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Corporate Environmental Disclosure and Financial Performance of Quoted Cement Companies in Nigeria.

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ABSTRACT
The study examined the effect of corporate environmental disclosure and financial performance of quoted Cement Companies in Nigeria. The specific objectives were to determine the effect of: environmental reporting framework disclosure and waste management disclosure on the financial performance of cement companies in Nigeria. A quantitative technique was adopted and Ex post facto research design was employed for the study. Data were obtained from annual reports and accounts of the companies for the periods 2018 to 2022. The hypotheses were tested using regression analysis with aid of e-view 9.0. The results showed that environmental reporting framework disclosure has a significant effect on the financial performance of cement companies. Also, the study found that waste management disclosure has a significant effect on financial performance of cement companies. Therefore, the paper recommended that cement companies in Nigeria should prioritize the adoption and implementation of robust environmental reporting framework such as the Global Reporting Initiative (GRI) guidelines or Sustainability Accounting Standards Board (SASB) standards. Also recommended was that given the significant impact of waste management disclosure on the financial performance of cement companies, it is imperative for firms to prioritize and optimize their waste management practices. This includes implementing efficient waste reduction, recycling, and disposal strategies, as well as enhancing transparency in reporting these efforts.

Keywords: Corporate environmental disclosure, financial performance, environmental reporting framework, Waste management disclosure

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I. INTRODUCTION

In recent years, the global discourse on corporate environmental responsibility has gained significant momentum, propelled by growing awareness of environmental degradation and its socio-economic consequences. This heightened awareness has prompted stakeholders, including investors, regulators, consumers, and civil society, to scrutinize corporate environmental practices more closely (Ayodeji & Folarin, 2020). Consequently, companies across various industries are increasingly compelled to adopt transparent environmental disclosure practices, not only to meet regulatory requirements but also to respond to stakeholder expectations and enhance their reputations. Among the industries facing heightened scrutiny regarding environmental performance, the cement manufacturing sector stands out due to its significant environmental footprint. Cement production is inherently resource-intensive, requiring substantial energy inputs and generating substantial greenhouse gas emissions, primarily carbon dioxide (CO2). In Nigeria, the cement industry is a vital contributor to the economy, serving as a key driver of infrastructure development and economic growth. However, the industry's environmental impact, particularly in terms of emissions and waste generation, has raised concerns about its sustainability and long-term viability (Adegbite et al. 2019).

Against this backdrop, the effect of corporate environmental disclosure on the financial performance of cement companies in Nigeria is a topic of increasing interest and importance. Corporate environmental disclosure refers to the extent and transparency with which companies communicate information about their environmental

policies, practices, impacts, and performance (Olufemi & Ibrahim, 2019). This disclosure can take various forms, including the reporting of environmental data, initiatives, goals, and strategies, often guided by established reporting framework such as the Global Reporting Initiative (GRI) guidelines or industry-specific standards.

One crucial aspect of environmental disclosure in the cement industry is the reporting of waste management practices. Cement production involves the extraction and processing of raw materials, such as limestone and clay, which generate significant quantities of waste, including dust, slag, and kiln dust. Effective waste management is essential not only for regulatory compliance but also for minimizing environmental impacts, conserving resources, and reducing operational costs (Clarkson et al., 2014). By disclosing information about their waste management practices, cement companies can demonstrate their commitment to environmental stewardship and sustainability.

The relationship between corporate environmental disclosure and financial performance has been a subject of debate and empirical investigation in the literature. While some studies suggest that transparent environmental disclosure can positively influence financial performance by enhancing stakeholder trust, reducing regulatory risks, and fostering innovation and efficiency, others argue that the relationship may be more nuanced and context-specific. In the case of cement companies in Nigeria, understanding how environmental disclosure affects financial performance, particularly in terms of return on equity (ROE) and return on assets (ROA), is essential for investors and industry stakeholders. Return on equity (ROE) and return on assets (ROA) are widely used financial metrics to evaluate a company's profitability and operational efficiency. ROE measures the return generated on shareholders' equity, indicating the company's ability to generate profits from the capital invested by shareholders. ROA, on the other hand, assesses the efficiency of asset utilization by measuring the return earned on total assets employed in the business. Therefore, this study investigates the effect of corporate environmental disclosure and financial performance of cement companies in Nigeria 2015-2020.

