Effect of Environmental Disclosure on Shareholders' Value Maximization: Evidence from Non-Financial firms in Nigeria

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ABSTRACT

This study examined the effect of environmental disclosure on shareholders' value maximization. The population of the study is all quoted non financial firms listed in Nigerian Stock Exchange. Sample of 60 companies from different sectors were used for the period of ten years spanning from 2011 to 2020. The study employed ex-post facto and cross sectional research design. The secondary sources of data were collected from annual reports and account of the selected non financial firms quoted in Nigeria stock exchange and three (3) specific objectives and hypotheses were tested and analyzed. The panel data were subjected to preliminary data tests such as descriptive analysis, correlation analysis and Hausman effects tests for the period of ten years. Multiple panel least regression analysis was employed via E-Views 10.Using a sample of 600 firm-year observations, the result of the tested hypotheses revealed that employee health and safety disclosure, and environmental remediation disclosure have positive but insignificant effect on shareholders' value maximization while environmental waste management disclosure has positive and significant effect on shareholders' value maximization which was statistically significant at 5% level of significance. The study recommends among others, that managers of non-financial firms should pay more attention to environmental waste management disclosure in their host communities to boost their performance and hence add value to their shareholders' wealth creation. Moreover, due attention should be paid to environmental remediation disclosure by non financial firms in Nigeria since such disclosure influence strategic decision such as shareholders' value maximization.

Keywords: *Environmental Disclosure, shareholders' value maximization, employee health and safety disclosure, environmental remediation disclosure and waste management disclosure*

1.1 Introduction

Environmental disclosure is the production of narrative numerical information on an organization environmental impact or footprint for the accounting period under review (Cho & Patten, 2017). The narrative information can be used to convey objective, aspiration, management decision, addresses specific stakeholder concerns etc. Environmental abuses in the course of wealth has led to various environmental impacts such as depletion of non-renewable resources, global warming, diminution of land resources, acidification, and reduction of water resources and potential threats to health and safety of employees. Some organisations especially in the developed world have tried to justify their legitimate profile through sustainability performance to the polluted environment and communicated the practice through environmental accounting disclosure to stakeholders. The practices could have positive or negative effect on firm performance depending on the management of the cost involved. This is based on the fact that companies can achieve cost savings which can improve their performance by implementing environmental accounting.

Sustainability practices in the developing world especially in Nigeria are seen to be below the stakeholders expectations. It is alleged that businesses ignore the impact of their activities on the natural and social environment in which they operated, unless it had direct repercussions on their performance. This negates the objective of a sound environmental management which is to enhance environmental report by reducing the environmental impact while increasing the enterprise value. The neglect may attract negative attitudes amongst stakeholders towards business. This then risks a tarnished image for those firms not taking environmental issues seriously (Savage, Cataldo & Rowlands, 2019).

Previous studies on the shareholders' value maximization and environmental disclosure have shown inconclusive findings. Few studies like Akinlo and Iredele (2015), Oyedokun, Abiola and Egberioyinemi (2019) studied corporate environmental disclosures and market value of quoted companies in Nigeria with divergent results. Also, Ezeokafor and Amahalu (2019); Amahalu, Okoye and Obi (2018); Schaltegger and Wagner (2014); Orlitzky, (2008); Rodriguez and Cruz (2007) focused on the relationship between environmental disclosure and performance. Some scholars have found a positive effect of environmental accounting disclosure on share prices but the studies were not based in Nigeria; (Johnston, Sefcik, & Soderstrom ; 2008, Clarkson, Fang, Li, & Richardson ; 2013, Bernardi & Stark; 2018). Other scholars, have secured evidence that environmental accounting disclosure has a negative effect on market values (Hassel, Nilsson & Nyquist; 2005, Moneva & Cuellar; 2009, Johnston; 2005).

The inconclusiveness on the research findings is caused by the varied research methods and measurements of environmental accounting disclosure (Moneva & Cuellar; 2009). This present study aims at contributing to literature by empirically analyzing the relationship between environmental disclosure and shareholders' value maximization of listed non financial firms in Nigeria using employee health and safety disclosure, environmental remediation disclosure, and environmental waste management disclosure. The study further deployed two different research methods; content analysis and ex post facto research design. It was against this backdrop that the following objectives below were raised to guide this study.

