



ENVIRONMENTAL INFORMATION DISCLOSURE AND FIRM VALUE OF LISTED MANUFACTURING COMPANIES IN NIGERIA

M.L. SUBAIR¹, N.O. SALAU², O.A., OYENIYI³, B.B., ANIFOWOSE⁴

^{1&3} Department of Accounting, University of Ilorin, Ilorin, Kwara State.

² Department of Accountancy, Federal Polytechnic, Bida, Niger State.

⁴ Accountancy Department, Kwara State Polytechnic, Ilorin.

¹eleyledgovernor@gmail.com,

²salaunasir@gmail.com,

³oyeniyigboyega@yahoo.ca,

⁴econsultant120@gmail.com

Abstract

In recent times, firms' neglect of their environmental and social responsibilities has become a matter of concern. Their activities are often aimed at making profit in line with the identified problem. The study examined environmental information disclosure and firm value of listed manufacturing companies in the Nigerian Stock Exchange Group (NSE). From a population of 56 listed manufacturing firms, a sample size of forty-eight (48) manufacturing firms was determined based on companies with complete information for all six (6) financial years studied. Random sampling technique was used to select amongst the secondary data which was sourced for from the audited annual financial reports of the sampled companies for the period of 2014 to 2019. The result of the study revealed that disclosures of emission and waste disclosure exhibit positive and significant impact on firm value; disclosures of biodiversity exhibits inverse and significant impact on firm value; and disclosures of compliance to environmental laws exhibits inverse significant impact on firm value at 5% error term. Based on the result, the study concludes that compliance with environmental laws and emissions disclosures.

INTRODUCTION

Global economic development is at stake as most operating firms neglect both environmental and social responsibilities to their host community. This is a great concern to most stakeholders who have sole interest in their firm's operating output. This is even visible in their financial report statement as there is little or no disclosure on environmental information as this has effect on the firm's value in the long run. However, firm value usually measures market value of the entire organisation. It is the overall interest of all the shareholders of the organisation. The market value, profitability and growth prospect of the organisation implies the determinants of the organisational performance. Thus, the



organisation is supposed to give back to the community in which it operates by providing it with basic infrastructure.

The effects of the provision of infrastructure together with the effects of their activities on the environment can positively or/and negatively influence the environment which in turn serves as a performance indicator when such information relating to environment is disclosed in the organisation's annual reports (Oyedokun, Egberioyinemi, & Tonademukaila, 2019). On the other hand, when organisations give back to the community in which they operate in form of provision of infrastructure, it helps to promote the organisation's reputation, corporate image and helps to gain competitive advantage, which in turn enhances their value (Oti & Mbu-Ogar, 2018). Therefore, since the value of the organisation can be influenced by disclosing environmental information, its increase in company's disclosures happens to have a remarkable effect on the host environment. Indeed, the lack of proper disclosure of environmental activities by operating firms reduces the level of confidentiality of stakeholders on the reported statement. As a result of this, the study aimed at examining the significance of environmental information disclosure and its credibility on the stakeholders' reliance on the performance of manufacturing companies in Nigeria.

Prior studies on environmental disclosure have been mixed with some studies reporting a positive impact (Ahmed, Zakaree, & Kolawale, 2016; Oti & Mbu-Ogar, 2018; Tsoutsoura, 2004) and others with negative impact on firm value (Oraka & Egbumike, 2016). Drawing from these inconsistencies in findings, the need for further investigation on the impact of environmental information disclosure on firm value is encouraged by breaking down the non-financial indicator of environmental information, as prior studies only combined the indicators.

To rely on financial indicator alone as a basis for evaluating organisational performance is in itself limiting. This also goes to imply that combining the elements of non-financial indicators to evaluate organisational value may not ultimately help in evaluation purposes. Thus, this study measured environmental information disclosure from the aspect of financial and elements of non-financial indicators using the Global Reporting Initiative (GRI) guidelines to know the indicator that mostly impacts firm value among manufacturing companies.



LITERATURE REVIEW

Firm Value

Firm value refers to a company's assets, the net worth of the company's shareholders (Oyedokun et al., 2019). Mohammed (2017) also defined firm value as an investor's assessment of a company's success in relation to its stock price. Firm value, according to Pandey (2015), is how successfully a company uses its resources to generate profit using profitability measures. A firm's value, according to Daeli and Endri (2018), is the present value of a sequence of inflows of cash-flows that the company will generate in the future. Firm value, according to Nuguyen and Bui (2018), is an economic statistic that indicates an organization's market value. As a result, the firm's value might be maximized. Consequently, firm value could be optimized by maximizing revenue and expanding assets of the shareholders through setting a long term target (Sartono, 2010).