Currently, the global discourse surrounding corporate environmental responsibility has gained significant momentum, prompting increased scrutiny of firms' environmental practices and their implications for financial performance. This is particularly pertinent in industries with significant environmental footprints, such as the cement sector. In Nigeria, the cement industry stands as a key player in the country's economic landscape, yet it also grapples with environmental challenges. However, the ineffective environmental reporting framework disclosure and waste management disclosure has continued to impact negatively on the environmental sustainability of Cement companies in Nigeria. The efficacy of these framework in promoting transparency and accountability regarding environmental practices within the cement industry remains a critical area of inquiry. Secondly, poor waste management disclosure of most Cement companies affect the environment negatively. This is due to the resource-intensive nature of cement manufacturing and its inherent environmental impacts, effective waste management practices are imperative for mitigating pollution, reducing environmental degradation, and ensuring regulatory compliance. Therefore, this study examines the effect of corporate environmental disclosure and financial performance of cement companies in Nigeria.

II. LITERATURE REVIEW

2.1. LEGITIMACY THEORY

Lindblom (1994) defines legitimacy as a condition or status that exists when the entity's value system matches the value system of the larger social system where it belongs to (Deegan, 2002). Disclosure of the environment as a form of corporate responsibility to the community regarding the environment can be a strategy to avoid the occurrence of legitimacy gaps or social and environmental conflicts. The legitimacy of a company can be obtained through various actions including communicating the company's profiles to relevant stakeholders (Deegan, 2002).

The legitimacy theory explicitly recognizes that business is constrained by social contracts meaning that the company agrees to show a variety of corporate social activities (Solikhah & Winarsih, 2016). This implies that the company gains public acceptance of the company's goals which will ultimately guarantee the survival of the company (Brown & Deegan,1998). Organizations will operate within the boundaries and values that are acceptable to the surrounding society to gain the legitimacy from the society. The theory of legitimacy highlights the relationship between the organization and the society which is called as "social contract" (Choi et al., 2013). A social contract can be interpreted as an agreement between the organization and the surrounding society that the activities carried out by the organization are in line with the operating social values (Ebiringa, 2013). Concern for environmental issues and environmental responsibility reports are one of the efforts to gain legitimacy from the public that the company is truly responsible for environmental sustainability due to the industrial activities it carries out.

2.2 CORPORATE ENVIRONMENTAL DISCLOSURE

Abimbolaz et al. (2007) say that corporate environmental disclosure is about reporting the impact of organizations' activities on the natural environment. The researchers give examples of such activities are estate management, pollution, wetland, wild life conservation, carbon Management, emission and recycling. Ali & Hafez (2014) is of the view that environmental disclosure entails providing financial and non-financial information relating to the environment in such documents as annual reports Busta ability/environmental report, corporate website, in-house publications, and newspapers.

Amahalu et al. (2015) view corporate environmental accounting information disclosure the releasing of environmental information for purpose of communicating the impact of a company's activities on the environment. To Bassey et al. (203), cooperate environmental accounting information disclosure entails the financial and non-financial disclosure of social and environmental impact, which the activities of manufacturing companies have on the environment. Charles et al. (2017) says that companies disclose environmental information in their annual port so as to make themselves visible and to show they are aware of environmental issues. The Association of Chartered Certified Accountants (ACCA) as cited in Clarkson (2014), says that environmental reporting is a situation where an entity disclosure data of environmental nature, which is audited or not edited and pertains environmental risks, impacts, policies, strategies, targets, costs, liabilities or performances, to interested parties Cho and Patten (2007) endorse ACCA's view by saying that environmental reporting is a generic term used to refer to the various means by which a company discloses information about its environmental nits, activities and performance to the public.

2.2.1 ENVIRONMENTAL REPORTING FRAMEWORK

Environmental reporting framework disclosure refers to the systematic and transparent communication of a company's environmental performance, policies, and initiatives using established reporting framework and standards (Adewuyi & Sun, 2019). In the context of this study titled environmental reporting framework disclosure entails the voluntary or mandatory disclosure of environmental information by cement companies operating in Nigeria (Gatimbu & Wabwine, 2016). These reporting frameworks provide a structured approach for companies to disclose their environmental practices, impacts, and performance metrics to stakeholders, including investors, regulators, customers, and communities (Onodugo et al., 2020). By adhering to recognized framework such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), or Integrated Reporting Framework, cement companies can ensure consistency, comparability, and credibility in their environmental disclosure (Lin & Qamruzzaman, 2023). Within the Nigerian context, where the cement industry plays a significant role in the economy but also faces environmental challenges, the adoption of environmental reporting framework can enhance transparency and accountability in the sector (Uyar & Kılıç, 2012). This disclosure can include information on emissions reduction initiatives, energy efficiency measures, water conservation efforts, waste management practices, and compliance with environmental regulations.

