Web Based Environmental Disclosure and Financial Performance of Quoted Firms in Nigeria

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ABSTRACT

This study was carried out to examine the relationship between web based environmental disclosure and financial performance of quoted firms in Nigeria. In order to determine the relationship between web based environmental disclosure (WED) and financial performance, web based environmental disclosure was proxy using Kinder Lydenberg Domini (KLD) social-environmental performance rating system while financial performance on the hand was proxy using net assets per share (NAPS). The study adopted Ex Post Facto Design and data were collected from the annual reports and accounts of consumer goods firms in Nigeria spanning from 2016-2021. The study employed OLS regression model as a statistical test tool. The findings of the study indicate that web based environmental disclosure (WED) has significant and positive relationship with financial performance (NAPS) of quoted firms in Nigeria at 1% significant level. Thus, the study concludes that web based environmental disclosure ensures firms performance in Nigeria. Hence, the study recommended that the management of environmentally-sensitive firms in Nigeria should sustain and enhance environmental sustainability reporting since it has positive and significant relationship with financial performance.

Keyword: *Environmental Disclosure, Financial Performance, Net Assets Per Share.*

1.0 Introduction

Environmental pollution is one of the problems facing the world today, due to its impact on society, nature and performance (Khan & Ghouri, 2011). The phenomenon of environmental pollution has received increasing attention in recent times, especially in light of the industrial progress in the contemporary world and the diversity of sources of pollution, and the attempt of industrial companies to get rid of its waste is harmful to the environment and people (Chinwe, 2013). According to Malik & Mittal (2015), environmental accounting is important for developing economies, this is because green accounting helps in saving environmental and development problems. Environmental accounting will help countries in addressing the economic problems associated with climate change. As cited in the study of Almaliki (2020), the world losses a significant amount of money due to environmental changes. Green accounting would help in solving environmental changes leading to improved performance for companies and firms operating in developing countries. Firms that have adopted green accounting have led to reduced operational costs during environmental changes.

Environmental and social responsibility (ESR) has become a global issue today and has been adopted by companies to help them face pressure from stakeholders and increase their competitive advantage and superior performance (Jenkins 2009, Torugsa, O"Donohue & Hecker, 2012). Several studies have shown different findings in analysing the relationship between ESR and firm performance. Maximization of environmental and social responsibility cannot be overemphasized in the operations of corporate organizations. Business exists within an environment in which they operate, therefore business organizations need to give back positively to the environment in order to participate in development of such society. Thus, environmental and social responsibility is the way business organization gives back to society where they are operating (Olowolaju & Adelola, 2020). The discourse of environmental and social responsibility (ESR) has presumed great importance globally and Nigeria with no exception. Support has increased in the mass media for corporate organization to take a greater responsibility for the development of society by adopting best practices in the CSR initiative.

Many corporations in developing countries are becoming conscious of their international market and are creating appreciable effort on non-financial disclosures especially as regards to environmental practices. The result of sampled industries in Nigeria shows that few companies are becoming social responsible and environmental friendly (Omaliko, Nweze & Nwadialor, 2020). However a large number of firms are still apathetic about their environmental and social responsibility as they are unaware of the connection between web based environmental disclosures and financial performance. Based on this observation, this study considered it imperative to examine the relationship between web based environmental disclosures and financial performance of firms.

Also, studies that have explored on the subject of environmental disclosures and financial performance in Nigeria are not only seen to be very limited but more importantly, those studies centered on traditional measures of performance such as return on equity, return on asset, earnings per share etc, with none to the best of the researcher's knowledge on market (value-based) measures of performance, as the traditional measures of performance do not take account for risk-return. Thus, inclusion of net assets per share (NAPS) as a market based measure for firm's performance becomes a necessity

Thus, this study seeks to examine the relationship which exists between web based environmental disclosures and financial performance of quoted firms in Nigeria using consumer goods firms as a reference point.

To achieve this purpose, the following hypotheses were formulated:

H_{01}: Web Based Environmental Disclosure has no significant relationship with Financial Performance of Quoted Firms in Nigeria

2.0 Review of Related Literature

2.1.1 Web Based Environmental Disclosure

Web based environmental 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 Jayanti and Gowda (2014), environmental sustainability refers to the practices engaged by firms to achieve financial performance without compromising their capacity for long term growth considering the internal and external resources. These practices are conceived within the context of operational efficiency, responsiveness to the demands of stakeholders and in the context of exploiting and improving existing sustainable competencies. Basically, the environmental sustainability relates to reduction of the impact of an organization's operation on the natural system (both living and non-living) and the ecosystems (land, air and water). This environmental input indicator relates to items such as material, energy and water while the environmental output includes emissions, effluents and waste.