According to Nuguyen and Bui (2018), the value of a company may be determined by observing the volatility of share prices on the stock exchange market: a gain in share price will automatically raise the company's worth. When a company's worth is high, it means the company is prosperous and the wealth of the company's owners is put to good use. Similarly, the value of a company reflects the level of wealth enjoyed by its owners and investors. The management of an organization, as the agent of the shareholders, is tasked with ideally enhancing the firm's value, which is the primary purpose of any business (Oyedokun et al., 2019).

Effluents and Waste Management Disclosures

Effluents and waste management are part of the expected information to be disclosed in the annual financial statement of an entity. The stakeholder's rely heavily on information reported for both financial and non-financial aspect. Although, financial indicators refer to various monetary aspects that give the direction and output of firm performance while non-financial indicators are those indicators that reveal or expose the organisation about the information regarding the environmental objectives, management's policies and other information that help to know environmental performance of the organisation are non-financial in nature. These include effluents and waste management, material recycling and conservation of resources (Biodiversity), compliance with environmental laws and emissions and so on. According to Julansa et al. (2020), waste is the outcome of an activity that is capable of polluting the environment and as such pose a threat to the life of humans and other creatures living in that environment. Hsu (2017) reported that non-financial information relates to environmental objectives and management policy. Bai and Sutanto (2002) classified waste into three categories: first, household waste which is the waste the inhabitants of a community generate in their daily activities; second, industrial waste which



is the waste companies generate from their industrial activities; and third, institutional waste generated by government institutions and other social institutions from their operations. The focus here is on industrial waste which forms part of non-financial indicators. According to Julansa et al. (2020), industrial waste is noxious waste because of the content of toxic and hazardous material. Zainu and Songip (2017), opined that a rise in the production of waste due to continuous industrial activities will result in adverse effect on biodiversity of the environment. According to Huang and Chen (2015), industrial waste is classified into three, which are solid waste, liquid waste (Effluent) as well as gas emission. This is reported through environmental guidelines and disclosure standards.

Material recycling and conservation of resources (Biodiversity) disclosures

Biodiversity encompasses location and size of land owned or leased, protected location of biodiversity, value protected areas, evaluation of remarkable impacts of activities, products as well as services, volume of habitat protected and rescued, extant and future actions on the management of impacts on biodiversity as well as extinction risks. According to Brat and Patha(2020), consistent rise in population growth, increased economy coupled with climate change are factors contributing to the spoilage of natural resources, hence threatening the biodiversity and by extension the whole ecosystem. Biodiversity is the major basis for human existence as well as economic development. This is because of its vital role in ensuring proper functioning of the ecosystem by providing many services like nutrients, soil formation, water recycling, pollination of plants among others (Brat &Patha, 2020).

Compliance with environmental laws and emissions disclosures

Compliance involves the total number of non-monetary sanctions for flouting environmental laws and regulations (Solomon, 2020). Emission is evaluated on the basis of total direct and indirect greenhouse gas emission by weight, policies aimed at reducing greenhouse gas emission and the level of achievements recorded, emissions of ozone layer depletion and other remarkable air emissions by type and weight, total weight of waste by type as well as methods of waste disposal and total amount of remarkable spills. According to Karambu and Joseph (2016), weight transported over a long or short distance. Treated waste is also regarded as toxic as such the organisation's operation affects the percentage of transported waste imported, size and identity, value of biodiversity of water bodies and associated habitat. Also, product and services involve policies to reduce environmental impacts of goods and services and the degree of impact reduction as well as product sold.



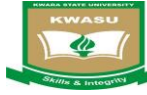
Theoretical Framework

This study is anchored on the Stakeholders theory. This theory was propounded by Freeman (1984) and states that attention should be on all the stakeholders of an organisation instead of focusing on only shareholders for the organisation's survival and growth. Freeman (1984) defined stakeholder as a group of people who can affect or be affected with a firm's decision. According to Bassey, E., Sunday, O., & Okon, E. (2013), stakeholders theory assures that an organisation's success is dependent on the successful conduct of all the relationships it has with all its stakeholders. This theory is relevant in this study as it places emphasis on the role of stakeholders in the pursuit of the organisation's objectives. Also, this theory helps to analyse the identification of those interest groups in the society which the organisation is accountable to and which is deemed necessary that the organisation should disclose information adequately (Woodward, Edwards, & Birkin, 1996). Finally, stakeholder's theory has heightened the focus on the importance of the relationship between a business organisation and its stakeholders.

