

# EMPIRICAL ANALYSIS OF THE EFFECT OF ENVIRONMENTAL ACCOUNTING INFORMATION DISCLOSURES ON FIRM PERFORMANCE OF CEMENT MANUFACTURING COMPANIES IN NIGERIA

**SALEMCITY, AYOBAYE, Ph.D., ACA, AIYESAN, OLABODE OLUTOLA, Ph.D.,  
ACA and AWA, FELIX. N. Ph.D.**

<sup>1</sup>Adekunle Ajasin University, Akungba-Akoko, Ondo State

<sup>2</sup>Ebonyi State University, Abakaliki, Ebonyi State

**Abstract:** The study assessed the effect of Environmental Accounting Information Disclosures on Financial Performance of Cement Manufacturing Companies in Nigeria from 2006 - 2020. Ex-post facto research design was adopted in carrying out the study. Secondary data were gathered from the annual reports of listed cement companies on the Nigeria Stock Exchange (NSE) to actualize the research objectives stated for the research work. The panel data gathered were analytically estimated using the Multiple Ordinary Least Square (MOLS) regression techniques with the aid of E-view 9.0 econometric software to test the hypotheses and establish the effect of environmental accounting information disclosures on corporate profit performance. The study revealed that corporate social responsibility disclosure, health and safety disclosure and remediation/pollution control disclosures have significant effects on return on assets of listed cement companies in Nigeria. The study concluded that disclosures of Environmental Activities in the annual reports of companies have effect on their financial performance. It was recommended that companies should ensure sustainability reporting in their annual reports; government should liaise with both national and international accounting standard setting bodies to ensure that environmental disclosures are mandatory.

**Keywords:** Environmental Accounting Information Disclosures, Mandatory Disclosure, Voluntary Disclosure, Financial Performance.

## 1. Introduction

There has been an increasing need for corporate entities to voluntarily disclose their activities as part of their corporate social responsibility to its stakeholders. Extant literature has attempted to explain succinctly this aspect of corporate environmental disclosure which apparently lie outside the whims and caprices of conventional framework of accounting information disclosures. Although, it is considered worthwhile due to its capacity in providing the much needed information that is quintessential in maintaining an efficient corporate sustainability (Kaeser and Busch, 2015). Environmental accounting information disclosure emerged in the mid 90s with the first disclosures in accordance with the Global Disclosure Initiatives (GDI) on environmental disclosure policy framework in 1999 (Muhammadu, 2014). Thereafter, environmental accounting information disclosure practices had gained wider

acceptance in the Western world through its adherence to the principle of fair disclosures as most companies began to disclose their activities to galvanize good corporate image from their stakeholders (Ala, 2019). These disclosures, however, become the major source of information from which investments and financial decisions are taken by stakeholders.

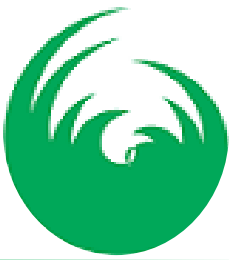
In response to investors' and other stakeholders' concerns about corporate environmental policies, many corporate firms are voluntarily increasing their level of social and environmental disclosure through different sources and means especially using environmental accounting information. The Global Disclosure Initiative (GDI) standards explains environmental accounting information disclosure as the practice of being accountable to both internal and external stakeholders of organizations by measuring and disclosing firms' performance in relation to the goal of the organization

Management and Human Resource Research Journal

An official Publication of Center for International Research Development

Double Blind Peer and Editorial Review International Referred Journal; Globally index

Available [www.cirdjournal.com/index.php/mhrrj/index](http://www.cirdjournal.com/index.php/mhrrj/index); E-mail: [journals@cird.online](mailto:journals@cird.online)



(Mohammad, Fakhrol & Rezaur, 2016; Ezeiofor, John-Akamelu & Chigbo, 2016). With the full disclosure of environmental accounting information, it is believed that investors would have full information on economic activities of the company they invested in and potential investors will also have ample information that will spur their confidence on the financial performances of the company hence, they can invest accordingly.

Notwithstanding, environmental accounting information disclosures are still voluntary in Nigeria and this implies that corporate organizations still have the volition to either disclose it or not. Meanwhile, the environmental impacts of operations of companies have compelled investors, governments and pressure groups to mount pressure on companies to demonstrate their levels of compliance with corporate disclosures on the lives of people in the environment in which they operate (Oraka and Egbunike 2016).

Research findings according to Oyedokun, Egberioyinemi and Tonade, (2019), Okafor, (2018) and Oraka et al (2016) have identified some factors/issues that could predispose most corporate organizations especially cement manufacturing firms in Nigeria to disclose pertinent accounting information to their environment which include occupational health and safety, corporate social responsibility, remediation/pollution control, environmental clean-up/preservation cost, recycling cost, environmental fines and penalties among other environmental issues. Meanwhile, the Financial Reporting Council of Nigeria (FRCN) is yet to issue a standard of disclosure of voluntary activities. However, corporate organizations like cement manufacturing companies are increasingly publishing their operational activities in a bid to entrench their reputation with their stakeholders in terms of profit performance.