1.2 Objectives of the study

The main objective of this study is to investigate the effect of environmental disclosure on shareholders' value maximization of quoted non financial firms in Nigeria.

The specific objectives are to:

i. Ascertain the effect of employee health and safety disclosure on shareholders' value maximization of quoted non financial firms in Nigeria.
ii. Evaluate the effect of environmental remediation disclosure on shareholders' value maximization of quoted non financial firms in Nigeria.
iii. Determine the effect of environmental waste management disclosure on shareholders' value maximization of quoted non financial firms in Nigeria.

1.3 Research Hypotheses

The research hypotheses for this study were formulated and stated in null forms:

H_{o1}: Employee health and safety disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

Ho_2: Environmental remediation disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

Ho_3: Environmental waste management disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

2.0. Literature review

2.1 Environmental disclosure

Environmental disclosure is the production of narrative numerical information on an organization environmental impact or footprint for the accounting period under review (Cho & Patten, 2017). Magara, Aming and Momanyi (2015) believe that such numerical disclosure can be used to report on those measures that can be usefully and meaningfully be conveyed in that way such as emission or pollution amount, resource consumers, land use etc. Environmental disclosure is used to communicate a company's past, current and future environmental management decisions, activities and performance to the various stakeholders (Murray & Vogel, 2017). The creation of wealth has led to various environmental impacts such as depletion of non-renewable resources, global warming, diminution of land resources, acidification, and reduction of water resources and potential threats to health and safety of employees (Ezeokafor & Amahalu, 2019). It is worthy to emphasis that the magnitude of the pollution is also not limited to Nigeria but global in nature.

2.2 Employee health and safety disclosure

Social information such as employee health and safety disclosure describes a company's achievements on social aspects of their employees within a certain period of time. Social aspects such as employee welfare, customer satisfaction, work accident rates, and customer complaint levels are other indicators besides financial indicators that can be sensitive information for stakeholders. Information asymmetry can be reduced through the disclosure of relevant information. Odua and Ikeh (2017) were of the opinion that one of the fundamental principles of workplace health and safety is risk assessment which identifies all the hazards and potential for harm whilst working.

2.3 Environmental Remediation Disclosure

Environmental Remediation disclosure means all actions or activities to cleaning up or remove hazardous materials from the environment; preventing or minimizing the further movement, leaching or migration of hazardous materials in the environment; preventing, minimizing, or mitigating the release or threatened release of hazardous materials into the environment, or injury or damage from such release, and comply with the requirements of any environmental laws.

2.4 Environmental Waste Management Disclosure

Environmental waste management disclosure is a disclosure on the control of emissions and effluents into environment. It constitutes the use of materials, processes, or practices to reduce, minimize, or eliminate the creation of pollutants or wastes. It includes practices that reduce the use of toxic or hazardous materials, energy, water, and other resources (Ijeoma, 2015). According to Ngwakwe (2018), waste produced by a process often has to be processed before being released to the environment. Some of the waste can be handled by the company itself, other waste is better handled by external waste treating companies. Handling of the waste causes environmental costs either way. The cost of waste transportation is also considered an environmental cost to include depletion of natural resources, noise and aesthetic impacts, residual air and water emissions, long-term waste disposal.

2.5 Shareholders' Value Maximization

Shareholder value maximization constitutes the primary point of interest in the study. This direction of thinking is predicated on the concept that value creation is the increase in shareholders wealth represented by a rise in corporate profit or stock price (Wiley, 2017) giving rise to the value of a firm. On that note, firm value describes the assets a firm owned. It is necessary because it portrays the prosperity of the business owners. However, in this study, the shareholder value added was employed to measure shareholders' value maximization.

