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ENVIRONMENTAL RISK DISCLOSURES AND MARKET VALUE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA

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Abstract

the Environmental risk disclosures is the practice of companies transparently reporting on the potential environmental risks associated with their operations, products, or services, including climate change, biodiversity loss, pollution, and other ecological impacts. The main objective of this study was to investigate the relationship between environmental risk disclosures and market value of listed consumer goods firms in Nigeria. This study adopted an ex-post facto research design. The population of this study comprised of all consumer goods firms listed on the floor of the Nigerian Exchange Group (NGX), i.e from 2014 to 2023. A purposive sampling technique was employed to select the required sample for this study. The study adopted panel multiple regression to analyze data via Eviews 10.0. Finding of the study revealed among others, that Carbon emission disclosure has a significant positive relationship (Coeff. = 0.0238{0.0048}) with market capitalization of listed consumer goods firms in Nigeria; The study concluded that firms that disclose more information about their environmental risks and management practices tend to have higher market value, possibly due to increased transparency and stakeholder trust. It was recommended that lsted consumer goods firms in Nigeria should prioritize carbon emission disclosure by implementing robust measurement and reporting systems to track their greenhouse gas emissions and Firms should integrate biodiversity conservation into their sustainability strategies and disclose their biodiversity impact in their annual reports.

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INTRODUCTION

Environmental risk disclosures is the practice of companies transparently reporting on the potential environmental risks associated with their operations, products, or services, including climate change, biodiversity loss, pollution, and other ecological impacts. This involves providing stakeholders with information on the potential environmental consequences of their activities, strategies for managing these risks, and progress towards mitigating them. Environmental risk disclosures can take various forms, including narrative descriptions, quantitative metrics, and discussion of risk management practices, and are typically included in annual reports, sustainability reports, or other publicly available documents (Fizzah et al., 2023 & Emenyi,2024[1]). The world has witnessed a significant shift in the way businesses operate, with a growing emphasis on sustainability and environmental responsibility. This shift is driven by the increasing awareness of environmental issues such as climate change, biodiversity loss, and waste management, which have become major concerns for stakeholders, including investors, customers, and regulators. As a result, companies are expected to not only manage their environmental footprint but also to be transparent about their practices and progress towards sustainability goals (Singleton-Green et al., 2019).

Environmental risk disclosures have become an essential tool for companies to demonstrate their commitment to sustainability and transparency, and for stakeholders to make informed decisions. Environmental risk disclosures, including climate change risk disclosure, biodiversity impact disclosure, and waste management disclosure, regulatory compliance, environmental incidents disclosure, have become crucial in this regard. By disclosing their environmental impacts and management practices, companies in the consumer goods industry can demonstrate their commitment to sustainability and transparency, and enhance their reputation and stakeholder trust (Amahalu, 2020; Emeke-Nwokeji et al., 2021).

The significance of this study lies in its potential to contribute to the existing literature on environmental risk disclosures and market value. By exploring the relationship between environmental risk disclosures and market value of companies in the consumer goods industry, this study can provide insights for companies, policymakers, and stakeholders on the importance of environmental transparency and sustainability.

This study seeks to address the lack of empirical evidence on the relationship between environmental risk disclosures (including climate change risk disclosure, biodiversity impact disclosure, waste management disclosure, regulatory compliance disclosure and environmental incidents disclosure) and market value of listed consumer goods firms in Nigeria. By investigating this relationship, this study aims to provide insights into the impact of environmental risk disclosures on market value and contribute to the development of more sustainable and responsible business practices in Nigeria.

1.1 Objectives of the study

The main objective of this study was to investigate the relationship between environmental risk disclosures and market value of listed consumer goods firms in Nigeria. However, the specific objectives were to:

1. Determine the relationship between climate change risk disclosure and market capitalization of listed consumer goods firms in Nigeria.
2. Appraise the relationship between biodiversity impact disclosure and market capitalization of listed consumer goods firms in Nigeria.
3. Ascertain the relationship between waste management disclosure and market capitalization of listed consumer goods firms in Nigeria.
4. Evaluate the relationship between regulatory compliance disclosure and market capitalization of listed consumer goods firms in Nigeria.
5. Examine the relationship between environmental incidents disclosure and market capitalization of listed consumer goods firms in Nigeria.