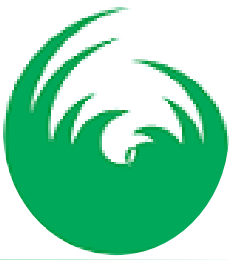
Financial performance is the level of performance of a firm over a specified period of time, expressed in terms of overall profit or losses during that time (Tian and Zeitun, 2007). It is measuring the results of a firm's policies and operation in monetary terms. These results are reflected in the firm's return on assets (ROA), return on investment (ROI), residual income (RI), earning per share (EPS), dividend yield, price earnings ratio, growth in sales, market capitalization etc. (Abor and Biekpe, 2015; Brief and Lawson, 1992).

Environmental accounting information disclosures are sacrosanct in setting an institutional framework that

directly influences a company's level of financial performance within the ambit of their operations. The environmental accounting disclosure (Oraka and Egbunike 2016; Chiu, Zhang, Li, Wei, Xu, & Chai, 2020) has the potentiality of enhancing corporate performance and reputation as they disclose their environmental antecedents as part of their social responsibilities in the areas of provision of health and educational facilities, assisting the physically challenged, road rehabilitation, environmental cleanup, remediation, recycling, occupational health and safety of staff.

Research findings according to Hasan and Hakan, (2012) observed that even the introduction and the adoption of International Financial Reporting Standards (IFRS) in Nigeria which basically was initiated to enhance the level of information disclosures may have been undermined conventionally due to lack of enforcement policy framework on reporting standards. Many companies including cement manufacturing companies in Nigeria have abandoned the essence of full disclosure which involves the Environmental Accounting Information Disclosure (EAD) with the aim that it will have untold harmful effect on their financial performances without considering the reputational risks that may be involved if eventually environmental issues erupt. Unfortunately, managements pursue the growth of shareholders' wealth at the neglect of environmental impacts their company may have on their immediate community. The issues relating to environmental accounting information disclosures are basically at the volition of firms in Nigeria either to disclose or not as it is best defined by them. Corporate organizations who wish to disclose their annual reports are succinctly bereft with disclosures on environmental antecedents that make them socially responsible. As a result the stakeholders hardly make profound decisions due to problems of information asymmetric.

Previous studies have directly linked information asymmetric to negative outcomes for potential investors and the general public. These outcomes include loss of confidence by the stakeholders, doubts and general skepticism (Biddle, Hilary & Verdi, 2009). In Nigeria, not only oil and gas companies are notable for environmental pollutions and degradation but cement companies inclusive. It will however be an understatement to ignore the effect that cement companies have on the atmospheric air and the continual use of limestone without any replacement. The



magnitude of the pollution and their relative effects on water bodies, land and air are alarming and tragic (Mba, Mba, Ogbuabor and Arazu, 2019). Meanwhile, the influence of environmental accounting information disclosures on profitability of cement manufacturing companies in Nigeria has been an issue of serious concern as the findings of previous studies are still at variance and mixed, hence necessitating this study. It is against this background that this study is examining the influence of environmental accounting information disclosures on financial performance of selected listed cement manufacturing companies in Nigeria as the findings of previous studies are still debatable and contestable.

## 2. Literature Review

### Conceptual Review

#### 2.1.1 Environmental Accounting Information Disclosure

The Global Disclosure Initiative standards explains that environmental accounting information disclosure as the practice of being accountable to both internal and external stakeholders of organizations by measuring and disclosing firms' performance in relation to the goal of the organization (Adegbe, Rotimi & Samuel, 2015). It is the way by which corporate organizations disseminate the environmental effects of their operational activities to their stakeholders and to the society at large (Wentzel, Fapohunda, & Haldenwang, 2022). This practice however, serves as a means of providing pertinent accounting information on firms' efforts which have the potentiality of influencing the perception of the stakeholders on the performance of the supposed organizations (Islam, Hosen and Islam, 2005; Pramanik, Shil, & Das, 2007; Kuo and Chen, 2013; Gustafsson and My, 2017). Environmental accounting disclosures which is synonymous to environmental accounting reporting is therefore involved in the assessment of environmental impact of an organization through its activities on its operating environment and disclosing its remediating efforts which include the cost incurred and the benefit accruable.