2.6 Shareholder Value Added

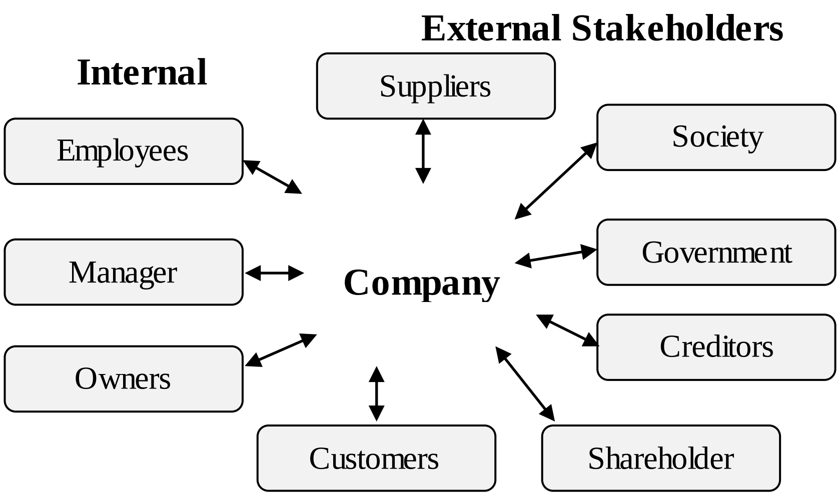
At present, value generation has taken the place of main aim of all types of business. A company creates value for its shareholders when the shareholder return exceeds the required return to equity. The shareholder's wealth is measured by the returns they receive on their investment. According to Laura (2007), the formulae of shareholder value added is expressed as:
SVA = NOPAT - capital charge. Where: SVA = Shareholder value added, NOPAT = Net operating profit after tax plus interest charge or finance cost, Capital charge = weighted average cost of capital (WACC) multiplied by capital employed. WACC = {Equity/(Equity+Debt)*Equity cost} + {Debt/(Debt + Equity)*Debt cost(1-Tax Rate)}. In this study capital employed was represented in its form as net assets.

2.7 Theoretical Framework

Stakeholder Theory

Stakeholder theory was propounded by Edward Freeman in 1984. Stakeholder theory upholds that firms have accountability towards a broad range of stakeholders, apart from shareholders, that is customers, suppliers, employees, government, community, environment, lenders and future generation.

Figure 2.1. Stakeholders Diagram



Source: Adapted from Freeman, (2004)

The traditional definition of a stakeholder is any group or individual who can affect or is affected by the achievement of the organization's objectives (Freeman, 1984). The general idea of the stakeholder concept is a redefinition of the organization. In general the concept is about what the organization should be and how it should be conceptualized.

2.8 Empirical Studies

Esira, Ezugwu, Egbere (2014) ascertained the effects of environmental cost management on the profitability of oil sector in Nigeria from 2004 to 2013.Data used were obtained from the Central Bank of Nigeria (CBN). Multiple regression analytical technique was employed. Result revealed that there exist a significant relationship between influence of environmental cost management and the profitability of oil sector in Nigeria. Also, it was discovered that there are established standards in Nigeria guiding environmental cost management in the oil and gas industries in Nigeria. Again there is a lacuna in external reporting of environmental cost data in Nigeria. It was concluded that the extent of environmental cost management in the oil sector is at its rudimentary stage. It was however recommended inter alia that; there should be Policy consistency on the Improvement of external reporting in environmental cost data. The adoption of the United Nations Environmental Cost Management Accounting (ECMA) guideline which will enhance the effectiveness of the already adopted Internationally Financial Accounting Standards (IFRS) in Nigeria, and which evolves environmental cost management accounting practice, should be encouraged. This will facilitate the global campaign for environmentally enhanced society. The financial Reporting Counsel of Nigeria (FRCN) and the professional bodies (ANAN & ICAN) should accommodate the growing awareness in environmental cost management and formulated disclosure requirements.

Delmas, Nairn-Birch and Lim (2015) investigated the dynamics of environmental and financial performance: The case of greenhouse gas emissions (GGE). The study leveraged longitudinal data for 1,095 U.S. corporations from 2004 to 2008, a period of increasing activity for climate change legislation, in order to estimate the effect of greenhouse gas emissions on short- and long-term measures of financial performance. The study found that during this period, improving corporate environmental performance causes a decline in an indicator of short-term financial performance, return on assets. Nonetheless, investors see the potential long-term value of improved environmental performance, manifested by an increase in Tobin's q. These results suggested that limited uptake of proactive strategies may in part be attributable to short-term financial performance targets that guide managerial decision making.

