ENVIRONMENTAL SUSTAINABILITY REPORTING PRACTICES IN NIGERIA: ARE CLOUDS DARKER OR FAIRER IN THE MANUFACTURING INDUSTRY?

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─**Abstract** ─

This study assesses the popularity and the extent of environmental sustainability reporting practices among quoted manufacturing firms in Nigeria and its effects on their financial performances. The study employs survey research using panel data (data of different firms from 2010 to 2015). This study adopts content analysis, descriptive, and inferential statistics as methods of analysis. The evidence provided in this study, based on the empirical findings, shows a fair representation of the popularity of environmental sustainability reporting among manufacturing firms in Nigeria, though majority of the manufacturing firms reported very low levels of environmental disclosures. Environmental sustainability reporting indeces have positive effects on the measures of financial performance (earning per share, revenue growth, and return on assets). The study concludes that management of companies should understand that improving environmental sustainability practices is as important as improving financial performance. Management should, therefore, build environmental sustainability practices and reporting into their policies. Also, shareholders should know that environmental issues affecting local communities can affect the social contract between the community and organizations, thereby affecting survival. This study recommends that at annual general meetings, shareholders should compel the management of their companies to have well-structured environmental practices. Finally, government should be concerned about the great environmental impacts

manufacturing firms have in terms of emissions, wastes, effluents, and resource consumption. To ensure a sustainable environment, government should back up regulatory bodies in improving environmental sustainability practices in firms through mandatory reporting requirements.

Key Words: Environment, Sustainability, Firms

JEL Classification: K32; Q56

1. INTRODUCTION

Increased worldwide environmental threats have prompted the awareness of various environmental problems and challenges. There are numerous environmental problems, ranging from climate change to depletion of the ozone layer, air and water pollution, desertification, loss of habitat and a host of others, which are detrimental to mankind (Dutta and Bose, 2008). Closely related to these, are the activities of business organizations. Just as humans leave footprints in the sand as a mark of where they have been, entities also leave visible marks on the environment, termed environmental footprints. Industries have a great impact on the environment, either through the production of industrial wastes and pollution or through diminishing natural resources (Xiaoping, 2003).

Firms in different industries have various environmental footprints such as oil spills by oil and gas firms; deforestation of rainforests by timber-making firms; air, land and water pollution by manufacturing firms and so on. The increased use of chemicals, such as agricultural pesticide and herbicides, has resulted in biodiversity loss in addition to wasteful use of materials without recycling (Ayres, 2004).

Before now, firms, in pursuits of profit maximization and growth have ignored their environmental footprints resulting in damages that have left the society poorer. Due to the continuous degradation of the environment and increased environmental disasters, Jones (2010) suggests a radical reorientation of humans' relationship with the environment. A first step to this reorientation is sustainable development.

As organisations' awareness of environmental issues increase, they are beginning to respond to the challenge of sustainable development by moving from the narrow consideration of their economic performance only, to include their environmental impacts (Lamberton, 2000).

Empirical evidence indicates that more companies now make environmental disclosures in annual reports. For example, Simnett, Vanstraeken and Chua (2009) state that 2113 companies from 31 countries produced sustainability reports from 2002 to 2004 while KPMG (2005) shows that German and Scandinavian companies have increasingly reported their environmental footprint.

In Nigeria however, environmental sustainability reporting is largely unpopular. This study seeks to examine the extent (if at all), to which organizations are carrying out this environmental stewardship and whether or not such reporting has an influence on the firms' financial performance. The rest of the paper is structured as follows: the next section is devoted to a detailed review of literature; then, Section 3 outlines the empirical approach; the results are discussed in Section 4; and finally, Section 5 concludes with the main findings and recommendations.

2. EMPIRICAL REVIEW

The improved attitude towards environmental concerns in corporate reporting is now widespread. Gibson and O'Donovan (2007) found a trend towards increased environmental disclosures in annual reports and that half of the sampled companies published stand-alone environmental or sustainability reports. Similar conclusions were reached by Perez and Sanchez (2009) as well as Walden and Schwarz (1997). Despite the government and regulatory debate about legislative changes and whether or not 'triple-bottom' line reporting should be mandated (Buhr, 1998; Simmons and Neu, 1998; Isenmann, 2004; Guthrie, Cuganesan and Ward, 2006; Ioannou and Serafeim 2011) many factors such as government regulations, negative media reporting of fines, internet access, the level of company profile, and mandatory disclosure of sustainability information have motivated the increased trend of environmental disclosures. Meanwhile, industry type was earlier identified to be affecting the quantity and quality of disclosures made. Roberts (1992) as well as Hedberg and Malmborg (2003) explain that different companies in different industries have different motivations with regards the amount of voluntary disclosure. Major empirical evidences have since been seen from developed economies. Only recently have studies on sustainability

reporting and environmental disclosure begun to emerge in Nigeria. Asaolu *et al.* (2011) assess the level of sustainability reporting in line with international best practices among the six major oil and gas multinationals operating in Nigeria. Findings of the study reveal that multinationals compile extensive global reports but offer minimalistic local reports, especially on their environmental and social reporting indicators. Michael and Oluseye (2014) analysed the sustainability practices disclosures among deposits money banks in Nigeria. It was observed that Nigerian commercial banks participate more in social sustainability and that firm characteristics such as size and profitability did not affect sustainability practices among the banks.