#### 2.1.2 Financial Performance

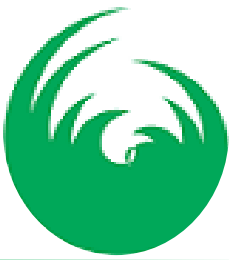
Financial performance is the level of performance of a firm over a specified period of times, expressed in terms of overall profit or losses during that time (Tian and Zeitun, 2007; Fernandez-Feijoo, Romero, & Ruiz, 2012). It is measuring the results of a firm's policies and operation in monetary terms. These results are reflected

in the firm's return on investment, return on assets and valued added (Abor and Biekpe, 2005). For a long time, financial performance has been perceived only through its ability to obtain profits. This has changed over time, today the concept of performance having different meanings depending on the user perspective of financial information. A company can be categorized as globally performing if it can satisfy the interests of all stakeholders and also the environment in which it operates. It is often the measuring tool which indicates the financial strengths, weaknesses, opportunities and threats. Those measurements are return on assets (ROA), return on investment (ROI), residual income (RI), earning per share (EPS), dividend yield, price earnings ratio, growth in sales, market capitalization etc (Brief and Lawson, 1992). All these yield to profitability which can be decomposed into its main components: net turnover and return on assets.

#### 2.2 Empirical Framework

Bassey, Effiok and Eton (2013) examine the impact of environmental accounting and reporting on organizational performance of selected oil and gas companies in the Niger Delta region of Nigeria using the Pearson Product Moment Correlation Coefficient to analyse both the primary and secondary data gathered. It was discovered that environmental friendly firms will report and disclose environmental related issues in their annual reports. They however recommend that firms should adopt disclosure techniques on environmental related issues in the financial statements and reports. This is believed will enhance environmental performance measurement through established locally and international accounting standards to regulate and enforce reporting on environmental related issues.

The development of environmental accounting and disclosure practices on manufacturing companies in Nigeria was considered by Ejoh, Orok and Sackey (2014) to determine whether environmental expenditures are charged independent of other operating expenditures and to know the level of the awareness of environmental cost in manufacturing companies in Nigeria. Employing the independent t-test and Analysis of Variance (ANOVA) to test the hypotheses, it was discovered that manufacturing companies do not charge as a separate head environmental expenditures in their financial statements, so no clear cut between them and other operational expenses, they, however, noticed the low level of environmental cost awareness among



manufacturing companies in Nigeria. It was therefore recommended that environmental expenditures be reckoned with separately on the face of the financial statement from other operating expenses. Low level of awareness of environmental activities might result to the level of its reporting among companies in Nigeria. Training and retraining on proper reporting will be essential to create better awareness among companies.

Jerry, Teru and Musa (2014) using content analysis also study and analyse environmental accounting disclosure practice of Nigerian quoted firms focusing on consumer goods companies from 2013 published annual reports of the selected firms. The hypotheses generated were tested using ANOVA. The study was aimed at the variability in environmental accounting disclosures as embraced by companies in Nigeria since it is not on mandatory accounting disclosure. It was however noticed that many companies in Nigeria do not embrace environmental disclosures and the few that report it do not have a specific standard that could be followed to encourage uniformity in disclosures. They, therefore, maintained that lack of environmental accounting standards to unify reporting create variations in the reporting of different companies in Nigeria. It was however recommended that international accounting standards setting body should get a unifying environmental accounting standard that will help companies in environmental reporting and disclosures in their annual reports.

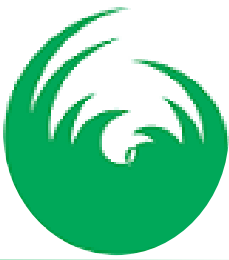
Akinlo and Iredele (2014) considered the impact of environmental information disclosures on market value of 50 quoted companies in Nigeria between 2003 and 2011. Using multiple regression analysis to consider the impact of corporate environmental disclosure (CED) on aggregate and individual basis on market value and firm size, it was discovered that CED on the aggregate has positive significant effect on Market Value, whereas when it is considered on decomposed basis, the variables such as Energy Policy, Impact on Biodiversity and Award on installing Environmental Research and Development Cost have positive impact but insignificant. Other decomposed variables such as Environmental Pollution and Control Policy, waste Management Costs and Cost Compliance with Environmental Law are negatively insignificant to Market Value of the companies. Hence, it was suggested that any environmental activity that will take its toll on the profitability of the business should be discarded but

whichever that will increase shareholders' wealth should be embraced.

Umoren, Udo and George (2015) report on the extent of environmental information dissemination by listed firms on the Nigerian Stock Exchange. In their seminal work on environmental, social and governance disclosures, a call for integrated reporting in Nigeria, using descriptive statistics, correlation and linear regression to measure the relationship that may exist among the identified variables in the work, it was revealed that environmental disclosures among firms in Nigeria is very low to the extent of 7% compared to social disclosures of 66% and governance disclosures of 81%. They recommended that every firm should cultivate the habit of adopting integrated reporting system that will encompass information needs of users. They also stress that financial regulatory bodies in Nigeria should partner with other professional accounting bodies to develop well acclaimed integrated reporting framework to guide in corporate reporting in Nigeria.