Empirical Review

Zarzycka and Krasodomska (2021) investigated what determines the differences in the quality and quantity of the disclosures on non-financial performance indicators in Poland. Secondary data was sourced from the annual reports of the sampled companies and was analysed with the use of ANOVA with the aid of GRI guidelines. The findings showed that 53% of the companies present non-financial information with the use of GRI guidelines while 27% use the local Polish standard, NFIS. However, almost 64% of the companies apply their own reporting frameworks in addition to GRI Standards or NFIS or instead of them. The study therefore recommends that stakeholders determine the differences in the reporting practices of the companies. Given the importance of stakeholder engagement, not only investors but also other stakeholder groups must be involved in the EU consultation on KPIs standardization and disclosures to ensure their relevance and usefulness. Indeed, the study focuses only on financial indicators reporting and not environmental aspect.

Akinlo and Iredele (2014) examined the impact of environmental information disclosure on market value of quoted companies in Nigeria. The study consisted of corporate environmental disclosure {CED} proxy by energy policy {ENP}, biodiversity {BIO}, award received for installation of environmental management system {AWR}, environmental research and development cost {ERD}, environmental pollution and control policy {EPC}, waste management cost {WSM}, and cost compliance with environmental laws {CEL} (independent variable), market value proxy by Tobin's Q (dependent variable) and firm size (extraneous or control variable). The study covered a period of nine years (9)



ranging from 2003 -2011 using a sample of fifty quoted companies. OLS was used as the econometric tool for the analysis. The findings showed that CED in aggregate positively and significantly impact on market value. Considering the impact of individual variable of environmental information disclosure, ENP, BIO, AWR exert an insignificant positive impact on market value while ERD exerted neutral relationship. On the other hand, EPC, WSM and CEL have negative impact on market value. The study recommended that caution should be taken by organisations in the area where environmental activities has negative impact on firm value and invest in the aspects that can improve the value of the organisation.

Musa, Peter, and Bukar (2015) investigated environmental accounting disclosures practices of Nigerian listed firms. The broad objective of the study was to conduct a comparative study among the companies to know how environmental accounting disclosures varies from one company to another as there is no mandatory disclosure guidelines. The study consisted of a sample of 8 out of 19 consumers' goods companies listed in the Nigerian Stock Exchange (NSE). Secondary data was used to obtain information from the companies' annual reports through content analysis covering a period just one year (2013) {cross sectional study}. The analysis was done using one-way analysis of variance. The findings showed that accounting standards do not significantly impact on environmental accounting disclosures and as such the lack of existence of the standards results in lack of uniformity in disclosure. The study recommended that companies should disclose all information about their operation going by the pressure they are subjected to. Also, the international accounting standards setting bodies should come up with a uniform standard on the format to disclose environmental accounting information. More also, the study examined a short period while this study examined a long period covering a period between year 2014-2019. The period covered an extension from where it stopped.

Oyedokun et al. (2019) investigated the effect of environmental accounting disclosure on firm value of industrial goods companies listed in NSE. The study used a sample of fifteen companies gotten by census sampling technique. The study covered a period of ten (10) years (2007-2016). *Ex-post facto* research design was employed and the data were secondary data sourced from annual reports and accounts of the listed companies. The multiple regression technique was used to analyse data of the study. The findings revealed that non-financial indicators exert a positive and significant effect on firm value of industrial goods companies in Nigeria while financial indicators have no significant effect on firm value of industrial goods companies in Nigeria and performance indicators exert a negative but significant effect on firm value of industrial goods companies in Nigeria. The study recommended that sanctions should be put in place for the encouragement of



disclosures particularly non-financial indicators because of its direct impact on the value of the industrial goods companies in Nigeria.