According to Almaliki (2020), it's a disclosure on how the environment affects the financial accounting system in terms of costs and benefits, that is, it is an approach to measure and communicate information related to environmental activities of economic units with environmental impact to the parties concerned and society in a manner that enables control and evaluation of their environmental performance.

2.1.2 Performance

According to Erikie and Osagie (2017), financial Performance is the measuring of results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, value added, etc. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Omaliko & Okpala, 2020).

Also known as profitability, corporate performance is performance measurement by which organizational as well as management ability and efficiency can be measured. According to Dwivedi, 2002), there are two kinds of performance, financial performance and non-financial performance; and financial performance emphasizes on variables related directly to financial report. Dwivedi (2002) also established that financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues.

For the purpose of this study, market based measure (Net Assets Per Share) was used since most previous studies used only accounting based measure (traditional measure) for performance which do not take account for risk-return.

2.2 Theoretical Framework

The theoretical framework which gives the meaning of a word in terms of the theory on web based environmental disclosure and financial performance established in this study is Stakeholders Theory (ST). It assumes both knowledge and acceptance of this theory that this research work depends upon.

2.2.1 The Stakeholders' Theory

This theory was propounded by Freeman in the year 1983. The stakeholders' theory proposed an increased level of environmental awareness which creates the need for companies to manage these interests (groups' interest) in order for them to become environmentally friendly towards the environment in which the business is domiciled. The main concern of the stakeholders' theory in environmental accounting is to address the environmental disclosure elements and valuation and its inclusion in the financial statements for external users consumption. The theory illustrates that the firm has one and only one goal – to satisfy the desires of shareholders by making profits. However, profit may not be attainable if the environment in which the business operates is neglected.

As pointed out in the study of Omaliko, Nweze and Nwadialor (2020), stakeholders' theory proposed an increased level of environmental awareness which creates the need for companies to manage these interests (groups' interest) in order for them to become environmentally friendly towards the environment in which the business is domiciled. The main concern of the stakeholders' theory in environmental accounting is to address the environmental disclosure elements and valuation and its inclusion in the financial statements for external users consumption.

Thus, the study is anchored on stakeholders' theory, as its concern is to encourage business managers to carry out environmental practices which the non- financial stakeholders consider very important so as to maximize stakeholders' value as well as minimize environmental costs.

2.3 Empirical Review

Oti, and Mbu-Ogar, (2018) examined the impact of environmental and social disclosure on the financial performance of quoted oil and gas companies in Nigeria. Time series data for five years were collected and analyzed using the ordinary least square regression technique. Results from the statistical analysis revealed that disclosure on employee health and safety and community development do not significantly affect financial performance while disclosure on waste management had a positive and significant effect on firm's financial performance. The study recommended that oil and gas companies should constantly review their waste management strategy and employ bespoke technology in waste management to mitigate their impact on the environment. Furthermore, Oil and gas companies should improve on employee health and safety as part of their mission and vision statement for enhanced firm value. Companies should also ensure sustained development of their host communities to avoid hostility by stakeholder groups which will have negative effect on its operations and in turn affects performance.

Onipe (2018) examined the influence of environmental accounting on firm financial performance in Nigeria. Return on assets was used to proxy firm financial performance while environmental disclosure practices were measured by green reporting index, which is a product of environmental reporting quality and quantity. Data in respect of return on assets were extracted as a ratio of earnings before taxes divided by total assets, while data on the quality and quantity of environmental reporting were extracted through content analysis from the annual reports and accounts of the firms. Descriptive (mean, standard deviation, minimum and maximum mean) and inferential statistics (correlation and regression) were used to analyze the data. The correlation results showed that environmental reporting practices and financial performance have positive and significant relationship. The regression results showed that environmental reporting has positive and significant effect on financial performance. As a result, the study concluded that environmental disclosure practices are important considerations in determination of corporate financial performance. The study therefore recommended among others that environmentally-sensitive firms should sustain and enhance reporting of their environmentally friendly activities since they enhance financial performance.

This agrees with the findings of Nwaiwu and Oluka, (2018) study was on environmental cost disclosure and financial performance of oil and gas in Nigeria. Time series data were collected from annual financial reporting and economic review of Central Bank of Nigeria; Pearson product moment coefficient of correlation and multiple linear regression analysis with the aid of special package for social sciences (SPSS) version 22. The econometric results reviewed adequate disclosure on environmental cost, compliance to corporate environmental regulations have positive significant effect on financial performance measures. Thus the study recommended regulatory enforcement for adequate environmental cost disclosure and proper reporting. Management of oil and gas companies in Nigeria should develop a well-articulated environmental costing system in order to guarantee a conflict free corporate atmosphere for improved corporate performance.