The study conducted by Oraka and Egbunike (2016) on the appraisal of environmental accounting information in the financial statements of consumer goods manufacturing companies in Nigeria with the objectives of determining the effect of environmental disclosure themes on total asset turnover, cash flow ratio, current ratio, return on equity and return on assets. They used descriptive research design to analyse the annual reports of twenty-two companies related to consumer goods in Nigeria. They found that environmental disclosure has positive effect on return on equity and the total assets turnover whereas, it has no significant effect on cash flow ratio, return on assets and the current ratio of the companies. They recommended that a well spelt out environmental disclosure theme be established to reflect quantitative and qualitative environmental disclosures in the financial statement of firms.

Okafor (2018) reports on environmental cost accounting and reporting on firm financial performance on quoted Nigerian oil companies using regression analysis with the aid of SPSS to analyse the effect of environmental costs on the firm performance between 2006 and 2015. With the objectives of determining the effect of cost of environmental remediation and pollution control; environmental laws compliance and penalty costs; and donations and charitable contributions costs on return on assets, the researcher discovered that business value is positively influenced by environmental accounting. This



he believed will provide organizations to reduce their environmental and social costs which invariably will spur a better financial performance.

Environmental Accounting Disclosure and Firm Value of industrial goods companies in Nigeria were empirically considered by Oyedokun, Egberioyinemi and Tonade (2019) using Multiple Regression for the analysis. Considering the secondary data gathered on 18 listed industrial goods companies between 2007 and 2016 to know if environmental disclosure financial, non-financial and performance indicators index have effect on their firm value or not. The study disclosed that non-financial indicators have positive significant effect on firm value whereas performance indicators have negative significant effects. The effect of financial indicator index was however, not having any significant effect on firm value of industrial goods companies in Nigeria. It is therefore, recommended that environmental responsibility practices and comprehensive disclosure of such be ensure in corporate entity's world to reflect their environmental risks, liabilities and impacts on the environment in which they operate.

Awodiran (2019) in his empirical investigation on the effect of Corporate Governance on Sustainability Disclosure of Listed Industrial Goods Companies in Nigeria between 2010 and 2017 employing descriptive and inferential statistics (OLS Regression) to analyze the secondary data gathered on 12 companies resulting to 96 firm-year observation, the author concluded that large board size with full independence and the presence of Corporate Social Responsibility Committee will ensure better sustainability reporting through proper monitoring and strict control measures on management decisions. Impliedly, Corporate Governance well implemented will spur sustainability reporting by listed Nigerian Industrial Goods Firms.

### 2.3 Theoretical Framework

**Legitimacy Theory:** This is a theory propounded by Dowling and Pfeffer (1975) assumes that a company should not be in existence unless it can match its value with the one expected by the society in which it operates. The theory is an integral part of accounting studies which provide explanations on reasons for certain items as handled by the management of a company in their relations to their outside world (Magness, 2006; Lightstone and Driscoll, 2008). The theory is, therefore, relevant in that the existence of a company is non-

essential if it considers not its impact on its immediate environment.

### 3 Methodology

*Ex-post facto* research design was adopted in carrying out the study. This is a type of research design that utilizes existing data on past events to examine how the independent variables prior to the study affect the dependent variables. The justification for using this design is that the study utilized existing quantitative data on past events for which the relevant variables cannot be manipulated. The study focused on the influence of environmental accounting information disclosures and financial performance of selected cement manufacturing companies listed on the Nigerian Stock Exchange. Three cement companies were purposively selected which we assumed to be a good representation looking at the availability of the required data for the relevant years under consideration from the published annual financial statements of the companies since we used secondary source of data for the analysis. They are; Dangote Cement Company, Lafarge Africa (WAPCO) Ltd and Cement Company of Northern Nigeria. Secondary quantitative panel data on the research variables were obtained from the published annual reports/financial statements of the quoted cement manufacturing companies at the Nigerian Stock Exchange (NSE) using their websites for the data covering a period of 15 years (2006 - 2020).

#### 3.1 Model Specification.

The regression equation was estimated by adopting the general multiple ordinary least square (MOLS) regression model in line with the specific objectives of the variables for the study. The regression model is as specified by Frances Galton (1886) in the work of Forrest (1974):

$$\text{Where; } Y = a + bx \dots \quad (1)$$

Empirically, the relationship between return on assets and Environmental accounting information disclosures indices of quoted cement manufacturing companies was expressed in line with the base line model equation as follows:

$$\text{ROA}_{it} = \beta_0 + \beta_1\text{OHSD}_{it} + \beta_2\text{CSR}_{it} + \beta_3\text{RPCD}_{it} + \beta_4\text{EFPD}_{it} + \dots \dots \dots \epsilon_{it} \quad (2)$$

Where: (i= 1, 2, ..... N) (t=1, 2, ..... t)

N =Number of companies or cross section

T=Number of time periods

ROA = Return on Assets of listed cement manufacturing Companies,  $\beta_0$  = the constant term, OHSD =



Occupational, Health and Safety, CSR = Corporate Social Responsibilities disclosure, RPCD = Remediation and Pollution Control Disclosure and EFPD = Environmental Fines and Penalties Disclosure,  $\beta_{1-4}$  = Coefficients estimated or the Coefficients of slope parameters.  $\varepsilon$  = Error term.