REVIEW OF RELATED LITERATURE

2.1.1 Environmental risk disclosures

Environmental risk disclosures refer to the reporting of potential or actual risks and impacts that a company's operations or activities may have on the environment, including issues such as pollution, climate change, resource depletion, and biodiversity loss. Environmental risk disclosures is the practice of organizations revealing information about potential environmental risks associated with their operations, products, or services. This can include disclosures about climate change risks, pollution, resource depletion, and other environmental issues that may impact the organization's financial performance or reputation (Deswanto & Siregar, 2018). Enefiok et al., (2024). commented that by providing transparent including investors, customers, and regulators, make informed decisions about their involvement with the organization.

2.1.2 Components of environmental risk disclosures

Climate change risk disclosure has become an increasingly critical aspect of corporate reporting, especially for consumer goods firms operating in Nigeria. As the global climate crisis intensifies, companies are facing growing pressure from investors, regulators, and consumers to address and disclose the risks associated with climate change (Amira et al., 2019). These risks can manifest in various ways, including physical risks related to extreme weather events, such as floods, droughts, and hurricanes, as well as transitional risks stemming from shifts towards a low-carbon economy, such as regulatory changes, market disruptions, and reputational harm.

Biodiversity impact disclosure refers to the practice of organizations reporting on the positive and negative impacts of their operations, products, or services on biodiversity, ecosystems, and natural habitats. This disclosure provides stakeholders with information on how an organization's activities affect the environment, species, and ecosystems, enabling

informed decision-making and promoting transparency and accountability in environmental stewardship. Biodiversity impact disclosure is the practice of organizations reporting on the effects of their operations, products, or services on ecosystems, species, and natural habitats (Al-waeli et al., 2021).

Waste management disclosure refers to the practice of organizations reporting on their waste generation, management practices, and efforts to minimize waste. This includes disclosing information on the types and quantities of waste generated, waste reduction targets, and strategies implemented to reduce, reuse, and recycle waste. By disclosing waste management information, organizations demonstrate transparency and accountability for their environmental impact, enabling stakeholders to assess their environmental performance and progress towards sustainability goals as postulated by Smith and McCrea, (2018).

Regulatory compliance disclosure is a critical aspect of environmental risk management for listed consumer goods firms. It involves the public disclosure of information related to a company's adherence to environmental laws, regulations, and standards. This transparency enables stakeholders, including investors, customers, and regulatory bodies, to assess a company's commitment to environmental responsibility and compliance with relevant laws (Lourenco et al., 2017). By disclosing regulatory compliance information, companies can demonstrate their proactive approach to managing environmental risks and mitigating potential liabilities. This, in turn, can enhance their reputation, build trust with stakeholders, and ultimately contribute to their market value (Sumiati et al., 2021).

Environmental incident disclosure is the practice of publicly reporting and disclosing information about environmental incidents, such as pollution, spills, or other accidents, that have occurred within an organization or its operations. This transparency is essential for promoting accountability and trust among stakeholders, including investors, customers, and communities. By disclosing environmental incidents, organizations can demonstrate their commitment to environmental responsibility and sustainability, which can ultimately contribute to a more positive reputation and long-term success (Emenyi,2024[1] & (Emenyi,2024[2]).

2.1.3 Market value

Market value refers to the estimated price at which a company's shares or assets would trade in the open market, reflecting the perceived worth of the firm by investors, analysts, and other stakeholders. It is a key indicator of a company's financial health, growth prospects, and overall performance. Market value is influenced by various factors, including the company's financial performance, industry trends, economic conditions, and investor sentiment (Pucheta-Martinez et al., 2016). Market value is particularly important, as it can impact the company's ability to attract investors, raise capital, and achieve its strategic objectives as seen in Chen et al., (2016) and Dikeh, (2020). The market value of a company is typically measured by its market capitalization, which is calculated by multiplying the total number of outstanding shares by the current market price of one share. Market value can

fluctuate constantly due to changes in market conditions, investor perceptions, and company-specific events (Chinedu & Ogochukwu, 2020).

2.1.3.1 Market capitalization (Mcap)

Market capitalization (Mcap) is a widely used metric that represents the total value of a company's outstanding shares. It is calculated by multiplying the total number of outstanding shares by the current market price of one share. Mcap is an important metric for investors, analysts, and other stakeholders because it provides insights into a company's size, market influence, and investor confidence.

