)	**Model 6: Tobin Q** (Western countries)	**Model 7: ROA** (Southern countries)	**Model 8: Tobin Q** (Southern countries)
G_DSCO	0.24 (0.076)	0.02 (0.458)	0.35 (0.006)**	-0.06 (0.000)***
S_DSCO	0.01 (0.900)	0.01 (0.397)	0.03 (0.822)	-0.01 (0.169)
E_DSCO	Omitted	Omitted	-0.15 (0.276)	0.01 (0.351)
FSA	0.78 (0.280)	0.08 (0.588)	1.06 (0.608)	0.04 (0.641)
F-value	3.62 (0.0187)*	1.68 (0.1825)	13.43 (0.0094)**	25.78 (0.0000)***
Ramsey RESET	5.04 (0.0039)**	5.35 (0.0028)**	1.28 (0.2898)	0.51 (0.6738)
Husman test	N/A	N/A	N/A	N/A
Country Effect	Yes	Yes	Yes	Yes
Industry Effect	No	No	No	No
Year Effect	Yes	Yes	Yes	Yes
Heteroskedasticity	1.09 (0.2965)	1.42 (0.2332)	99.64 (0.0000)***	16.21 (0.0001)***
R-square	0.19	0.12	0.16	0.32
Observation	58	58	65	62

Note: p-values in parentheses indicates significance at the 5% level, ** at 1%, and *** at 0.1%.

Source: Researchers' Computation (2024)

Comparison of Models

When comparing Model 1 in table 1(a) above (ROA, full sample) and Model 5 (ROA, Western countries), in table 1(b) above, both models show a positive relationship between Governance Disclosure and ROA, with coefficients of 0.17 (p = 0.011) and 0.24 (p = 0.076), respectively. However, the significance is stronger in the full sample, indicating that governance practices might be more influential on firm performance at a broader level than in the Western region specifically. Social Disclosure is marginally significant in the full sample but insignificant in the Western region, indicating that social responsibility may have a weaker impact in Western countries.

The results for Model 2 (Tobin Q, full sample) and Model 6 (Tobin Q, Western countries) show that neither model has significant results for Governance, Social, or Environmental Disclosure, indicating that sustainability practices do not significantly affect market valuations in both the full sample and the

Western region. The control variable Firm Size (FSZA) is marginally significant in the full sample but insignificant in the Western region, suggesting that firm size plays a larger role in determining market valuation at a broader level.

In contrast, Model 3 (ROA, Eastern countries) and Model 7 (ROA, Southern countries) present different outcomes. In the Eastern region, none of the disclosure variables are significant, while in the Southern region, Governance Disclosure is highly significant at the 1% level ($p = 0.006$), with a coefficient of 0.35, indicating that governance practices have a much stronger effect on firm performance in the South. Social and Environmental Disclosures remain insignificant in both regions, suggesting that these aspects of sustainability are less impactful in determining ROA in both regions.

When comparing Model 4 (Tobin Q, Eastern countries) and Model 8 (Tobin Q, Southern countries), we observe that in Eastern countries, Social Disclosure significantly improves Tobin Q, while in Southern countries, Governance Disclosure has a negative and highly significant effect on Tobin Q ($p = 0.000$), indicating that higher governance transparency may lead to lower market valuations in Southern countries. This suggests that market perceptions of governance practices differ across regions.

The heteroskedasticity tests indicate that models for the Southern region show significant heteroskedasticity, while the Western and Eastern regions exhibit no signs of heteroskedasticity. This suggests that the variance of the error terms is more consistent in Western and Eastern regions compared to Southern regions, where model errors vary more widely. The R-squared values are higher in the Southern region models (0.16 for ROA and 0.32 for Tobin Q), suggesting that the Southern region models explain more variance in financial performance compared to other regions.

Overall, the comparison highlights that Governance Disclosure plays a varying role across regions, being more significant in Southern countries. The results also suggest that Social Disclosure impacts market valuations in the Eastern region but not in other regions. Moreover, the models for Tobin Q tend to explain more variance than the models for ROA across all regions, suggesting that market valuations are more predictable than accounting-based performance metrics

Hypotheses Testing

H_{01}: Governance disclosure (G_DSCO) positively affects financial performance (ROA and Tobin Q) in listed firms.

Governance Disclosure (G_DSCO) shows mixed results in the models. It is positively and significantly related to ROA in the full sample ($p = 0.011$) and Southern countries ($p = 0.006$), supporting H_{01} in these contexts. However, in the Tobin Q models, G_DSCO is either insignificant or negatively associated (e.g., Model 8: -0.06, $p = 0.000$), indicating that governance practices may not always enhance market valuations. These results align with García-Sánchez et al. (2019), who found that better governance disclosure leads to higher accounting-based performance (ROA), as it enhances transparency and reduces agency costs. Similarly, Khan et al. (2013) showed that governance mechanisms like board independence positively influence firm performance.The contrasting finding in Tobin Q could be explained by market skepticism toward increased governance disclosures, as Zheka (2006) suggests that stricter governance may raise compliance costs, which could harm perceived firm value.

H_{02}: Social Disclosure (S_DSCO) positively affects financial performance (ROA and Tobin Q) in listed firms.