Sarumpaet (2015) examined the relationship between environmental performance and financial performance amongst Indonesian companies. The environmental performance is measured by corporate environmental ratings provided by Bapedal the Ministry of Environment RI, through a program, called proper from 2006 to 2014, while the financial performance is measured by return on assets (ROA). Some control variables are also included in the regression analysis, namely: total sales, industry sector, stock exchange listing, and ISO 14001 certification. The study revealed while financial performance is not significantly associated with environmental performance, company size; stock exchange listing and ISO 14001 are significantly associated with environmental performance. This finding also indicated that the government environmental rating is highly consistent with international environmental certification.

Odhiambo (2015) aimed at determining the areas of social and environmental activities reported and the format used to report in the annual financial reports of the companies listed in the Nairobi Securities Exchange. It also aimed at determining if the companies were following the various frameworks that were available for reporting on the impact of their economic activities on the society and environment like the Global Reporting Initiative (GRI) reporting guidelines. The research also aimed at determining whether by accounting and reporting on their social and environmental activities this had an effect on the firm's financial performance as measured by the Return on Assets. The population of the study comprised of sixty four companies quoted in NSE as at December 2014. Census method was used to collect data. Secondary data was collected from published annual financial statement of all listed companies. Content analysis and regression analysis were used in analyzing data. It was established in the year 2011, companies practicing social and environmental accounting and reporting were 60%, while in 2012 they were 63% and while in 2013 they were 68%. It was also established that most companies reported their social and environmental activities using a monetary form of presentation even though they did not follow any reporting guideline. Lastly, it was observed that there exists a relationship between social and environmental accounting and reporting and financial performance of companies listed in the NSE. Regression analysis was used to test the relationship between social and environmental accounting and reporting and financial performance while using capital intensity and efficiency as control independent variables. The study found that CSR score, efficiency and capital intensity had a positive relationship with financial performance of companies listed in the NSE. The study found an increase in CSR score would lead to increase in financial performance and also revealed that a unit increase in efficiency would lead to increase in financial performance. The research also determined that a unit increase in capital intensity would lead to increase in financial performance of the companies listed in the NSE.

Dobre, Stanila and Brad (2015) provided information on how Romanian listed companies report environmental and social indicators and whether or not this has an impact on financial performance. The study used a four time period panel fixed effect model for Romanian companies that are listed in the first category of the Bucharest Stock of Exchange from 2010-2013. The results pointed out that increasing water, air and soil protection has a negative impact on current return on equity, while no effects were detected on return on assets and stock market returns. Other environmental variables such as gas, energy or sound were found not to be statistically significant. Training and benefits after retirement have a mixed effect on financial measures. The research correlates Romanian accounting regulation changes with companies' characteristics and the influence of financial audit on financial performance, and concluded that increasing environmental and social protection could have an impact on financial performance in the long run, as positive correlation was detected between social or environmental performance and stock market returns one year after the changes occurred.

Swinkels (2012) investigated the relation between the disclosure of a GRI sustainability report by companies and financial performance. A study by KPMG (2005) among the top 250 firms from the Global Fortune 500 indicated that 74% of the companies that publish these reports do it for economic reasons. Therefore the study focused on firms that publish these reports to see if this is the case and it is financial performance that motivates companies to publish sustainability reports. The results of this study suggested there is no relation between the publication of a GRI sustainability report and financial performance in general. Also the study offered no evidence of a relation between a firm's application level of the GRI framework and guidelines and financial performance.

Uadiale and Fagbemi (2012) focused on developing economies and on Nigeria specifically. Using a sample of forty audited financial statements of quoted companies in Nigeria from 2007-2011. The study examined the impact of CSR activities on financial performance measured with Return on Equity (ROE) and Return on Assets (ROA). The results showed that CSR has a positive and significant relationship with the financial performance measures. These results reinforce the accumulating body of empirical support for the positive impact of CSR on financial performance.