### 3.2 Description of Model Variables

From the above specified panel multiple regression equation, we proxy financial performance with Return on Assets (ROA).

- **Return on Assets (ROA):** It is the quotient of dividing profit after tax by total assets. We used return on assets (ROA) as dependent variables, because it is an indicator of managerial efficacy vis-à-vis assets.

$$ROA = \frac{PAT}{\text{Total Assets}}$$

- **Occupational Health and Safety Disclosure (OHSD).** This involved the value or the amount of money as disclosed in the financial statements of the listed cement companies which they expended under the

period concerned on occupational health and safety services.

- **Corporate Social Responsibilities Disclosure (CSR):** This has to do with the amount of money as disclosed in the financial statements of the listed cement companies which they expended under the period concerned on Corporate Social Responsibilities.

- **Remediation and Pollution Control Disclosure (RPCD):** This has to do with the amount of money as disclosed in the financial statements of the listed cement companies which they expended under the period concerned on Remediation and Pollution Control.

- **Environmental Fines and Penalties Disclosure (EFPD):** This has to do with the amount of money as disclosed in the financial statements of the listed cement companies which they expended under the period concerned on Environmental Fines and Penalties.

## 4. Results and Discussion of Findings

### 4.1 Descriptive Statistics Analysis

**Table 1 Descriptive Statistic**

	ROA	LCSR	LHSD	LRPD	LEFPD
Mean	19.87911	10.98132	11.90141	11.27592	10.68201
Maximum	63.87000	15.21003	14.70995	13.20332	11.99934
Minimum	-12.13000	6.687109	10.13579	9.344871	8.834046
Std. Dev.	13.77558	2.049002	1.243343	1.010423	0.947073
Skewness	0.774768	0.178309	0.907438	0.323002	-0.367363
Kurtosis	4.243453	2.208188	2.883979	2.284838	1.694615
Observations	45	45	45	45	45

Source: Authors' Computation, 2022

The result in Table 1 presents the information on the descriptive statistic of the variables employed in the study. The result shows that all the variables have low mean and standard deviation values which are within the maximum and minimum values. The result further shows that return on asset, log of corporate social

responsibility disclosure, log of health and safety disclosure and remediation and log of population discourse are positively skewed while log of environmental fines and penalties disclosure is negative.

### 4.2 Correlation Matrix

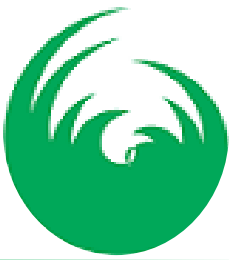
**Table 2 Correlation Matrix**

	ROA	LCSR	LHSD	LRPD	LEFPD
<b>ROA</b>	1.000000				
<b>LCSR</b>	-0.261545	1.000000			
<b>LHSD</b>	0.014732	0.785831	1.000000		
<b>LRPD</b>	0.091085	0.788391	0.919274	1.000000	
<b>LEFPD</b>	-0.058536	0.793577	0.769020	0.875812	1.000000

Source: Authors' Computation, 2022

The result in Table 2 indicates the correlation matrix for the adopted variables. The result shows that the independent variables namely log of corporate social responsibility disclosure, log of health and safety

disclosure, log of remediation and population disclosure and log of environmental fines and penalties disclosure are not perfectly correlated with the dependent variable namely return on asset indicating the absence of multi



co-linearity. Nevertheless, the result shows that log of corporate social responsibility disclosure and log of environmental fines and penalties disclosure have weak and negative correlation with return on asset while log of

health and safety disclosure, log of remediation and population discourse have weak and positive correlation with return on asset.

#### 4.3 Panel Data Analysis

**Table 3: Pooled Regression Analyses**

Dependent Variable: ROA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSR	-0.172978	0.020845	-3.191533	0.0028
LHSD	-0.310088	0.187501	-4.579332	0.0056
LRPD	0.155342	0.016151	2.539880	0.0151
LEFPD	-0.152819	0.405227	-0.942703	0.3515
C	-26.62450	24.63478	-1.080768	0.2863
R-squared	0.798667			
Adjusted R-squared	0.705341			
F-statistic	4.677117			
Prob (F-statistic)	0.003426			
Durbin-Watson stat	1.919384			

*Source: Authors' Computation, 2022*

Table 3 presents the pooled or constant regression result. The result shows that log of corporate social responsibility disclosure and log of health and safety disclosure have negative and significant effect on return on asset. However, log of remediation and pollution disclosure has positive and significant effect on return on asset. Finally, log of environmental fines and penalties is found to have negative and insignificant effect on rerun on asset.