METHODOLOGY

The study adopted the panel research design. Both statistical and econometric analyses were used to achieve the set objectives and test the hypotheses for the study. Out of fifty six (56) listed manufacturing firms. The study sampled forty-eight (48) manufacturing firm listed on the Nigeria Stock Exchange from the period of 2014 to 2019 (6 years). The justification for this period is to capture current trend in the manufacturing firms and to have robust data for valid generalization, so the need to examine the trend up from 2014 till the latest period for the availability of data becomes necessary. The statistical analyses consist of descriptive analysis and correlation analysis. The econometric techniques used to analyse the data for this study was the Panel Least Square (OLS) regression technique. The rationale for using the panel least squares is because our data include properties of time-series and cross-sectional data (Studenmund, 2014).

Model Specification

This study adapts the model of Hsu (2017) in explaining the effect of corporate environmental information disclosure on firm’s value. The model is stated below:

In functional form

$$FP = f(\text{Environmental Information Disclosure} \dots \dots \dots (1)$$

In econometric form:

$$ROE = \alpha_0 + \alpha_1 EFD + \alpha_2 Lnsize + \alpha_3 Lev + \alpha_4 Growth + \varepsilon \dots \dots \dots (2)$$

$$ROE = \alpha_0 + \alpha_1 ENFD + \alpha_2 Lnsize + \alpha_3 Lev + \alpha_4 Growth + \varepsilon \dots \dots \dots (3)$$

- Where ROE = Net profit after tax/ Shareholder’s equity.
- EFD = A score of total environmental financial disclosure.
- END= A score of total environmental non- financial disclosure.
- Lnsize = Natural log of total assets
- Lev = Total liabilities / total assets

- β_0 = Constant Interest
- $\beta_1 - B_3$ = Coefficients of the parameters

Based on the above, the model for this study is presented below; this study employs return on asset (ROA) as dependent variable, with a control variable of firm size added:

In functional form:

$$\text{Firm Value} = f(\text{Corporate Environmental Information Disclosure}) \dots \dots \dots (3)$$

In econometric form:

$$ROA_{it} = \beta_0 + \beta_1 FIE_{it} + \beta_2 EWD_{it} + \beta_3 MBD_{it} + \beta_4 CED_{it} + \beta_5 FSZ_{it} + \varepsilon_i \dots \dots \dots (4)$$

Where;



ROA = Return on Asset (proxy for Firm Value)

FIE = Financial indicators of environmental information disclosure

EWD = Effluents and waste management disclosures

MBD = Material recycling and conservation of resources (Biodiversity) disclosures

CED = Compliance with environmental laws and emissions disclosures

FSZ = Firm size

i = Company

t = Time

β_0 = Constant Interest

$\beta_1 - \beta_3$ = Coefficients of the parameters

A priori expectations in extant literature was $\beta_1, \beta_2, \beta_3, > 0$

Operationalisation of Variables

Development of Disclosure Index (DI)

In developing the index for financial indicators of environmental information disclosure and non-financial indicators of environmental information disclosure, the study employs the content analysis technique in selecting the item from the checklist of the variables. If the sampled companies fully disclose the items in the checklist, they are awarded 1 while 0 for partial and none

Table 1. Measures of variables

S/N	Variable name	Proxy	Variable Type	Measurement	Source
1.	Firm Value	ROA	Dependent	Return on Asset: Profit after tax divided by total assets	Omaliko, Nwadiolor, and Nweze (2020)
3.	Effluents and waste management disclosures	EWD	Independent	EWD adopted from GRI-G4 guidelines	Julansa et al. (2020)
4.	Material recycling and conservation of resources (Biodiversity) disclosures	MBD	Independent	MBD adopted from GRI-G4 guidelines	Julansa et al. (2020)
5.	Compliance with environmental laws and emissions disclosures has no	CED	Independent	CED adopted from GRI-G4 guidelines	Julansa et al. (2020)



	significant impact on firm value.				
6.	Firm Size	FSZ	Control	The natural logarithm of company's asset	Akinlo and Iredele (2014)

Source: Researcher's Compilation (2022)

RESULTS AND DISCUSSIONS

Descriptive Statistics

The table 4.1 below presents the statistical analysis of the data collected for the study:

Table 2: Descriptive Statistics

	ROA	EWD	MBD	CED	FS
Mean	0.025	0.361	0.348	0.301	92400120
Max	3.012	0.850	0.862	0.733	1741351000
Min	-2.360	0.000	0.000	0.000	57287.00
Std.	0.294	0.209	0.241	0.200	231454620.5
JB	37555.17	22.949	21.928	29.119	11405.81
Prob.	0.000	0.000	0.000	0.000	0.000
Obs.	288	288	288	288	288