2.1.4 Relationship between environmental risk disclosures and market capitalization

The relationship between environmental risk disclosures and market capitalization (Mcap) is significant, as companies that proactively disclose environmental risks and demonstrate strong sustainability practices tend to experience a positive impact on their market capitalization. Effective environmental risk disclosure can enhance investor confidence, reduce perceived risks, and increase transparency, ultimately leading to a higher market value (Haixia & Jianping, 2022). Conversely, companies with poor environmental track records or inadequate disclosure practices may face negative market consequences, including decreased market capitalization, as investors factor in potential environmental liabilities and reputational damage. Dewi et al., (2019) alongside Dumitru and Urga, (2022) documented that by prioritizing environmental risk disclosure, companies can mitigate risks, capitalize on opportunities, and potentially increase their market capitalization, while also contributing to a more sustainable future.

METHODOLOGY

3.1 Research design

This study adopted an ex-post facto research design. This design was suitable because the data for the analysis had already exist, leaving no room for the researcher to manipulate the variables under study. The population of this study comprised of all consumer goods firms listed on the floor of the Nigerian Exchange Group (NGX), i.e from 2014 to 2023. As of December 31st, 2023, the total number of consumer goods firms listed were 21 (twenty-one).

This study adapted and modified the model from Emenyi,(2024)[1] . In order to achieve the stated objectives of the study and as well as testing the study hypotheses, a multiple linear regression model was adapted as follows;

$$Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu \quad \text{.....(1)}$$

Where;

Y = Market value (dependent variable)

X = Environmental risk disclosures (explanatory & independent variable)

Explicitly, the equation was defined as:

Market value (MV) = *f* (climate change risk disclosure, biodiversity impact disclosure, waste management disclosure, regulatory compliance disclosure, environmental incidents disclosure) + μ

Therefore, the broad model for this study will be modified as;

$$Mcap_{it} = \beta_0 + \beta_1 CCRD_{it} + \beta_2 BID_{it} + \beta_3 WMD_{it} + \beta_4 RCD_{it} + \beta_5 EID_{it} + \mu_{it} \ldots\ldots\ldots\ldots (2)$$

Where;

$Mcap_{it}$ = Market capitalization of firm *i* in period *t*

$CCRD_{it}$ = Climate change risk disclosure of firm *i* in period *t*

BID_{it} = Biodiversity impact disclosure of firm *i* in period *t*

WMD_{it} = Waste management disclosure of firm *i* in period *t*

RCD_{it} = Regulatory compliance disclosure of firm *i* in period *t*

EID_{it} = Environmental incidents disclosure of firm *i* in period *t*

β_0 = Intercept or regressional constant.

$\beta_1, \beta_2 \beta_3$ = Regression coefficients to be estimated for firm *i* in period *t*

μ = Stochastic error term.

3.2 Decision rule

The decision was based on 5% level of significance. Accept null hypothesis (Ho) if probability value (i.e. P-value or Sig.) is greater than or equals to (≥) stated 5% level of significance (α); otherwise, reject and accept alternate hypothesis (H_1), if p-value or sig calculated is less than 5% level of significance.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Data presentation

4.2 Data analysis

4.2.1 Descriptive statistics

This was conducted to understand the behaviour of the data using various statistics including mean, standard deviation, skewness, and kurtosis. The result for the descriptive statistics analysis is as presented in table 4.2 below;

Table 4.2 Descriptive statistics of variables

	MCAP	CCRD	BID	WMD	RCD	EID
Mean	23.82640	52.68519	36.75926	39.90741	64.44444	57.68519
Median	23.96914	50.00000	33.33333	33.33333	66.66667	50.00000
Maximum	27.31468	83.33333	83.33333	66.66667	83.33333	83.33333
Minimum	20.07612	16.66667	16.66667	16.66667	33.33333	16.66667
Std. Dev.	2.057953	17.89374	15.02091	14.68659	14.24709	15.39506
Skewness	-0.369023	0.111009	0.595202	-0.020660	-0.334110	-0.226902
Kurtosis	1.854925	2.414065	3.302643	2.244195	2.442163	2.862142
Jarque-Bera	13.91931	2.944586	11.31490	4.297109	5.682759	1.687070
Probability	0.000949	0.229399	0.003491	0.116653	0.058345	0.430187
Sum	4288.752	9483.333	6616.667	7183.333	11600.00	10383.33
Sum Sq. Dev.	758.0954	57313.27	40387.35	38609.57	36333.33	42424.38
Observations	180	180	180	180	180	180