In line with the findings above, Omaliko and Okpala (2020) on environmental disclosures and dividend payout of firms in Nigeria employed regression model and found that environmental friendly firms pay higher dividend.

Ordu and Amah (2021) investigated the relationship between sustainability accounting and performance of selected quoted oil and gas companies in within the period of 2012-2017. Specifically it examined the relationship between environmental accounting and return on assets of quoted oil and gas companies in Nigeria. Explanatory and correlational design was adopted for the study while secondary data was utilized for the study. Data was gathered from annual reports and accounts of the companies available on their websites and from Nigerian Stock Exchange (various years). The data collected was from the period 2012 – 2017. The Annual reports includes annual financial statements, annual sustainability reports of the quoted oil firms, annual returns submitted at Nigerian Stock Exchange for the years under study. Regression was used for data analysis and testing of the hypothesis. The result of the study showed that there is no significant relationship between environmental accounting and return on assets of the oil and gas companies in Nigeria under study. The study therefore recommends that amongst others that the management of the oil and gas companies should channel efforts towards engaging in adequate environmental accounting disclosure as a way of increasing stakeholders trust and showing more transparency in their operations. This could in turn lead to achieving better financial performance.

The findings above disagrees with the findings of Osemene, Kolawole and Oyelakun (2016) who on considered the effects of environmental accounting practices and sustainable development on the performance of Nigerian listed manufacturing companies. Using regression model, the study found a significant positive relationship between environmental accounting and returns on equity (ROE) of thirty-six quoted companies randomly selected in Nigeria. Also, Huey Shi Tho and Boon Heng Teh (2016) examined the relationship between environmental disclosure and financial performance of public listed companies in Malaysia. Content analysis approach was adopted to determine the quantity and quality of environmental disclosures in the annual reports of 100 companies listed on the Main board of Bursa Sarhan Malaysia for the year 2009 till 2013.The result showed that only the quality of the environmental information has positive relationship with companies' earnings per share (EPS).

Omaliko, Uzodimma and Ogbuagu (2018) examined the comparative analysis of environmental disclosure in oil and gas industries in Nigeria. The study compared the environmental disclosure requirements of Global Reporting Initiatives (GRI) with the environmental information disclosed in the annual report of five Listed Oil and Gas firms in Nigeria for the period of five years (2012-2016). The Content Analysis research design was adopted. Secondary data for the study were obtained from the published audited financial statements of the five Listed Oil and Gas firms in Nigerian for the period under review from which disclosure compliance index was developed. The statistical tools employed were the compliance index and the Friedman Analysis of Variance (ANOVA). The findings of the study indicate that there is a significant and positive relationship between the firms' compliance and Global Reporting Initiative (GRI) disclosure requirements among the sampled oil and gas firms in Nigeria. The study however recommends among others that the accounting standard setters (IFRS) should draft a more comprehensive framework for reporting environmental concerns, specifically for the oil and gas industries because of their high propensity to environmental degradation and pollution, and also the high impact of their industrial activities on the environment.

Another study was also conducted by Obara, and Nangih, (2017) on the extent to which accounting practices affect the profitability of Oil and Gas companies in Nigeria, particularly those in the upstream sector. The specific objectives were: to determine the effect of accounting practices on Return on Assets (ROA) and Return on Capital Employed (ROCE) of Oil and Gas Companies in Nigeria. The Researchers used Stratified Sampling Design approach. The target population comprised of Oil and Gas Companies in Nigeria. A total of 84 respondents were drawn from the population. Both primary and secondary data were used in the study. Primary Data were collected using questionnaires drawn using the Likert's Scale with five points ranging from very great extent to no extent, while secondary data were sourced from already published materials. Hypotheses were were analyzed using SPSS Software and other Descriptive statistical tools such as; percentages and tables. The result of the study showed that accounting practices had a significant relationship with performance of Oil and Gas Companies, particularly, the Return on Assets and Return on Capital Employed. It was recommended that proper and best accounting practices should be adopted by Oil and Gas companies to ensure better performance on one hand and fair, transparent and reliable financial reports on the other hand.