Husser and Evraert-Bardinet (2014) looked at the relationship between market value, accounting fundamentals and companies' Corporate Social Responsibility (CSR) and Sustainable Development (SD) disclosures in France for the years 2007-2008. The study used social and environmental scores derived from a structural analysis chart based on 120 companies' reports. The multiple regression results showed that investors measure a company's short-term performance using information about the quality of the company's environmental management. At the same time, a company's social disclosure concerning the quality of employee management influences short and long-term performance.

Rokhmawati, Sathye and Sathye (2015) aimed to understand the effect of GHG emissions, environmental performance (EP), and social performance (SP) on financial performance (FP) of listed manufacturing firms in Indonesia. Sampling was based on the availability of the firms' annual reports 2011 and interview feedback about the type and amount of fossil fuels and electricity consumed by the firms in 2011. Firm FP was measured in return on assets (ROA). GHG emissions were measured in CO2e intensity. Firm EP was measured in a dummy variable of proper rating. Firm SP was measured as social reporting scores developed through a content analysis. The study found that CO2e intensity and social reporting scores have a positive and significant effect on ROA. The coefficient of proper rating was not significant.

Magara, Aming'a and Momanyi (2015) focused on the impact of environmental accounting (EA) on financial performance of corporate organizations in Kisii County, Kenya. The main variables of the study were EA application being the independent variable, and perceived financial performance as the dependent variable. The study used descriptive research design. The study was carried out at Kisii County, the target population was 144 consisting accountants and auditors in the 16 corporate organizations. The study adopted a stratified sampling design where simple random sampling technique was used to identify a sample size of 49 employees drawn from all the 16 corporations. Both qualitative and quantitative data were collected using questionnaire, and secondary data and descriptive statistics were used to analyze the responses. Findings revealed that the perceived financial performance of the corporate organization in general was in good status as perceived by the employees. Analysis of individual perceived financial performance parameters shows that revenue generation has been improving, cash flows are seen to be in a good state and profitability has been on the increase. Constructs of EA application (environmental information, environmental evaluation, compliance of environmental laws and tracking of environmental cost savings) are significantly positively related to perceived financial performance of the corporate organizations.

Vinayagamoorthi, Murugesan and Kasilingam (2015) analyzed the impact of environmental performance on profitability on of firms in India. The analysis made use of descriptive statistics, correlation, and regression analysis. The results found that the profitability variables like ROA, ROE, and ROS create the positive impact on energy intensity (proxy of environmental performance) of the sample firms. At the same time, one profitability variable such as ROCE recorded negative impact on environmental information. The study offers useful suggestions to the corporate to reduce the level of energy intensity and to utilize the companies' capital for sustainable performance.

Chang (2015) explored the impacts of environmental performance and propensity disclosure on financial performance using unbalanced panel data of eight heavy-pollution industries in China. Environmental performance and propensity exhibited mutual causality relationship with Tobin's Q value using unit root and co-integration test of panel data. Using panel data analysis, the study took the impacts of environmental performance and propensity disclosure on financial performance from 2008 to 2012. The findings showed that environmental performance has a significantly negative impact on Tobin's Q value at the significance levels of 1%, while environmental propensity has a significantly positive effect on Tobin's Q value at the significance levels of 5%. Firm size, financial leverage and return of assets have significantly positive impacts on financial performance at the significance levels of 1%. Meanwhile the effect of corporate environmental performance and propensity on financial performance has a significantly periodic difference from 2008 to 2012.

3.1 Methodology

This study employed *ex-post facto* research design. The population is one hundred and twelve (112) quoted non financial companies listed on the Nigerian Stock Exchange as at 31st December, 2020. Data was sourced from the annual report and Stock Exchange fact Book for the non financial firms from 2011 to 2020 . Sixty (60) companies with complete availability of data from 2011 – 2020 were selected as the sample size of this study. Multiple panel least regression analysis was employed via E-Views 10 for the analysis.