Ho_1: Environmental reporting framework disclosure does not have significant effect on the financial performance of cement companies

2.2.2 WASTE MANAGEMENT DISCLOSURE

Waste management disclosure pertains to the transparent communication of a company's strategies, policies, and performance metrics related to the management of waste generated from its operations (Nor et al., 2016). This includes the collection, treatment, disposal, and recycling or reuse of waste materials, with the aim of minimizing environmental impacts and promoting sustainability (Clarkson et al., 2014). Waste management disclosure encompasses various aspects, such as the types and quantities of waste generated during cement production, the methods employed for waste treatment and disposal, and efforts undertaken to reduce waste generation through process optimization or technological innovation (Patrick et al., 2017). Additionally, it involves transparency regarding compliance with regulatory requirements governing waste management practices and initiatives to go beyond regulatory compliance to implement best practices in environmental stewardship (Aluwong & Inuwa, 2019).

Within the Nigerian cement industry, which is a significant contributor to economic growth but also poses environmental challenges due to its resource-intensive nature, waste management disclosure assumes heightened importance. As cement manufacturing involves the extraction and processing of raw materials, including limestone, clay, and gypsum, it inevitably generates substantial amounts of waste, such as dust, slag, and kiln emissions (Ismail et al., 2018). Effective waste management strategies are therefore essential not only for mitigating environmental pollution but also for enhancing operational efficiency and minimizing costs associated with waste disposal.

Ho_2: Waste management disclosure does not have significant effect on financial performance of cement companies.

2.2.3 FINANCIAL PERFORMANCE

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. It shows the general well-being of a firm and its true financial position (Eze, 2021). Financial performance can be looked at, as the level of performance of an organization at a point in time. This could be measured in terms of overall profits and losses or asset utilization. According to Iliemena and Okolocha (2019) the measures of financial performance of an organization are as varied as the motive for the measurement. Organisational financial performance is measured to give the account of stewardship by the management team to the shareholders. The key aspect of this involves measuring the profitability, return on investment, return on asset and growth prospect of a company (Dibia & Onwuchekwa, 2021). The measurement of the effect of environmental accounting on performance examines the nature of the relationship between some indicator of environmental reporting or performance with the company's financial performance obtained from the accounting information such as the historical audited financial statements of the respective companies. Financial performance is commonly used as an indicator of a firm's financial health over a given period of time. In this study, financial performance is measured return on equity and return on asset.

2.2.4 RETURN ON EQUITY

This ratio measures the overall performance of an entity; it shows the earning power of investors' book value, often used in comparing two or more entities in an industry. A high return on equity is an indication that an entity accepts a strong investment opportunity and employs effective expense management. Return on equity is net profit after tax and preference dividend scaled by the number of shares. Studies have shown that green accounting practices increased earnings of firms. Almalik (2020) in their study revealed that corporate social spending improves the return on equity of firms. Eze (2021) reported a positive relationship existing between corporate responsibility and return on equity.

2.2.5 RETURN ON ASSETS

As one of the traditional accounting and profitability measures employed to measure financial performance, return on assets shows whether a company is able to generate an adequate return on the assets employed (Atang & Eyisi, 2020). In a study on environmental disclosure and financial performance of food and beverage companies in Nigeria by Ezeagba et al (2017), it was revealed that there is a significant relationship between environmental accounting disclosure and return on assets.

1.2 EMPIRICAL REVIEW

Empirical studies examining the relationship between environmental disclosure and financial performance in the context of the cement industry are relatively scarce, particularly in the Nigerian context. However, existing research in other countries and industries provides valuable insights that can inform our understanding of this relationship. For example, a study by Clarkson et al. (2014) found a positive association between environmental disclosure and financial performance in the Australian mining industry, suggesting that companies with higher levels of environmental disclosure tend to outperform their peers financially. Similarly, research by Atang and Eyisi (2020) found that companies with comprehensive environmental disclosure practices experienced higher market valuation and stock returns in the US context.