Source: Researcher's computation using E-views 10.0 (2025)

The results in table 4.2 above indicates that the dependent variable- Market capitalization and the independent variables which were Climate change risk disclosure, Biodiversity impact disclosure, waste management disclosure, Regulatory compliance disclosure and environmental incidents disclosure of listed consumer goods firms in Nigeria have mean scores of approximately 23.83, 52.69%, 36.76%, 39.91%, 64.44% and 57.69 % respectively. This indicates the central or average values for these variables from 2013 to 2022. The median values obtained for market capitalization and the independent variables which were Climate change risk disclosure, Biodiversity impact disclosure, waste management disclosure, Regulatory compliance disclosure and Environmental incidents disclosure of listed consumer goods firms in Nigeria were approximately 23.97, 50%, 33.33%, 33.33%, 66.67% and 50% respectively. These constituted the middle values for the distributions of these variables under the period covered in this study (2014-2023).

4.2.2 Model evaluation

Residual and coefficient diagnostics were however conducted to assess the suitability of the model as stated in the previous section. These include normality test, multicollinearity test, heteroscedasticity test and autocorrelation assessment.

4.2.2.1 Normality test

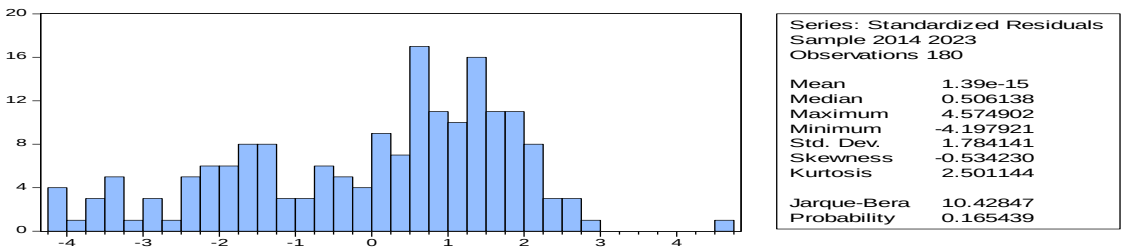

Fig. 4.1 Jarque-Bera Normality test results

Source: E-views 10.0 Output in Appendix II

The essence of a normality test is to determine if a dataset or sample follows a normal distribution. This is important because many statistical models assume normality, and deviations from normality can affect the validity of statistical inference. The Jarque-Bera test was employed in this case. As applied, if the p-value associated with the Jarque-Bera test is below a predetermined significance level ($p<0.05$), then we reject the null hypothesis and conclude that the data do not follow a normal distribution. With a p-value of 0.165439, there is sufficient evidence to conclude that the data were normally distributed.

4.2.2.2 Multicollinearity test

Table 4.3 Variance inflation factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.856608	47.08603	NA
CCRD	6.97E-05	11.84872	1.219311
BID	8.16E-05	7.068745	1.006617
WMD	9.19E-05	9.127850	1.083450
RCD	0.000106	25.26290	1.170938
EID	8.49E-05	16.62253	1.099490

Source: E-views 10.0 Output in Appendix II

Multicollinearity tests evaluate the degree of correlation between predictors, as high multicollinearity can lead to unreliable coefficient estimates and difficulties in interpretation. These tests typically involve examining the correlation matrix, variance inflation factors (VIFs), and condition indices. VIF value of less than 10.0 signifies that no severe multicollinearity exists in the model. With a centered variance inflation factor (VIF) values of 1.219311, 1.006617, 1.083450, 1.170938, 1.099490, there is sufficient evidence to conclude that the explanatory variables in the regression model are not highly correlated with each other.

4.2.2.3 Heteroscedasticity test

Table 4.4 Heteroscedasticity test

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	254.7803	153	0.1242
Pesaran scaled LM	4.789402		0.0310
Pesaran CD	0.032989		0.1737

Source: E-views 10.0 Output in Appendix II

Heteroscedasticity refers to the unequal spread of residuals (or errors) across the range of predictor variables in a regression model. Heteroscedasticity tests aim to detect this violation of the assumption of constant variance. Common tests include the Breusch-Pagan test and the White test, which assess the relationship between the squared residuals and the predictor variables. The statistics and probability value associated with the Breusch-Pagan LM test otherwise known as the Breusch-Pagan Godfrey test help determine whether there is evidence of heteroscedasticity in the regression model. A low p-value ($p<0.05$) suggests evidence against the null hypothesis in favour of the alternate hypothesis which indicates the presence of heteroscedasticity in the regression model. With a p-value of 0.1242, there is sufficient evidence to accept the null hypothesis, thus, conclude that the predictor variables in the regression model were homoscedastic.