Table 3.1 Variables Definition and Measurement Units

Variable Type	Proxy	Variable Symbols	Variables Explanation
Independent Variable (Environmental Disclosure)			
	Employee health and Safety Disclosure	EMHSD	Total Employee health and Safety Disclosure Score/Maximum Environmental Disclosure Score Possible for a Firm (Aggarwal, 2013)
	Environmental Remediation Disclosure	ENRD	Total Environmental Remediation Disclosure Score/Maximum Environmental Disclosure Score Possible for a Firm (Yousra, 2018)
	Environmental Waste Management Disclosure	ENWMD	Total Environmental Waste Management Disclosure Score/Maximum Environmental Disclosure Score Possible for a Firm (Cho & Patten, 2017)
Dependent Variable (Shareholders' Value Maximization)			
	Shareholder Value Added	(SVAD)	SVAD = NOPAT - capital charge. Where: SVAD = Shareholder value added, NOPAT = Net operating profit after tax plus interest charge or finance cost, Capital charge = weighted average cost of capital (WACC) multiplied by capital employed. WACC = {Equity/(Equity+Debt)*Equity cost} + {Debt/(Debt + Equity)*Debt cost(1-Tax Rate)}Net income/Shareholder's Equity (Syder, Ogbonna & Akani, 2020). Note that WACC is required in calculating capital charge.

Source: Researchers' Compilations (2021)

3.2. Model Specification

The following research model was formulated in line with the research hypotheses in order to empirically determine the effect of environmental accounting disclosure on shareholders' value maximization.

Functional Form of Model Specification

Y= F(X_1, X_2, X_3,)..(1)

SVAD = F(EMHSD+ENRD + ENWMD)………………………..(2)

Functional Form of Model Specification

$SVAD_{it} = \beta_0 + \beta_1 EMHSD + \beta_2 ENRD_{it} + \beta_3 ENWMD_{it} + \mu_{it}$ ……………………..………(3)

Where;

EMHSD stands for Employee health and Safety Disclosure, ENRD means environmental Remediation Disclosure, and ENWMD means environmental Waste Management Disclosure.

$\mu_{i,t}$= component of unobserved error term of firm *i* in period *t*, β_0= constant term

β_1, β_2 and β_3 = are slopes to be estimated of firm *i* in period *t*., í= firm identifier (60 firms)

t = time variable (2011, 2012, ……2020) – (Ten Years)

Decision Rule: accept Ho if P-value > 5% significant level otherwise reject Ho

4.0. Presentation and Analysis of Data

Table 4.1: Descriptive Statistics Result

	SVAD	EMHSD	ENRD	ENWMD
Mean	1.952867	0.249000	0.093833	0.079483
Median	1.230000	0.060000	0.050000	0.060000
Maximum	6.960000	1.000000	0.790000	0.780000
Minimum	-2.520000	0.000000	0.000000	0.000000
Std. Dev.	1.570646	0.295256	0.131909	0.090850
Skewness	0.889354	0.826469	2.895802	4.198069
Kurtosis	4.144071	2.103469	11.80963	28.58899
Jarque-Bera	111.8174	88.39927	2778.806	18132.29
Probability	0.000000*	0.000000*	0.000000*	0.000000*
Sum	1171.720	149.4000	56.30000	47.69000
Sum Sq. Dev.	1477.689	52.21860	10.42258	4.943940
Observations	600	600	600	600

Source: researcher's summary of descriptive result (2021) using E-view 10

*Note: *1% level of significance, **5% level of significance.*

On average, the environmental disclosure score of all companies that maximized shareholders' wealth is at 1.95%, with a minimum score of -2.520% and a maximum score of 6.96%. It indicates that environmental disclosure among the companies is relatively low. Based on table 1 above, it can be observed that on the average, as indicated by the mean, the shareholders value added for non financial firms in Nigeria is 1.952. The implication is that on the average there is 1.952% value added and wealth maximization in the non financial firms' value maximization in Nigeria. However, throughout the period of 2011 to 2020, the maximum shareholders value added is 6.96% while the minimum shareholders value added stood at -2.520%. The large difference between the maximum shareholders value added and minimum shareholders value added indicates that the value added of the firms differs greatly among the firms selected and over the period under review, this shows that the firms are not homogenous. The standard deviation for shareholders value added was 1.5706 while the median value stood at 1.230.