**Table 4: Hausman Test**

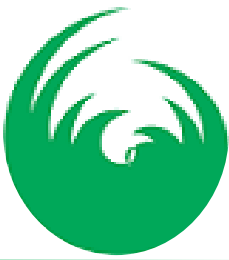
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	1.320733	4	0.8578

*Source: Authors' Computation, 2022*

From Table 4, the chi-square ( $\chi^2$ ) with p-value of 0.8578 is statistically insignificant at 5% significance level, thus leading to the acceptance of the null hypothesis. This implies that the random effect model produces better and consistent estimates than the fixed effects model, thus the random effects is considered appropriate and reported for this study.

**Table 5 Random Effect Regression Result**

Dependent Variable: ROA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCSR	-0.172978	0.010642	-2.856986	0.0068
LHSD	-0.310088	0.114429	-3.518605	0.0069
LRPD	0.155342	0.032339	2.273642	0.0284
LEFPD	-0.415281	0.321070	-0.843885	0.4038
C	-26.62450	27.51946	-0.967479	0.3391
R-squared	0.818667			
Adjusted R-squared	0.750534			
F-statistic	4.677117			
Prob (F-statistic)	0.003426			
Durbin-Watson stat	1.819384			



**Source: Authors' Computation, 2022**

Table 5 reveals the result of the random effect result for the study. The result from the Table 5 indicates that there is negative and significant relationship between log of corporate social responsibility disclosure and return on asset with a coefficient of -0.172978 which implies that 1% increase in corporate social responsibility disclosure will lead to 17% fall in return on asset.

Also, the result reveals that log of health and safety disclosure has negative and significant effect on return on asset with a coefficient of value of -0.310088 such that 1% increase in health and safety disclosure will lead to 31% fall in return on asset.

However, is showed in table 5 that log of remediation and pollution disclosure has positive and significant effect on return on asset with a coefficient of 0.155342 indicating that higher remediation and pollution disclosure will bring about 15% increase in return on asset. Finally, log of environmental fines and penalties produce negative and insignificant effect on return on asset with a coefficient of -0.41528 meaning that increase in environmental fines and penalties will lead to 41% fall in return on asset.

The Adjusted R-squared of 0.750534 as reported in table 5 implies that 75% variation in return on asset is caused by changes in log of corporate social responsibility disclosure, log of health and safety disclosure, log of remediation and population disclosure and log of environmental fines and penalties disclosure.

Furthermore, the result shows that Durbin-Watson statistic has a value of 1.819384 which is close to 2 indicating the absence of autocorrelation in the residuals of the model.

F-statistic is use to test the joint effect of log of corporate social responsibility disclosure, log of health and safety disclosure, log of remediation and population discourse and log of environmental fines and penalties disclosure on return on asset. The result which is presented in table 5 shows that the F-statistic is given as 4.677117 with a probability value of 0.003426 which is significant at 5%. This implies that log of corporate social responsibility disclosure, log of health and safety disclosure, log of remediation and population discourse and log of environmental fines and penalties disclosure jointly and significantly influence return in asset.

**4.3 Test of Hypotheses**

The first hypothesis from Table 5 shows that corporate social responsibility disclosure has a statistic value of -

2.856986 and probability value of 0.0068 which is significant at 5% leading to the rejection of the null hypothesis that corporate social responsibility disclosure has no significant effect on financial performance of selected listed cement manufacturing companies in Nigeria.

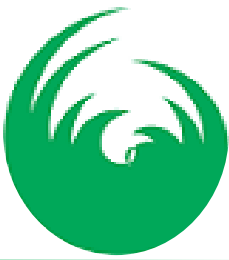
The second hypothesis also indicates that health and safety disclosure has a statistical significant effect on return on asset with a t-statistic and probability value of -3.518605 and 0.0069 respectively. Thus the null hypothesis there is Health and Safety disclosures do not have significant effect on financial performance of selected listed cement manufacturing companies in Nigeria is rejected.

Similarly, the third hypothesis on remediation/pollution control disclosures has t-statistic and probability values of 2.273642 and 0.0284 respectively which is significant at 5% leading to the rejection of the null hypothesis which states that remediation/pollution control disclosure has no significant influence on financial performance of selected listed cement manufacturing companies in Nigeria

Finally, environmental fines and penalties disclosure has a statistical insignificant effect on return on asset with a t-statistic and probability value of -0.843885 and 0.4038 respectively which is insignificant at 5%. Thus, the null hypothesis that environmental fines and penalties disclosure do not have significant influence on the financial performance of selected listed cement manufacturing companies in Nigeria is accepted.