4.3 Test of hypotheses

Each of the hypotheses in this study was tested based on the result obtained from the panel multiple regression analysis. The result that relates to these hypotheses is summarized in table 4.5 below;

Table 4.5 Panel multiple regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.34456	0.925531	18.74011	0.0000
CCRD	0.023823	0.008347	2.854192	0.0048
BID	0.019593	0.009034	2.168736	0.0315
WMD	0.012513	0.009586	1.305290	0.1935

RCD	0.031234	0.010273	3.040441	0.0027
EID	0.034572	0.009212	3.752800	0.0002

R-squared	0.548398	Mean dependent var	23.82640
Adjusted R-squared	0.526801	S.D. dependent var	2.057953
S.E. of regression	1.809594	Akaike info criterion	4.056847
Sum squared resid	569.7857	Schwarz criterion	4.163279
Log likelihood	-359.1162	Hannan-Quinn criter.	4.100001
F-statistic	11.50113	Durbin-Watson stat	1.745424
Prob(F-statistic)	0.000000		

Source: E-views 10.0 Output in Appendix II

The multiple regression line is as written below:

Mcap = 17.34456+0.023823CCRD+0.019593BID+0.012513WMD+0.031234RCD

+0.034572EID+ μ

Considering the regression results above, when the independent variables- Climate change risk disclosure, Biodiversity impact disclosure, waste management disclosure, Regulatory compliance disclosure and Environmental incidents disclosure are held constant (equal Zero), the dependent variable– market capitalization increased at a constant average of approximately 17.34%. However, a one percent rise in Climate change risk disclosure, Biodiversity impact disclosure, waste management disclosure, Regulatory compliance disclosure and Environmental incidents disclosure increases market capitalization of listed consumer goods firms by approximately 0.02%, 0.02%, 0.01%, 0.03% and 0.03% respectively.

4.3.1 Hypothesis one

H_0: Climate change risk disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria.

H_1: Climate change risk disclosure has significant relationship with market capitalization of listed consumer goods firms in Nigeria.

In order to test whether the variations in market capitalization of listed consumer goods firms in Nigeria caused by Climate change risk disclosure is significant. The T-test

was carried out at .05 significance level with Ttab of 2.109 given at $T_{0.05,18}$. From the result above, the Tcal of 2.8541 is greater than Ttab given at $T_{0.05,18}$. Hence, the null hypothesis which states that Climate change risk disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,18}$, its probability value (p-value = 0.0048) is less than 0.05.

4.3.2 Hypothesis two

H_0: Biodiversity impact disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria.

H_1: Biodiversity impact disclosure has significant relationship with market capitalization of listed consumer goods firms in Nigeria.

In the same vein, the t-test was also carried out at .05 significance level with Ttab of 2.109 given at $T_{0.05,18}$ in order to test whether the variations in market capitalization of listed consumer goods firms in Nigeria caused by Biodiversity impact disclosure is significant. From the results obtained, the Tcal of 2.1687 is greater than Ttab given at $T_{0.05,18}$. Hence, the null hypothesis which states that Biodiversity impact disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,18}$, its probability value (p-value = 0.0315) is less than 0.05.

4.3.3 Hypothesis three

H_0: Waste management disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria.

H_1: Waste management disclosure has significant relationship with market capitalization of listed consumer goods firms in Nigeria.

In addition, the t-test results that relate to this hypothesis was also employed to assess the degree of variation in market capitalization as caused by waste management disclosure. From the results obtained, the Tcal of 1.3052 is less than Ttab given at $T_{0.05,18}$ which was 2.109. Hence, the null hypothesis which states that waste management disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria holds, thus accepted and the alternative hypothesis rejected. The null hypothesis is further accepted given that at $T_{0.05,18}$, its probability value (p-value = 0.1935) is greater than 0.05.