Source: Researcher's Compilation (2022)

Table 2 shows the descriptive statistics for the variables. As observed, ROA reveals the following statistics; Mean= 0.025 which suggests that the average return on asset for the entire sampled firm is 2.5%, Standard deviation = 0.294 which is low and it suggests that ROA for the sampled firms exhibits considerable clustering around the average, Max= 3.012 and Min= -2.360. The maximum value indicates that the highest return on assets is 3.012 while the minimum value indicates that some companies had a negative return on assets. EWD show the following statistics; Mean= 0.361 which suggests that the average score on effluent and waste for the entire sampled companies using the GRI index is 36.1%, STD= 0.209 which is low and it suggests that EWD for the sampled firms exhibits considerable clustering around the average, Max= 0.850 and Min= 0.000. The maximum value indicates that the highest disclosure on effluent and waste is 85% while the minimum value of 0.000 indicates that some companies did not make disclosure on effluent and waste.

MBD show the following statistics; Mean= 0.348 which suggests that the average score on biodiversity disclosure for the entire sampled companies using the GRI index is 34.8%, STD= 0.241 which is low and it suggests that MBD for the sampled firms exhibits



considerable clustering around the average, Max= 0.862 and Min= 0.000. The maximum value indicates that the highest disclosure on biodiversity is 86.2% while the minimum value of 0.000 indicates that some companies did not make disclosure on biodiversity.

CED shows the following statistics; Mean= 0.301 which suggests that the average score on disclosure on compliance to environmental laws for the entire sampled companies using the GRI index is 30.1%, STD= 0.200 which is low and it suggests that CED for the sampled firms exhibits considerable clustering around the average, Max= 0.733 and Min= 0.000. The maximum value indicates that the highest disclosure on compliance to environmental laws is 73.3% while the minimum value of 0.000 indicates that some companies did not make disclosure on compliance to environmental laws. On control variable, FS show the following statistics; Mean= 92400120 which suggests that the average total assets the entire sampled companies is N92,400,120,000 STD= 231454620.5 which is high and it suggests that FS for the sampled firms exhibits considerable level of dispersion from the average, Max= 1741351000 and Min= 57287.00. The maximum value indicates that the highest amount expended on total assets is N1,741,351,000, 000 while the minimum value indicates the lowest amount expended on total assets is N 57,287,000. The JB probability values for all the variables are significant ($p < 0.05$) at 5% and this indicates the unlikely presence of outliers in the distribution.

Table 3 Pearson Correlation Result

	ROA	EWD	MBD	CED	FS
ROA	1				
EWD	0.045 (0.443)	1			
MBD	0.003 (0.955)	0.043 (0.472)	1		
CED	-0.184* (0.001)	-0.046 (0.435)	-0.021 (0.734)	1	
FS	0.250* (0.000)	-0.182* (0.002)	0.060 (0.313)	0.092 (0.117)	1

Source: Researcher’s Compilation (2022)

From table 3 above, the correlation coefficients of the variables are examined. However, of particular interest to the study are the correlation between ROA and the explanatory variables (EWD, MBD, CED, and FS). As observed, MBD ($r=0.003$) and FS ($r=0.250$) while inversely correlated with CED ($r=0.184$). The positive correlation suggests that an increase in environmental information disclosure variables will lead to an increase in firm



value of the sampled companies while inverse relationship suggests that an increase in environmental information disclosure will lead to a decrease in firm value of the sampled firm. With exception to EWD and MBD, other explanatory variable exhibits significant relationship with the explained variable (ROA) at 5% error term.

Table 4: Panel Regression Result

Variable	Fixed effects	Random effects	Pooled OLS
Dependent variable: ROA			
C	-1.384 (0.111)	-0.519 (0.222)	-0.519* (0.003)
EWD	0.086 (0.482)	0.121* (0.010)	0.121 (0.134)
MBD	-0.024 (0.908)	-0.028 (0.677)	-0.028 (0.683)
CED	-0.320* (0.006)	-0.306* (0.000)	-0.306* (0.000)
FS	0.090 (0.085)	0.036 (0.159)	0.036 (0.002)
R²	0.211	0.114	0.114
ADJ R²	0.032	0.099	0.098
F-Stat	1.181	7.289	7.289
P(f-stat)	0.202	0.000	0.000
D.W	1.95	1.76	1.76
Haus. prob. 0.925			