**5. Conclusion and Recommendation**

The study concludes that with the increase in CSR, health and safety and environmental fines and penalties disclosures, there is a corresponding decrease in the return on assets of the companies. However, every remediation and pollution disclosure increases the return on assets correspondingly. It also reveals that every disclosure of the impact of environmental remediation and pollution on its community improves the financial performances of the company. This may imply better patronage of their products by the community and the international world. This is in tandem with the result from the studies of Brine, Brown and Hackett (2006) and Onyeka and Chukwuani (2016) on the how corporate social responsibility improves financial performance. Resulting from these conclusions, the study recommends that regulatory authorities in Nigeria should review the level of disclosures and ensure that activities on



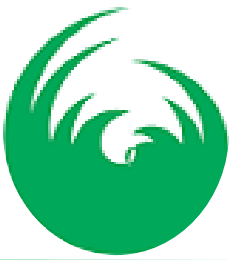
environmental related issues are grafted into the mandatory disclosure regime. Importance should be placed on voluntary disclosures on some activities that are not captured by regulatory authorities but found useful to place credence on the financial report of the company should be adopted to boost the confidence of investors and other users of financial statements of the company. This is expected to enforce companies to ensure full disclosures of both financial and non-financial activities in their financial statements. Integrated reporting should therefore should be encouraged to improve information contents of financial reports.

#### REFERENCE

- Abor, J. and Biekpe, N. (2005). What Determines the capital structure of Ghanaian Firms. *African Finance Journal*, 7(1): 37-48.
- Adegbie, F. F. ., Rotimi, O. O., & Samuel, O. A. (2018). Application of Responsibility Accounting to Productivity Evaluation in the Nigerian Quoted Companies. *NN-Journal of Advance Research in Business Management and Accounting*, 4 (7), 01–13.
- Akinlo, O. O. and Iredele, O. O. (2014). Corporate environmental disclosures and market value of quoted companies in Nigeria. *The Business and Management Review*, 5 (3).
- Ala, M. R. (2019). Board Characteristics and Environmental Disclosure: Evidence from Jordan. *International Journal of Business and Management*; 14 (2): 57 - 65.
- Awodiran, M. A. (2019). Corporate Governance and Sustainability Disclosure: Evidence from Listed Industrial Goods Firms in Nigeria. *Journal of Economics, Management and Social Sciences*, 5: 67-82.
- Bassey, E. B., Effiok, S. O. and Eton, O. E. (2013). The Impact of Environmental Accounting and Reporting on Organizational Performance of Selected Oil and Gas Companies in Niger Delta Region of Nigeria. *Research Journal of Finance and Accounting*; 4(3): 57-73.
- Biddle, G. C., Hilary, G. & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting & Economics*. 48 (2/3): 112-131.
- Brief, R. P., and R. A. Lawson (1992) The Role of the Accounting Rate of Return in financial Statement Analysis. *The Accounting Review* 67(2): 411-426.
- Brine, M., Brown, R. and Hackett, G. (2006). Corporate social responsibility and financial performance in the Australian context. Corporations and financial services Division, the Australian treasury.
- Chiu, C. L., Zhang, J., Li, M., Wei, S., Xu, S. & Chai, X. (2020). A study of environmental disclosures practices in Chinese energy industry. *Asian Journal of Sustainability and Social Responsibility*, 5, (9): 1 - 21. <https://doi.org/10.1186/s41180-020-00036-1>
- Chiu, L. C., Zhang, J. and Chai, X. (2020). A Study of Environmental Disclosures Practices in Chinese Energy Industry. *Asian Journal of Sustainability and Social Responsibility*, 5(9). <https://doi.org/10.1186/s41180-020-00036-1>.
- Dowling, J. and Pfeffer, J. (1975). Organizational Legitimacy: Social Values and Organizational Behaviour. *Pacific Sociological Review*; 18(1): 122 – 136. <http://dx.doi.org/10.2307/1388226>.
- Ejoh, N O., Orok, E. O. and Sackey, J. A. (2014). The Development of Environmental Accounting and Disclosure Practices of Manufacturing Companies in Nigeria. *Journal of Economics and Sustainable Development*; 5(12): 70 – 79.
- Ezeiofor, R. A., John-Akamelu, R. C. and Chigbo, B. E. (2016). Effect of Sustainability Environmental Cost Accounting on Financial Performance of Nigerian Corporate Organizations. *International Journal of Scientific Research and Management (IJSRM)*. 4(8): 4536 – 4549.
- Fernandez-Feijoo, B., Romero, S., & Ruiz, S. (2012). Does Board Gender Composition affect