Omaliko, Nweze and Nwadialor (2020) empirically investigated the effect of social and environmental disclosures on performance of non-financial firms in Nigeria. The study is vital as it portrays the extent to which social and environmental disclosures influence firms' performance. In order to determine the relationship between social and environmental disclosures and firms performance, some key proxy variables were used in the study, namely corporate social responsibility disclosure and environmental disclosure; firms' performance is however represented by NAPS. Two hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using panel regression model. The research design used is Ex Post Facto design and data for the study were obtained from the NSE Factbook and published annual financial reports of the entire 112 non financial firms quoted on NSE with data spanning from 2011-2018. The findings generally indicate that corporate social and environmental disclosures have significantly influenced firms' performance at 5% significant level. Based on this, the study concludes that social and environmental disclosures have positively improved firms performance over the years. The study however suggests that firms should have positive disposition towards social and environmental friendly practices and also disclose more of these information in their annual reports as the level of these information disclosures have exerted significant influence on firms' performance over the years.

3.0 Methodology

This study adopts *Ex-Post Facto Design*. Secondary data was used which already exists and cannot be manipulated or controlled. The population of the study consists of the entire 21 firms quoted under Consumer Goods Sector of Nigerian Exchange Group (NGX) as at 2022 business list covering from 2016-2021. The use of quoted Consumer Goods Sector Firms on Nigerian Exchange Group (NGX) could be justified based on the fact that only few studies had concentered on environmental disclosures and financial performance with reference to Consumer Goods Sector of NGX especially in the developed economies to the best of our knowledge. Out of 21 firms that formed our sample size, 2 firms have empty financial information within the period under study (*Golden Guinea Breweries Plc and Multi-Trex Integrated Foods Plc)* which was removed. On the other hand, BUA Foods Plc was dropped as it was listed on the floor of Nigerian Exchange Group (NGX) as at 5th January 2022. The selected firms range from Cadbury Nigeria Plc, Champion Breweries Plc, Dangote Sugar Refinery Plc, DN Tyre & Rubber Plc, Flour Mills Nig Plc, Guiness Nigeria Plc, Honeywell Flour Plc, International Breweries Plc, Mnichols Plc, N Nigeria Flour Plc, Nascon Allied Industries Plc, Nestle Nigeria Plc, Nigerian

Breweries Plc, Nigerian Enamelware Plc, P Z Cussons Nigeria Plc, Unilever Nigeria Plc, Union Dicon Salt Plc to Vita foam Nigeria Plc.

Based on this, a total of 18 firms formed our sample size with 108 observations. The data were obtained from the Annual Reports and Accounts of the sampled firms. OLS Model was employed to examine the relationship between web based environmental disclosure measured using Kinder Lydenberg Domini **(**KLD) social-environmental performance (SEP) rating system and financial performance (NAPS). The collected data were analyzed with the aid of STATA 15.

3.1 Operationalization and Measurement of Variables

3.1.1 Dependent Variable

The dependent variable in this study is financial performance and it was proxy and measured using Net Assets Per Share. This is in-line with the a priori expectations of Omaliko, Okeke and Obiora (2020), Omaliko and Okpala, Brockman (2015), Kanwal, Khanam, Nasreen and Hameed (2013), Nahiba (2017) etc. This is shown below on the table as thus:

Table 1: Measurement for Dependent Variable

Variable	Measurements	A priori expectation
Net Assets Per Share	NA/Paid up Capital	Nahiba (2017), Brockman (2015) etc

Source: Empirical Survey (2022)

3.1.2 Independent Variable

Web Based Environmental Disclosure (WED) was measured using Kinder Lydenberg Domini **(**KLD) social-environmental performance (SEP) rating system and the content analysis method of data collection as used by Uwuigbe (2011), Omaliko and Okpala (2020), Omaliko, Nwadialor and Nweze (2020). For this purpose, a score of (1) was awarded if an item was reported; otherwise a score of (0) was awarded ***(See Appendix 1).*** Consequently, a firm could score a maximum of 20 points and a minimum of 0. The formula for calculating the reporting scores by using these 20 attributes ***(See Appendix 1)*** is expressed in a functional form below:

$$\mathbf{RS} = \sum_{i=1}^{20} \mathbf{di}$$

Where:
RS = Reporting Score
di = 1 if the item is reported and 0 if the item is not reported
i = 1, 2, 3.... 20.