4.3.4 Hypothesis four

H_0: Regulatory compliance disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria.

H_1: Regulatory compliance disclosure has significant relationship with market capitalization of listed consumer goods firms in Nigeria.

More so, the t-test was also carried out at .05 significance level with Ttab of 2.109 given at $T_{0.05,18}$ in order to test whether the variations in market capitalization of listed consumer goods firms in Nigeria caused by Regulatory compliance disclosure is significant. From the results obtained, the Tcal of 3.0404 is greater than Ttab given at $T_{0.05,18}$. Hence, the null hypothesis which states that Regulatory compliance disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,18}$, its probability value (p-value = 0.0027) is less than 0.05.

4.3.5 Hypothesis five

H_0: Environmental incidents disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria.

H_1: Environmental incidents disclosure has significant relationship with market capitalization of listed consumer goods firms in Nigeria.

Finally, the t-test was also carried out at .05 significance level with Ttab of 2.109 given at $T_{0.05,18}$ in order to test whether the variations in market capitalization of listed consumer goods firms in Nigeria caused by Regulatory compliance disclosure is significant. From the results obtained, the Tcal of 3.7528 is greater than Ttab given at $T_{0.05,18}$. Hence, the null hypothesis which states that Environmental incidents disclosure has no significant relationship with market capitalization of listed consumer goods firms in Nigeria fails to hold, thus rejected, and the alternative hypothesis accepted. The null hypothesis is further rejected given that at $T_{0.05,18}$, its probability value (p-value = 0.0002) is less than 0.05.

4.4 Discussion of findings

4.4.1 Climate change risk disclosure and market capitalization

The study found a significant positive relationship between climate change risk disclosure and market capitalization of listed consumer goods firms in Nigeria. This suggests that firms that disclose more information about their climate change risks tend to have higher market capitalization. The coefficient of 0.0238 indicates that a one percent increase in climate change risk disclosure is associated with an expected increase of 0.0238 percent in market capitalization. This finding implies that investors in the Nigerian consumer goods sector value transparency and disclosure of climate change risks, and firms that demonstrate a proactive approach to managing these risks are likely to be rewarded with higher market valuation. This finding is consistent with the results of Ali et al. (2025), who found a significantly positive relationship between ESG disclosure and firm profitability in Saudi Arabia. Similarly, Samuel et al. (2024) found that carbon emissions disclosure had a significant positive relationship with market capitalization of listed consumer goods firms in Nigeria.

4.4.2 Biodiversity impact disclosure and market capitalization

The study revealed a significant positive relationship between biodiversity impact disclosure and market capitalization of listed consumer goods firms in Nigeria. The coefficient of 0.0195 suggests that a one percent increase in biodiversity impact disclosure is associated with an increase of 0.0195 percent in market capitalization. This finding indicates that investors in the Nigerian consumer goods sector recognize the importance of biodiversity conservation and sustainability. Firms that disclose more information about their biodiversity impact are likely to be viewed favorably by investors, leading to higher market capitalization. This result highlights the growing importance of environmental sustainability in business operations and investor decision-making. This result is in line with the findings of Elsayed (2023), who found a relationship between biodiversity disclosure and financial performance measured by return on assets and a stock's price-to-book ratio. Furthermore, Loan et al. (2024) found that individual environment disclosure had a positive effect on bank financial performance.

4.4.3 Waste management disclosure and market capitalization

The study found an insignificant positive relationship between waste management disclosure and market capitalization of listed consumer goods firms in Nigeria. The coefficient of 0.0125 indicates that waste management disclosure does not have a significant effect on market capitalization. This finding suggests that investors in the Nigerian consumer goods sector may not place significant value on waste management disclosure, or that the current level of disclosure is not seen as a critical factor in determining market capitalization. However, this result does not necessarily imply that waste management is unimportant; rather, it may indicate that other environmental sustainability factors, such as climate change risk and biodiversity impact, are more salient to investors. This result is consistent with the findings of Gündüz and Gündüz (2025), who found that environmental accounting disclosures do not have a direct and statistically significant effect on financial performance.