Social Disclosure (S_DSCO) provides mixed evidence. It is significant and positive in Tobin Q for Eastern countries ($p = 0.033$), suggesting that social responsibility practices are valued by investors in these regions. However, S_DSCO is insignificant in most other models, indicating that its influence on ROA and Tobin Q may not be universal. This is consistent with Dhaliwal et al. (2011), who found that socially responsible firms attract long-term investors, thus increasing market valuations in certain regions. Similarly, Clarkson et al. (2011) reported that social disclosures reduce information asymmetry, leading to better market performance. On the other hand, Mackenzie et al. (2013) argue that the costs of social responsibility initiatives can outweigh their benefits, particularly in firms operating in less socially-conscious markets, explaining the lack of significance in some models.

H_{03}: Environmental Disclosure (E_DSCO) positively affects financial performance (ROA and Tobin Q) in listed firms.

Environmental Disclosure (E_DSCO) was largely insignificant across all models, except for Southern countries' Tobin Q, where it showed a slight positive effect (Model 8). This contrasts with studies like Clarkson et al. (2008), who found that environmental disclosures improve firm reputation and performance, particularly in markets sensitive to environmental issues. However, in line with Cho and Patten (2007), the insignificant results in most models suggest that environmental disclosures may not yet be fully integrated into firms' value propositions, particularly in emerging markets where environmental awareness is still developing. Firms in such markets may engage in "greenwashing," leading to insignificant relationships between environmental practices and financial performance, as noted by De Villiers and Marques (2016).

Firm Size (FSZA) has varying effects across the models. In the full sample of Tobin Q model, it is marginally significant and negatively associated ($p = 0.052$), implying that larger firms have lower market valuations. In the Eastern countries' Tobin Q model, FSZA is positively significant ($p = 0.000$), indicating that larger firms tend to have higher market valuations. These findings align with Adams and Jiang (2016), who found that larger firms benefit from economies of scale and greater access to capital markets, improving their market performance. However, smaller firms may face fewer regulatory burdens, potentially enhancing their flexibility and performance, as suggested by Aggarwal and Samwick (2003). The regional differences may be explained by varying market expectations and the regulatory environments for larger firms across different regions. Studies such as Ioannou and Serafeim (2012) also found that firms with strong sustainability practices, including governance, social, and environmental disclosures, tend to outperform their peers financially. This is because such firms attract long-term investors who value transparency and risk management. Eccles et al. (2014) further found that firms engaging in sustainability practices, especially governance, had better financial performance due to enhanced stakeholder trust and reduced risk of regulatory fines. Similarly, Frias-Aceituno et al. (2013) noted that firms with better disclosure practices tend to perform better due to increased investor confidence and reduced capital costs.

On the other hand, Michelon et al. (2015) argue that the relationship between sustainability disclosure and financial performance is not straightforward, as it depends on the firm's industry, region, and stakeholder expectations. They found that in some industries, particularly those less exposed to public scrutiny, sustainability disclosures had no significant impact on performance. Margolis and Walsh (2003) also highlighted that the costs associated with implementing robust sustainability practices can outweigh the financial benefits, especially in the short term, leading to a neutral or negative relationship between disclosures and financial outcomes. This supports the insignificant or negative findings for G_DSCO and E_DSCO in some models, particularly in Tobin Q results.

The discrepancies between accounting-based performance measures (ROA) and market-based measures (Tobin Q) may be explained by differences in investor perceptions versus internal firm efficiency. As noted by Zhao and Xiao (2018), market participants may not immediately value sustainability practices, particularly in emerging markets where investor focus is more of short-term. On the contrary, accounting measures like ROA captures the operational efficiency that sustainability practices may improve over time. Differences across regions could be due to variations in regulatory environments, market maturity, and investor preferences, as suggested by Matten and Moon (2008), who argue that sustainability expectations vary significantly between developed and developing markets.

Conclusion and Recommendations and Suggestions for Further Studies

Conclusion

This study examined the effect of sustainability disclosures (environmental, social, and governance) on financial performance across listed brewery firms in different African regions. The findings revealed that Governance Disclosure positively influences ROA in the full sample and Southern countries, indicating its importance in improving operational efficiency. However, its effect on Tobin Q was negative or insignificant, suggesting that markets may not value governance transparency consistently across regions. Social Disclosure significantly enhanced Tobin Q in Eastern countries, while its impact on ROA and Tobin Q in other regions was limited. Environmental Disclosure remained largely insignificant, reflecting

the underdeveloped nature of environmental awareness in these markets. Overall, the influence of sustainability disclosures on financial performance varied by region, firm size, and type of performance measure.

Recommendations

The study recomends that firms should prioritize governance disclosures, especially in regions where they positively impact ROA, while firms in Eastern Africa should enhance their social disclosures to improve market valuation. Although environmental disclosure showed minimal influence, firms should proactively engage in sustainability practices to prepare for evolving regulatory landscapes. Firms therefore, should tailor their disclosure strategies to regional expectations and consider the role of firm size in maximizing the benefits of transparency.

Suggestions for Further Studies

Further studies in this area should look into these directions:

1). Further research is suggested to explore sector-specific variations impacts of sustainability practices on financial performance outcomes.

2). Future research should focus on the long-term effects of sustainability practices on financial performance.

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