Table 4.2. Correlation Analysis Result

	SVAD	EMHSD	ENRD	ENWMD
SVAD	1.000000			
EMHSD	0.108199	1.000000		
ENRCD	-0.003645	0.288299	1.000000	
ENWMD	0.082797	0.067863	-0.022597	1.000000

Source: researcher's summary of correlation result (2021) using E-view 10

The above results show that there exists a positive but weak association between shareholders' value added and environmental waste management disclosure and employee health and safety disclosure (SVAD/ENWMD and EMHSD = 0.0827 and 0.108) respectively. There exists a negative and weak association between shareholders' value added and environmental remediation disclosure (SVAD and ENRD = -0.0036). The above results show that there exists a positive but weak association between shareholders' value added and environmental waste management disclosure (SVAD/ENWMD = 0.0827)

Hausman Effect Test

Table 4.3. Hauseman Effect Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.558255	6	0.1445

Source: Researcher's summary of Hausman effect analysis result (2021)

The Hausman test result above shows a chi-square statistics value of 9.558 and probability value of 0.1445 which was greater than 5%, this means that there is heterogeneity in the collection of the firms' data. Since the Chi-square (Prob) value is greater than 5%, hence we accept the random effect and interpret its regression while the fixed effect is rejected. Hausman test shows that the random-effects estimation (REM) method is more appropriate than the fixed effects estimation (REM) method for all non financial firms in Nigeria; hence the results from REM is presented and interpreted. Therefore, the study use the random effect to correct the problem of heterogeneity in the data used for the study; the random effect regression result is presented below.

Table 4.4. Random Effect Regression Result

Cross-section random effects test equation:
Dependent Variable: SVAD

Method: Panel Least Squares
Date: 04/12/21 Time: 00:33
Sample: 2011 2020
Periods included: 10
Cross-sections included: 60
Total panel (balanced) observations: 600

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.699358	0.149378	11.37623	0.0000
EMHSD	0.371215	0.361186	1.027767	0.3045
ENRD	0.466586	0.417982	1.116284	0.2648
ENWMD	1.257719	0.521714	2.410745	0.0163

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.595508	Mean dependent var	1.952867
Adjusted R-squared	0.546272	S.D. dependent var	1.570646
S.E. of regression	1.057977	Akaike info criterion	3.054060
Sum squared resid	597.7141	Schwarz criterion	3.537722
Log likelihood	-850.2180	Hannan-Quinn criter.	3.242340
F-statistic	12.09497	Durbin-Watson stat	1.828500
Prob(F-statistic)	0.000000		

Source: Researcher's summary of regression result (2021)

The analysis above represents the major analysis on this study upon which our conclusion and recommendation was drawn from as it shows the effect of environmental disclosure on the shareholders' value maximization of non financial firms in Nigeria measured using shareholders' value added (SVAD). From the result above, the study observed that the R. squared value was 0.5955 (60%) approximately while R-squared adjusted value was 0.5462 (55%) approximately. The value of R- squared which is the coefficient of determination stood at 60% which implies that 60% of the systematic variations in individual dependent variables were explained in the model while about 40% were unexplained thereby captured .by the stochastic error term. Again, the adjusted R-squared value which stood at 55% approximately indicates that all the independent variables jointly explain about 55% of the system variation in environmental cost disclosure of our sampled non financial firms in Nigeria over the 10years period while about 45% of the total variations were unaccounted for, hence captured by the stochastic error term. The R-squared adjusted value indicates that environmental cost disclosure variables used in this study explained about 55% of the variation in shareholders' value added of non financial firms quoted in Nigeria. This reveals that about 55% of what happens in performance via shareholders value maximization can be attributable to the environmental cost disclosure variables selected for the study while about 45% were unexplained. Moreover, the F-statistics value of 12.094 and its probability value of 0.000 shows that the shareholders' value added model used for the analysis were statistically significant at 1% level. This confirms the appropriateness of our model used for the analysis. Moreover, the Durbin Watson statistic of 1.828 showed that the model is well spread since the value is approximately 2 and that there have not been self or auto correlation problem and that error are independent of each other. Again, Durbin-Watson Value of 1.828 buttressed the fact that the model does not contain auto-correlation, thereby, making the regression fit for prediction purposes. This means that the regression model is valid and can be used for statistical inference.