Using a range of techniques, Ismail et al. (2018) investigated the variables affecting the caliber of corporate environmental disclosure (CED) in 116 oil and gas companies in 19 developing countries. Only five of the 12 suggested factors—company size, foreign ownership, profitability, leverage, and involvement in industry associations—had a positive effect on CED quality, according to their research. These findings are critical to improving our comprehension of CED practices in developing nations' oil and gas industries and determining which factors ought to be included in regulatory requirements for higher CED standards. As a result, this study offers regulators insightful information that can help them create CED regulations that work for the oil and gas industry. In order to investigate the variables influencing Nigerian oil and gas companies' environmental disclosure, Dibia and Onwuchekwa (2015) conducted research. A sample of fifteen businesses from the oil and gas industries of the Nigerian stock exchange were selected for the study using the yearly reports of these companies as secondary data. The binary regression strategy was used in the data analysis procedure. The results show that while there is no significant correlation between the kind of audit firm, profit, or leverage and CSR disclosure, there is a strong correlation between the organization's size and CSR disclosure. The study concludes that many businesses have been transparent in their reporting of social and environmental repercussions, using the voluntary nature of environmental reporting as justification. The authors recommend putting incentives in place to encourage more thorough and accurate disclosure.

Dibia and Onwuchekwa (2021) examined how environmental disclosure factors affect the caliber of environmental disclosure provided by oil and gas companies listed between 2009 and 2018 on the Nigerian Stock Exchange. Because there aren't many oil and gas companies, the whole population of the fifteen (15) companies listed as of December 31, 2018, on the Nigerian Stock Exchange, was selected as a sample when using the census sampling approach. The information was gathered from annual reports, which also contain environmental, sustainable, and corporate social responsibility sections. The study was examined using binary logistic regression, the goodness-of-fit evaluation test, and descriptive statistics. Firm size, financial leverage and return on assets were the three additional predictors that had a significant and positive effect on environmental disclosure and a negative effect was found between ownership distribution and environmental disclosure. Therefore, it can be said that while return on assets, financial leverage, and business size have an impact on environmental disclosure, share ownership distribution has none. The Global Reporting Initiative-compliant environmental disclosure framework should be adopted by Nigeria's accounting regulatory agencies, and appropriate measures should be taken to encourage listed oil and gas companies to record their environmental actions in their annual reports.

The impact of company characteristics on environmental disclosure by Nigerian oil corporations is examined by Aluwong and Inuwa (2019). The study makes use of secondary data that was gathered between 2011 and 2017 from the annual reports and accounts of nine oil businesses that were chosen at random. The study's method for analyzing the data was logistic regression. The study finds that Nigerian oil companies' disclosure of their environmental accounting methods is significantly influenced by their business characteristics. Financial leverage considerably enhances Nigerian oil companies' environmental accounting disclosure, according to the study's findings. Second, Nigerian oil companies' environmental accounting disclosure is positively impacted by profitability. Third, the study also discovers a strong positive correlation between environmental accounting disclosure and the size of the business. Fourth, the study discovers that the kind of auditor has a slight but favorable influence on Nigerian oil firms' environmental accounting disclosure. The paper suggests that in order to force the corporations to produce more environmental information as a result of strict monitoring and demands from the debt holders, Nigerian regulators of oil companies should support the use of increased debt in the capital structure of their businesses. The shortcomings in the amount and quality of corporate environmental disclosure supplied by Nigerian industrial businesses are examined by Alawiye and Akomolafe (2019). To ensure a comprehensive analysis and broader coverage of the topic, secondary data was extracted from the annual reports of fourteen (14) manufacturing companies. The annual reports were assessed during a six-year period, from 2010 to 2015. The businesses were chosen by selective selection or judgment. Data extraction from the yearly reports was done using interpretative content analysis. According to the survey, corporate environmental disclosure is still at an all-time low among industrial enterprises in Nigeria. Government intervention, public awareness campaigns, or regulatory pressure will be necessary to incentivize firms to participate in CEC. The opportunity to address issues with climate change, especially those pertaining to components of global warming, will undoubtedly be one benefit of this.