Source: Researcher’s Compilation (2022)

Table 4 shows the regression result using both the fixed and random effect estimation model. In line with the Hausman probability value of 0.925, the random effects result is more reliable and actually performs better than the fixed effects. Implication is that the unobserved attributes in each cross section that interact with the error term is not significant to undermine the estimation result. Using the random effect, we observe that the R² is 0.114 which suggests environmental information disclosure variables explain about 11.4% of systematic variations in firm value. The F-stat (7.289) and p-value (0.00) indicates that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected at 5% level while the D.W statistics of 1.76 indicates that the presence of serial correlation in the residuals is unlikely. Commenting on the performance of the environmental information disclosure variables, we observe that CSR appears to have a positive impact (0.005) on firm value, although statistically insignificant (p=0.619)



at 5% level. EWD appeared to have a positive impact (0.121) on firm value and it is statistically significant at 5% ($p=0.010$). MBD appeared to have a negative impact (-0.028) on firm value though not statistically significant at 5% ($p=0.677$). CED have a negative impact (-0.306) on firm value and it is statistically significant at 5% ($p=0.000$). FS appeared positive impact (0.036) on firm value though not also statistically significant at 5% ($p=0.159$).

Discussion of findings

The result as reported in table 4.1 shows that EWD appeared to have a positive impact (0.121) on firm value and it is statistically significant at 5% ($p=0.010$). The finding is in tandem with the study of Bewly and Li (2000) who investigated environmental disclosure of Canadian manufacturing firms using voluntary disclosure theory to drive the study. They found that companies with higher propensity of pollution as well as higher media coverage of their environmental performance seem to report general environmental information more and this could suggest high firm value due to such disclosure. According to Julansa et al. (2020), waste is the outcome of an activity that is capable of polluting the environment and as such pose a threat to the life of human and other creatures living in that environment. Industrial waste is noxious waste because of the content of toxic and hazardous material and which Zainu and Songip (2017) confirm that rise in the production of waste due to continuous industrial activities will result in adverse effect on biodiversity of the environment. Therefore, when companies disclosed these in their annual report, it portrays that they are environmental friendly and this could positive affect their value.

The result show that MBD appeared to have a negative impact (-0.028) on firm value though not statistically significant at 5% ($p=0.677$). The finding is in tandem with the study of Akinlo and Iredele (2014) who examined the impact of environmental information disclosure on market value of quoted companies in Nigeria and found that biodiversity exhibits insignificant impact on firm value. Biodiversity encompasses location and size of land owned or leased, protected location of biodiversity value protected areas evaluation of remarkable impacts of activities, products as well as services, volume of habitat protected and rescued, extant and future actions on the management of impacts on biodiversity as well as extinction risks. Biodiversity is the major basis for human existence as well as economic development. This is because of its vital role in ensuring proper functioning of the ecosystem by providing many services like nutrients, soil formation, water recycling, pollination of plants among others (Brat & Patha, 2020). According to Brat and Patha(2020), consistent rise in population growth, increased economic activities coupled with climate change are factors contributing to the spoilage of natural resources, hence threatening the biodiversity and by extension the whole ecosystem.



The result show CED have a negative impact (-0.306) on firm value and it is statistically significant at 5% ($p=0.000$). The finding is in tandem with the study of Akinlo and Iredele (2014) who examined the impact of environmental information disclosure on market value of quoted companies in Nigeria and found compliance with environmental laws exhibits negative impact on market value. Failure to comply with the disclosure of environmental laws attracts sanctions. When companies flout environmental laws, they portray themselves as unfriendly to the environment and this adversely affects their value.

CONCLUSION AND RECOMMENDATION

The study investigated the impact on firm value of listed manufacturing companies in the Nigerian Stock Exchange. As competition escalates the world over, managers compete to control a large market share as this encompasses the economic model of reviewing the worth of an organisation which could be known by interpreting the information shown in its annual reports. The study concludes that although the selected environmental disclosure information affects firm value, other non-environmental variables such as the inclination of management Echelons (managers), the overall firm level governance and firm attributes could account for changes in firm value. The study recommends that disclosure of emission and waste should be stringently complied with because of the adverse effect such has on the ecosystem. The biodiversity disclosure should be encouraged as it is a major basis for human existence as well as economic development and compliance to environmental laws should be stringently enforced as this will go a long way to reduce the adverse effect environmental activities have on the ecosystem.