4.2 Discussion of Result

H_{01}: Employee health and safety disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

The regression result in table 4.3.2 above showed that employee health and safety disclosure have a positive effect on shareholders' value maximization having recorded a positive coefficient value of 0.3712 and p-value of 0.3045 (β_4= 0.3712, p = 0.3045 $\geq \alpha$ = 0.05). The coefficient value β_4 was positive showing that employee health and safety disclosure has a direct effect with shareholders' value maximization of listed non-financial firms in Nigeria. By implication, this means that when information about employee health and safety is fully disclosed, it increases the value of shareholders' wealth. The model infers that 1% increase in employee health and safety disclosure will exert 37.1% increase on shareholders' wealth maximization of listed non financial firms in Nigeria. By implication, this suggests that additional effort geared towards disclosing employee health and safety will lead to a more shareholders' value maximization.

Ho_2: Environmental remediation disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

Based on the regression result on table 4.3.2 above, it was discovered that environmental remediation disclosure has a positive and statistically insignificant effect on shareholders' value maximization having recorded a positive coefficient value of 0.4665 and probability value of 0.2648 (β_5= 0.4665, p = 0.2648 $\geq \alpha$ = 0.05). This means that environmental remediation disclosure was positively and directly related to shareholders' value maximization of listed non financial firms in Nigeria. By implication, this suggests that a percentage increase in environmental remediation disclosure maximizes shareholders wealth by 46.7% approximately. This implies that when firms engage in paying environmental remediation to avert crises, it will boost their performance thereby maximizing the shareholders wealth creation.

Ho3: Environmental waste management disclosure has no significant effect on shareholders' value maximization of quoted non financial firms in Nigeria.

From the regression result in table 4.3.2 above, it was discovered that environmental waste management disclosure have a positive and significant effect on shareholders' value maximization having recorded a positive coefficient value of 1.2577 and p-value of 0.0163 (β_6= 1.2577, p = 0.0163 < α = 0.05). The coefficient value (β_6) was positive showing that environmental waste management disclosure has a positive effect on shareholders' value maximization of listed non-financial firms in Nigeria. This means that a percentage increase in environmental waste and management disclosure will lead to a percentage increase in the shareholders' value maximization.

5.0. Findings, conclusions and recommendations

5.1. Summary of findings

Based on the analysis of this study, the following findings were made:

I. Employee health and safety disclosure has positive but insignificant effect on shareholders' value maximization of selected non financial firms in Nigeria.
II. Environmental remediation disclosure has positive but insignificant effect on shareholders' value maximization policy of selected non financial firms in Nigeria.
III. Environmental waste and management disclosure was found to have positive and significant effect on shareholders' value maximization of selected non financial firms in Nigeria which was statistically significant at 5% level of significance.

5.2. Conclusion

The motive of this study is to ascertain the effect of environmental disclosure on shareholders' value maximization of listed non financial firms in Nigeria. Based on the analysis and findings generated, the study concludes that environmental disclosures have significant influence on shareholders' value maximization.

5.3. Recommendations

Based on the findings of this study, it was recommended that

i. Managers of non financial firms should ensure that all the strict policies as regards employees' health and safety disclosure are adhered to in the course of their operation, in a bid to adding value to the organization and to the shareholders at large even though it was found to have insignificant effect to their shareholders' value maximization.
ii. Since environmental remediation disclosure is value relevant in maximizing shareholders wealth and in making strategic business decision, it was recommended that firms should constantly reposition their accounting system in order to provide information on environmental remediation disclosure so that the true costs in an organization can be ascertained and properly allocated to add value.
iii. Due attention should be paid to waste management disclosure by non financial firms in Nigeria since such costs influence strategic decision such as shareholders' value maximization even though it was found to have insignificant effect to their shareholders' value maximization.

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