- Corporate Social Responsibility Reporting? 1. International Journal of Business and Social Science, 3, n/a.
- Forrest, D. W. (1974). The life and word of a victorian genius. Paul Elek, London, Pp x + 340.
- Gustafsson, V. & My, M. (2017). A study of environmental disclosure within the OMXS30: with reference to the Global Reporting Initiative. Master thesis submitted to the International Business School, Jonkoping University.
- Hasan, S. and Hakan, O. (2012). The Importance of Environmental Accounting in the Context of Sustainable Development and within IFRS Evaluation. 3<sup>rd</sup> International Symposium in Sustainable Development between 31<sup>st</sup> May and 1<sup>st</sup> June, 2012. <http://eprints.ibu.edu.ba/1282/>
- Islam, S., Hosen A., and Islam, M. (2005). An Examination of Corporate Environmental Disclosure by the Bangladesh Public Limited Companies. *Pakistan Journal of Social Sciences*, 3(9): 1095-1102.
- Jerry, M. S., Teru, P. and Musa, B. (2014). Environmental Accounting Disclosures Practice of Nigerian Quoted Firms: A Case Study of some selected Quoted Consumer Goods Companies. *Research Journal of Finance and Accounting*; 6(22): 31 – 37.
- Kaeser, J. and Busch, R. (2015). Sustainability Information 2015, an Addendum to the Siemens Annual Report. [http://sg.siemens.com/zDoc/aboutUs/Profile/siemens\\_sustainability\\_information2015.pdf](http://sg.siemens.com/zDoc/aboutUs/Profile/siemens_sustainability_information2015.pdf) cited on 14/01/2020.
- Kuo, L. and Chen, V. Y. (2013). Is Environmental Disclosure An Effective Strategy on Establishment of Environmental Legitimacy for Organization? *Management Decision*, 51(7): 1462-1487. <http://dx.doi.org/10.1108/MD-06-2012-0395>.
- Lightshone, K. and Driscoll, C. (2008). Disclosing Elements of Disclosure: A Test of Legitimacy Theory and Company Ethics. *Canadian Journal of administrative Sciences*; 25 (1): 7-12. <http://dx.doi.org/10.1002/cjas.50>.
- Magness, V. (2006). Strategic Posture, Financial Performance and Environmental Disclosure: An Empirical Test of Legitimacy Theory. *Accounting, Auditing and Accountability Journal*, 19(4): 540 – 563. <http://dx.org/10.1108/09513570610679128>.
- Mba, I. C., Mba, E. I., Ogbuabor, J. E. and Arazu, W. O. (2019). Causes and Terrain of Oil Spillage in Niger Delta Region of Nigeria: The Analysis of Variance Approach. *International Journal of Energy Economics and Policy*, 9(2): 283-287.
- Mohammad, R., Fakhurul, I. and Rezaur, R. (2016). Environmental Accounting Reporting Disclosure and Company Profitability: A Case Study on Listed Manufacturing Companies of Bangladesh. *International Journal of Ethics in Social Sciences*, 4(2): 19 – 34.
- Muhammad, F. (2014). Leadership, Governance and Public Policy Implementation Competencies in the Broader Public Sector. *European Journal of Business and Management*, 6 (36).
- Okafor, T. G. (2018). Environmental Costs Accounting and Reporting on Firms Financial Performance: A Study of Quoted Nigerian Oil Companies. *International Journal of Finance and Accounting*; 7(1): 1 – 6. DIO: 10.5923/j.ijfa.20180701.01.
- Onyeka, V. N. and Chukwuani, V. N. (2016). Does corporate social responsibility enhance return on assets? Evidence from manufacturing firms in Nigeria. *Journal of Social Science Research*, 10(2): 2053 – 2059.
- Oraka, A. O. and Egbunike, F. C. (2016). Appraisal of Environmental Accounting Information in the Financial Statements of Consumer Goods Manufacturing Companies in Nigeria. *NG-Journal of Social Development*, 5(5): 6-28.



Oyedokun, G. E., Egberioyinemi, E. And Tonade, M. A. (2019). Environmental Accounting Disclosure and Firm Value of Industrial Goods Companies in Nigeria. *IOSR Journal of Economics and Finance*; 10(1): 7 – 27.

Pramanik, A. K. Shil, N. C. & Das, B. (2007): Environmental accounting and reporting With special reference to India. *The Cost and Management* , 3, 16-28.

Tian, R. and Zeitun, G. G. (2007). Capital Structure and Corporate Performance: Evidence from Jordan. *The Australasian Accounting Business & Finance Journal*, 1(4): 40 – 61.

Umoren, A. O, Udo, E. J. and George, B. S. (2015). Environmental, Social and Governance Disclosures: A Call for Integrated Reporting in Nigeria. *Journal of Finance and Accounting*; 3(6): 227 – 233. DOI: 10.11648/j.jfa.20150306.19.

Wentzel, L., Fapohunda, J. A. & Haldenwang, R. (2022). The Relationship between the Integration of CSR and Sustainable Business Performance: Perceptions of SMEs in the South African Construction Industry. *Sustainability*, 10.3390/su14031049, **14**, 3, (1049).