REFERENCES

- Ahmed, M. A., Zakacee, S., & Kolawale, O. O. (2016). Corporate social responsibility disclosure and financial performance of listed manufacturing firms in Nigeria. *Research Journal of Finance and Accounting*, 7(4), 47-58.
- Akinlo, O. O., & Iredele, O. O. (2014). Corporate environmental disclosures and market value of quoted companies in Nigeria. *The Business & Management Review*, 5(3), 1-12.
- Bai, R., & Sutanto, M. (2002). The practice and challenges of solid waste management in Singapore. *Journal of Environmental Protection*, 22(5), 557-567.
- Bassey, E., Sunday, O., & Okon, 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), 1-10.



- Bewly, K., & Li, Y. (2000). Disclosure of environmental information by Canadian manufacturing companies: A voluntary disclosure perspective. *Advances in Environmental Accounting and Management*, 1(1), 201-226.
- Boyd, J. (1998). The benefits of improved environmental accounting: An economic framework to identify priorities resources for the future. Washington, DC.
- Brat, D., & Patha, I. R. (2020). Impact of pollution on biodiversity: A review. *Iconic Research and Engineering Journals*, 4(2), 11-15.
- Daeli, C., & Endri. (2018). Determinants of firm value: A case study of cigarette companies listed on the Indonesia Stock Exchange. *International Journal of Managerial Studies and Research (IJMSR)*, 6(8), 51-59.
- Freeman, R. A. (1984). *Strategic management: A stakeholder approach*. Pitman publishing Inc., Boston MA, USA.
- Hsu, H. (2017). Environmental information disclosure and firm performance. *Advances in Economics, Business and Management Research (AEBMR)*, 26, 484-487.
- Huang, R., & Chen, D. (2015). Does environmental information disclosure benefit waste discharge reduction? Evidence from China. *Journal of Business Ethics*, 129(3), 535-552.
- Karambu, K. G., & Joseph, M. W. (2016). Effect of corporate environmental disclosure on financial performance of firms listed at Nairobi securities exchange, Kenya. *International Journal of Sustainability Management and Information Technologies*, 2(1), 1-6.
- Musa, S. J., Peter, T. & Bukar, M. (2015). Environmental accounting disclosure practice of Nigerian quoted firms: A Case Study of some selected quoted consumer goods companies. *Research Journal of Finance and Accounting*.
- Nguyen, T. L. H., & Bui, T. M. (2018). Determinants of firm value in Vietnam: a research framework. *International Journal of Science and Research*, 9(1), 626-631.
- Oti, P. A., & Mbu-Ogar, G. B. (2018). Analysis of environmental performance of selected quoted oil and gas companies in Nigeria. *Journal of Accounting and Financial Management* 4(2), 1-12.
- Oyedokun, G. E., Egberioyinemi, E., & Tonademukaila, A. (2019). Environmental accounting disclosure and firm Value of industrial goods companies in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 10(1), 7-17.
- Pandey, I. M. (2015). Capital structure and the firm characteristics: Evidence from an emerging market, IIMA Working Paper No.-10-04.
- Sartono, A. (2010). Financial management of theory and application (ManajemenKeuanganTeoridanAplikasi) (4 th ed.). Yogyakarta: BPFE



- Solomon, P. J. (2020). Environmental disclosure and financial performance of listed oil and gas companies in Nigeria: A review of literature. *Journal of Business and Management*, 22(9), 58-66.
- Studenmund, A.H. (2014). *Using econometrics: A practical guide* (6th ed.). Harlow, England: Pearson Education Limited
- Tsoutsoura, M. (2004). Corporate social responsibility and financial performance. Applied Financial Project Haas School of Business, University of California, Berkely.
- Woodward, D. G., Edwards, P., & Birkin, F. (1996). Organizational legitimacy and stakeholder information provision. *British Journal of Management*, 7(4), 329-347.
- Zainu, Z., & Songip, A. (2017). Policies, challenges and strategies for Municipal waste management in Malaysia. *Journal of Science, Technology and Innovation*, 3(1), 18–22.
- Zarzycka, E., & Krasodomska, J. (2021). Non-financial key performance indicators: what determines the differences in the quality and quantity of the disclosures? *Journal of Applied Accounting Research*, ahead-of-print (ahead-of-print), <https://doi.org/10.1108/JAAR-02-2021-0036>