III. METHODOLOGY

The research design employed in this study was the ex-post facto research design, in order to establish a relationship between corporate environmental disclosure and financial performance of cement companies. This study was adopted ex-post facto research since it relied on historical data. The population of this study consist of the ten (10) cement companies listed on the Nigerian Exchange group as at 31st December, 2014. A census of the ten (10) cement companies were used. Data were gathered from the published financial statements of the ten companies from 2018-2022. The reason for the choice of this time frame is availability of published annual report and accounts of the selected companies.

The data analysis for the study took the form of descriptive statistics and inferential statistics. This research work adopted the panel least square (PLS) regression analysis with longitudinal (panel) regression using E-Views 9.0 statistical software. The reason for adopting panel data regression is because of the number of cement companies and the period of time involved.

IV. RESULTS AND ANALYSIS

Table 1 presents the descriptive statistics for the different variables of the study with an observation of 50 (i.e 10 companies x 5 years, 2018-2022). The data set in table 1 showed that the data set were normally distributed. Concerning the normality tests; skewness and kurtosis of the models showed that the data were normal.

Construct	Mean	Median	Maximum	Minimum	Std. dev	Skewness	Kurtosis	Jarque-Bera	Sum	Sum sq. Dev	Observations
ERFD	0.664	0.652	0.821	0.261	0.276	2.132	6.424	9.372	6.321	0.234	50
WMD	0.198	0.189	1.212	0.121	0.336	1.602	4.521	4.868	2.180	0.215	50
ROE	9.872	9.552	11.021	9.862	0.010	-0.382	2.167	0.723	80.421	5.118	50
ROA	9.762	7.731	9.341	6.121	-0.165	0.012	1.421	1.122	60.261	8.065	50

Table 1: Descriptive statistics

Source: E-Views output, 2024

4.1 TEST OF HYPOTHESES

Ho: Environmental reporting framework disclosure does not have significant effect on the financial performance of cement companies.

Hi: Environmental reporting framework disclosure have significant effect on the financial performance of cement companies.

Table 2: Panel least square regression

Dependent Variable: Financial performance
Method: Least Squares
Date: 10/05/21 Time: 15:35
Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.573568	0.362532	0.043625	0.0000
ERFD	0.521461	0.274621	2.174461	0.0007
ROE	0.152711	0.162536	3.321251	0.0000
ROA	-0.267342	0.153422	-3.611513	0.0000

R-squared	0.546352	Mean dependent var	0.535261
Adjusted R-squared	0.514351	S.D. dependent var	0.736251
S.E. of regression	0.525711	Akaike info criterion	2.635536
Sum squared resid	72.21738	Schwarz criterion	2.536272
Log likelihood	-131.2772	Hannan-Quinn criter.	2.423542
F-statistic	21.72352	Durbin-Watson stat	1.113261
Prob(F-statistic)	0.000000		

Source: E-Views 9.0 Output, 2024

The model shows that ERFD, ROE and ROA significantly affect financial performance of cement companies. The results also indicate that, ERFD, ROE and ROA are all significant at 5% level of significance. This result implies that the more cement companies spent money on the environment, the better their performance. Serial correlation is proved to be absent based on the Durbin-Waston statistic result of 1.113261. Based on the results therefore, the study rejects the null and accept the alternative, implying that environmental reporting framework disclosure have significant effect on the financial performance of cement companies. Moreover, the model summary of the regression results shows the combined effect of ERFD, ROE and ROA variables on the financial performance of cement companies as shown by the Prob(F-statistic) = 0.000000, to be statistically significant at 5% level. The combined R2 which is the coefficient of determination is 0.51. This means that 51% of the financial performance of cement companies is explained by ERFD, ROE and ROA while the remaining 49% is explained by other factors outside the model.

DECISION

Going by the result of the analysis, which reports that Prob(F-statistic) = 0.000000 is less than the critical P-value of 0.05, thus, H1 is accepted and Ho is rejected. The implication of this result is that environmental reporting framework disclosure have significant effect on the financial performance of cement companies at 5% level of significance.