4.4.4 Regulatory compliance disclosure and market capitalization

The study revealed a significant positive relationship between regulatory compliance disclosure and market capitalization of listed consumer goods firms in Nigeria. The coefficient of 0.0312 indicates that a one percent increase in regulatory compliance disclosure is associated with an increase of 0.0312 percent in market capitalization. This finding suggests that investors in the Nigerian consumer goods sector value firms that demonstrate compliance with environmental regulations. Firms that disclose more information about their regulatory compliance are likely to be viewed as more transparent and responsible, leading to higher market capitalization. This result highlights the importance of regulatory compliance in environmental sustainability and investor decision-making. This finding is in line with the results of Muneer et al. (2025), who found that corporate governance structures, such as environmental boards and sustainability committees, improve the environmental disclosure of financial performance in Islamic banks. Similarly, Nkanga et al. (2022) found that

environmental sustainability disclosures had a positive and significant influence on the earnings quality of consumer goods firms in Nigeria.

4.4.5 Environmental incidents disclosure and market capitalization

The study found a significant positive relationship between environmental incidents disclosure and market capitalization of listed consumer goods firms in Nigeria. The coefficient of 0.0345 indicates that a one percent increase in environmental incidents disclosure is associated with an increase of 0.0345 percent in market capitalization. This finding is somewhat counterintuitive, as one might expect environmental incidents to negatively impact market capitalization. However, it is possible that firms that disclose more information about environmental incidents are seen as more transparent and proactive in addressing these issues, leading to a positive market response. This finding is consistent with the results of Matsumura et al. (2024), who found that the market penalizes all firms for their carbon emissions, but a further penalty is imposed on firms that do not disclose emissions information.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

Below is a summary of findings gathered through a panel multiple regression analysis.

1. Carbon emission disclosure has a significant positive relationship (Coeff. = 0.0238{0.0048}) with market capitalization of listed consumer goods firms in Nigeria.
2. Biodiversity impact disclosure has a significant positive relationship (Coeff. = 0.0195{0.0315}) with market capitalization of listed consumer goods firms in Nigeria.
3. Waste management disclosure has a non-significant positive relationship (Coeff. = 0.0125{0.1935}) market capitalization of listed consumer goods firms in Nigeria.
4. Regulatory compliance disclosure has a significant positive relationship (Coeff. = 0.0312{0.0027}) with market capitalization of listed consumer goods firms in Nigeria.
5. Environmental incidents disclosure has a significant positive relationship (Coeff. = 0.0345{0.0002}) with market capitalization of listed consumer goods firms in Nigeria.

5.2 Conclusion

The study concluded that carbon emission disclosure, biodiversity impact disclosure, regulatory compliance disclosure, and environmental incidents disclosure all have significant positive relationships with market capitalization. These results suggest that firms that disclose more information about their environmental risks and management practices tend to have higher market value, possibly due to increased transparency and stakeholder trust.

5.3 Recommendations

1. Listed consumer goods firms in Nigeria should prioritize carbon emission disclosure by implementing robust measurement and reporting systems to track their greenhouse gas emissions.
2. Firms should integrate biodiversity conservation into their sustainability strategies and disclose their biodiversity impact in their annual reports.
3. Firms should still prioritize waste reduction and management practices. This can be achieved by implementing waste reduction initiatives, recycling programs, and sustainable waste management practices that minimize environmental harm.
4. Firms should prioritize regulatory compliance by ensuring that they adhere to environmental regulations and standards. This can be achieved by establishing a compliance team, conducting regular audits, and disclosing their compliance efforts in their annual reports.
5. Firms should prioritize transparency and accountability by disclosing environmental incidents and near-misses in their annual reports. This can be achieved by establishing incident reporting systems, conducting thorough investigations, and implementing corrective actions to prevent future incidents.

Contributions to knowledge

1. This study contributes to the existing literature on environmental sustainability and corporate reporting by providing empirical evidence on the relationship between environmental risk disclosure and market value.
2. The study highlights the significance of different environmental risk disclosure metrics, including carbon emission disclosure, biodiversity impact disclosure, regulatory compliance disclosure, and environmental incidents disclosure, in influencing market value.
3. The study enhances our understanding of the role of environmental risk disclosure in emerging markets, particularly in Nigeria, and provides insights into the practices of listed consumer goods firms.
4. The findings have implications for policymakers and regulators seeking to promote environmental sustainability and responsible business practices in emerging markets.
5. The study's use of panel multiple regression analysis contributes to the methodological approaches used in environmental sustainability and corporate reporting research, providing a robust framework for analyzing the relationship between environmental risk disclosure and market value.

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