3.2 Model Specification and Justification

The study adapted and modified the model of Ordu and Amah (2021) in examining the relationship which exists between web based environmental disclosures and financial performance of quoted firms in Nigeria as shown below;

Ordu and Amah (2021): $\mathbf{ROE = \beta_0 + \beta_1 ENVSPEND + \varepsilon}$

The modified model for the study is shown as thus

$\mathbf{NAPS = \beta_0 + \beta_1 SEP + \varepsilon}$

Where:

NAPS = Net Assets Per Share
SEP = Social and Environmental Performance
ε = error term

4.0: Data Analysis and Results

Table 2: Descriptive Statistics

	NAPS	SEP
Mean	1.648056	1.247037
Std. Dev.	.8234013	1.096518
Maximum	4	5
Minimum	-2.49	0.38
Observations	108	108

Source: Researcher's Computation (2022).

Table 2 shows that on the average, in a 6-year period (2016-2021), the listed consumer goods firms in Nigeria were characterized by positive net assets per share (NAPS) value of 1.648056. This is an indication that the entire consumer goods firms in Nigeria have positive net assets per share (NAPS) value with a standard deviation value of .8234013. The average social-environmental performance (SEP) for the sampled firms was 1.247037 with a standard deviation value of 1.096518. This means that firms with SEP values of 1.247037 and above are environmental friendly. There is also a high variation in maximum and minimum values of SEP which stood at 5 and 0.38 respectively. This wide variation in SEP values among the sampled firms justifies the need for this study as the researcher assumes that firms with higher SEP values have higher performance than those firms with low SEP values

4.1 Test of Hypothesis

Table 3: Result on the Relationship between Web Based Environmental Disclosures and Financial Performance (NAPS) of Consumer Goods Firms in Nigeria

Source	SS	df	MS
Model	12.85858430	1	12.858584
Residual	115.7930650	106	1.0923874
Total	128.651649	107	1.20235186

Number of obs	= 108
F (1, 106)	= 11.77
Prob > F	= 0.0009
R-squared	= 0.6799
Adj R-squared	= 0.6583
Root MSE	= 1.0452

NAPS	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
SEP	.4210107	.1227114	3.43	0.001	.1777234	.6642980
_cons	.5531880	.2258623	2.45	0.016	.1053940	1.000982

Source: Result output from STATA 15.

4.2: Discussion of Findings

The result of the analysis of the study using OLS Model is expressed as follows:

H_{01}: Web based environmental disclosure has no significant relationship with financial performance of quoted firms in Nigeria

In view of the above analysis as shown on table 3, the result shows that there is a significant and positive relationship between web based environmental disclosure and financial performance of quoted consumer goods firms in Nigeria. With a P-value of 0.001, the test is considered statistically significant at 1% level. This could be verified with the coefficient of correlation of .421% which indicates that corporate environmental practices ensure corporate performance by 42.1%. Thus implies that firms' that comply with environmental laws are more sustainable since such firms' have the support of the environment. Based on this, we rejected the null hypothesis and accepted alternate hypothesis which contends that web based environmental disclosure has significant relationship with financial performance of quoted firms in Nigeria. The implication of this is that environmental friendly firms make higher returns.

This agrees with the a priori expectations of Dike and Micah (2018), Okoye and Ndum (2020) who found significant and positive relationship between environmental disclosures and firms' performance. However, the finding of this study is not in agreement with the study of Ordu and Amah (2021) who found that environmental disclosures is negatively associated with firm performance.

5.1 Conclusion and Recommendation

The study found that web based environmental disclosure (SEP) has positive effect on firms' financial performance (NAPS). Based on this, the study concludes that web based environmental disclosures ensures the performance of quoted firms in Nigeria. Thus, it was recommended that the management of environmentally-sensitive firms in Nigeria should sustain and enhance environmental sustainability reporting since it has positive and significant effect on financial performance.

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Appendix 1

Table 5: Twenty Testable Social-Environmental Performance Items

S/N	Environmental	Energy	Research & Development	Employee Health and Safety
1	Environmental Pollution	Firms Energy Policies	Investment in Research on Renewal Technology	Disclosing Accident Statistics
2	Conservation of Natural Resources	Disclosing Energy Savings	Environmental Education	Reducing or eliminating Pollutants, Irritants, or Hazards in the work Environment
3	Environmental Management/Environmental Policies	Reduction in energy Consumption	Environmental Research	Promoting Employee Safety and Physical or Mental Health
4	Recycling Plant of Waste Products	Received Awards or Penalties	Waste Management/Reduction and Recycling Technology	Disclosing Benefits from increased Health and safety Expenditure
5	Air Emission Information	Disclosing increased Energy Efficiency Products	Research on New Methods of Production	Complying with Health and Safety Standards and Regulations and Establishment of Educational Institution

Source: Adapted from (Hackston & Milne, 1996 & Adler, 1999)