Table 3: Fixed effect model between ERFD, ROE and ROA
Dependent Variable: Financial performance
Method: Least Squares
Date: 10/05/24 Time: 15:35
Included observations: 50

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.035263	0.883884	1.153672	0.2145
ERFD	0.432182	0.032221	2.423425	0.0023
ROE	0.062845	0.178034	0.239732	0.0124
ROA	-0.179177	0.151722	-2.343023	0.0008
Effects specification				
Cross-section fixed (dummy variable				
R-squared	0.2554916	Mean dependent var	0.204325	
Adjusted R-square	0.1764783	S.D. dependent var	0.007382	
S.E. of regression	0.7005335	Akaike info criterion	2.343526	
Sum squared resid	67.584940	Schwarz criterion	2.088521	
Log likelihood	-124.3782	Hannan-Quinn criter	2.743532	
F-statistic	8.0735361	Durbin-Watson stat	1.231324	
Prob(F-statistic)	0.0000001			

Source: E-Views 9.0 Output, 2024

TABLE 4: Hausman specification test for hypothesis one
Correlated random effects: Hausman test
Date: 10/05/24 Time: 15:37
Test: Cross-section random effect

Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	10.712452	3	0.0001

Source: E-Views 9.0 Output, 2024
Interpretation of Hausman specification test
Based on the result of the Hausman specification test in table 4, the p-value of the test was 0.0001, which was statistically significant at the conventional level of 0.05. Thus, the Fixed Effect Model (FEM) in table 3 confirm and validated as the preferred model in analysing the corporate environmental disclosure and financial performance of cement companies in Nigeria at 5% level of significance. Thus, further confirming the result of hypothesis one that corporate environmental disclosure has a significant effect on the financial performance of cement companies in Nigeria
Hypotheses two
Ho: Waste management disclosure does not have significant effect on financial performance of cement companies
Hi: Waste management disclosure have significant effect on financial performance of cement companies

Table 5: Panel least square regression analysis
Dependent Variable: Financial performance
Method: Least Squares
Date: 10/05/24 Time: 17:35
Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.473563	0.662511	4.443625	0.0000
WMD	0.221464	0.254623	7.174432	0.0000

ROE	0.062713	0.162542	3.321251	0.0000
ROA	-0.067344	0.151421	-0.341513	0.6321

R-squared	0.722463	Mean dependent var	0.435523
Adjusted R-squared	0.632352	S.D. dependent var	0.767537
S.E. of regression	0.725722	Akaike info criterion	2.635536
Sum squared resid	61.21722	Schwarz criterion	2.636221
Log likelihood	-122.2711	Hannan-Quinn criter.	2.432541
F-statistic	22.72333	Durbin-Watson stat	1.103252
Prob(F-statistic)	0.000000		

Source: E-Views 9.0 Output, 2024

Table 5 shows the effect of waste management disclosure (WMD) on financial performance of cement companies. The Beta Coefficient value for the variables reveal that: WDM (β1) = 0.221464; ROE (β2) =0.062713; ROA (β3) = -0.067344. The slope coefficient; P(xi=0.0000; x2=0.0000; x3=0.6321). Using the T- Ratio to test for their statistical significance, it was found that WDM and ROE variables were statistically significant at 5% level. This is due to the fact that their observed T- values are positive and above the "rule of thumb of 2. The other variable (ROA) is statistically non-significant because the observed t-value is either negative or far less than the rule of thumb of 2. However, the results of the hypothesis test showed that WMD, ROE, ROA accounts for 63.2% of the changes in the financial performance of cement companies while 36.8% are attributed to other factors not included in the model. The F-statistic = 22.72333 with its associated Prob(F-statistic) = 0.000000 implies that the overall joint effect of WMD, ROE, and ROA on financial performance of cement companies was statistically significant at 5% level.

DECISION

Going by the rule of thumb, Hi was accepted while Ho was rejected, since the P-value of the equation is 0.000000 which is less than the critical value of 0.05 (5%). This implies that waste management disclosure have significant effect on financial performance of cement companies at 5% level of significance.

Table 6: Fixed effect model between WMD, ROE and ROA

Dependent Variable: Financial performance
Method: Least Squares
Date: 10/05/24 Time: 17:35
Included observations: 50

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.035263	0.912283	3.183972	0.0002
GMA	0.432182	0.232566	6.423462	0.0000
ROE	0.062845	0.178628	5.239692	0.0000
ROA	-0.179177	0.163177	-0.443065	0.5128

Effects specification

Cross-section fixed (dummy variable

R-squared	0.4583676	Mean dependent var	0.354746
Adjusted R-square	0.4764772	S.D. dependent var	0.738252
S.E. of regression	0.7005351	Akaike info criterion	2.443543
Sum squared resid	65.584952	Schwarz criterion	2.785634
Log likelihood	-122.3776	Hannan-Quinn criter	2.243556
F-statistic	11.073566	Durbin-Watson stat	1.231432
Prob(F-statistic)	0.0000000		

Source: E-Views 9.0 Output, 2024

Table 7: Hausman specification test for hypothesis two
Correlated random effects: Hausman test
Date: 10/05/21 Time: 15:37
Test: Cross-section random effect

Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	10.572245	3	0.0002

Source: E-Views 9.0 Output, 2024
Interpretation of Hausman specification test
Based on the result of the Hausman specification test in table 7, the p-value of the test was 0.0002, which was statistically significant at the conventional level of 0.05. Thus, the Fixed Effect Model (FEM) in table 6 confirm and validated as the preferred model in analysing the effect of waste management disclosure on financial performance of cement companies at 5% level of significance. Thus, further confirming the result of hypothesis two.

4.3 DISCUSSION OF FINDINGS

This study examined the effect of corporate environmental disclosure and financial performance of cement companies in Nigeria 2018-2022. The model for testing hypotheses 1 showed that ERFD, ROE, ROA significantly affect financial performance of listed cement companies in Nigeria. The results also indicate that ERFD, ROE and ROA are all significant at 5% level of significance. Serial correlation is proved to be absent based on the Durbin-Waston statistic result of 1.113261. Based on the analysis, the result revealed that environmental reporting framework disclosure have significant effect on the financial performance of cement companies In Nigeria. The finding was supported by Ayodeji and Folarin (2020) who found that environmental cost has significant effect on the financial performance of cement companies in Nigeria. Also, the finding was inline with the study of Adegbite et al. (2019), who found that environmental accounting has significant effect on the financial performance and sustainability of cement companies in Nigeria. Corroborating with the findings of the study, Almalik (2020) indicated that Corporate environmental disclosure enhances environmental performance of organisation.

From the test of hypothesis two, the Beta coefficient value for the variables revealed that: WMD (β1) = 0.221464; ROE (β2) =0.062713; ROA (β3) = -0.067344. The slope coefficient; P(xi=0.0000; x2=0.0000; x3=0.6321). Using the T- Ratio to test for their statistical significance, it was found that WMD and ROE variables were statistically significant at 5% level. This was due to the fact that their observed T-values are positive and above the rule of thumb of 2. The other variable (ROA) was statistically non-significant because the observed t-value is either negative or far less than the rule of thumb of 2. The F-statistic = 22.72333 with its associated Prob(F-statistic) = 0.000000 implies that the overall joint effect of WMD, ROE, and ROA on financial performance of cement companies was statistically significant at 5% level, this implies that waste management disclosure has a significant effect on financial performance of cement companies. The study was supported by the findings of Onodugo et al. (2020) who found that environmental disclosure reporting have significant effect on the financial performance of manufacturing firms in Nigeria. Also, the finding from the study was supported by Uyar and Kılıç (2012) study who found that environmental management and disclusres has significant effect on the environmental sustainability of quoted cement companies in Nigeria.

V. CONCLUSION

This study has shed light on the crucial relationship between corporate environmental disclosure and the financial performance of cement companies in Nigeria. Through meticulous analysis, it has become evident that specific aspects of environmental disclosure play a significant role in influencing financial outcomes within this industry. Firstly, the findings underscore the importance of environmental reporting framework disclosure. Companies that adhere to established framework such as the Global Reporting Initiative (GRI) guidelines or Sustainability Accounting Standards Board (SASB) standards demonstrate a commitment to transparency and accountability in their environmental practices. This transparency not only fosters trust among stakeholders but also positively impacts financial performance. Cement companies in Nigeria stand to benefit from implementing robust environmental reporting framework that align with international standards, thereby enhancing their competitive positioning and attractiveness to investors.

Secondly, waste management disclosure emerge as another critical factor influencing financial performance. Effective waste management practices not only mitigate environmental risks but also yield tangible economic benefits for cement companies. By implementing efficient waste reduction, recycling, and disposal strategies, companies can optimize resource utilization, reduce operational costs, and enhance profitability. The

findings underscore the importance of prioritizing waste management initiatives and transparently communicating these efforts to stakeholders to maximize their impact on financial performance.

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