Onyali, Okafor and Egolum (2014) analysed the 2013 annual reports of three manufacturing firms in Nigeria to assess the nature and quality of environmental information disclosure practices. The findings of the study indicate that the environmental disclosure practices of firms in Nigeria are informal and contains little or no quantifiable data.   However, this study is very limited in the number of samples used. Three firms cannot be said to be an adequate representative of listed manufacturing firms in Nigeria. Isa (2014), being sector-specific, assessed sustainable reporting among food and beverage firms in Nigeria. Data were generated from the 2013 annual reports of six firms listed on the Nigerian Stock Exchange for cross-sectional analysis. The findings reveal that the firms exhibit some level of sustainability reporting, which is insignificant. The level of disclosure accounts for only 2% of the annual reports. Unlike the findings of Asaolu, *et al.* (2011) from the oil and gas sector, reports of environmental activities accounted for the largest amount of these disclosures. However, the study is also limited in that it is sector-specific. This limitation is overcome in this study by looking at five sectors across the listed manufacturing firms in Nigeria.

The bone of contention among corporate managers and researchers is whether or not any relationship exists between sustainability reporting and corporate financial performance. Cochran and Wood (1984), extending prior literature, examined the relationship between corporate social responsibility and financial performance. Empirical evidence reveal that asset age has a strong correlation with corporate social responsibility (CSR). Similarly, McGuire, Sundgren and Schneeweis (1988) analysed the relationships between perceptions of firms' CSR and measure

of their financial performance and conclude that firms with high financial performance may be better able to act in a socially responsible manner. Furthermore, links between concurrent financial performance and subsequent financial performance may also be artefacts of prior high financial performance (McGuire, Sundgren & Schneeweis, 1988).

Brammer, *et al.* (2006) investigate the relationship between corporate social performance and stock returns in the UK. The disaggregate measures show that the environmental and community indicators are negatively correlated with returns, while the employment indicator is weakly positively related. In a similar study, Eccles *et al.* (2012), analysed the relationship between the sustainable performance of a company and its financial performance measured by stock market value. The results indicate that the 90 high-sustainability companies significantly outperform their counterparts over the long-term, both in terms of stock market and accounting performance Eccles *et al*., 2012). This is, however, in contrast with findings by Aggarwal (2013) who could not establish a significant relationship between corporate sustainability and financial performance in Indian.

3. METHOD

3.1. Data collection

This study employed survey research using panel data (data of different firms from 2010 to 2015). The year 2010 was chosen as the base year as Global Reporting Initiative (GRI) guidelines started to gain popularity around this period. A content analysis of annual reports of selected quoted manufacturing firms was carried out. This study adopts content analysis as it is a common method of doing social research. Content analysis is useful for determining trend and extent of disclosures as it gives the researcher room to systematically classify and compare disclosures (Uwuigbe, 2011). Annual reports are chosen because they are mandatory as a means of communication by listed firms. Other data sources include information from websites of the Nigeria Stock Exchange (NSE) and the GRI G4 sustainability reporting guidelines.

3.2. Population, sample size and sampling technique

For this study, the population consists of the 68 quoted manufacturing firms. This represents the total number of manufacturing firms listed on the trading floor of

the Nigeria Stock Exchange. Thirty-three manufacturing firms were purposively sampled for this study. This choice was based on the number of manufacturing firms in existence before 2010 and were still in existence at the 2015 financial year end. The firms cut across five sectors as shown in Table 1.

Table 1: Number of quoted manufacturing firms by sector

S/No	SECTOR	No. of firms	Sampled Firms
1	Consumer goods	28	14
2	Conglomerates	6	3
3	Industrial goods	21	9
4	Natural Resources	4	2
5	Healthcare	9	5
	TOTAL	68	33

Source: Nigeria Stock Exchange (2016)

3.3. Model specification

Most studies examining sustainability reporting and performance have used the multiple regression model (Brammer, *et al.,* 2006; Ngwakwe, 2008; Aggarwal, 2013). This study follows in a similar vein to examine the effect of environmental sustainability reporting indicators on performance. The general model adopted in literature is:

$$PRF = \beta_0 + \beta_1 ERI_{it} + \epsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.1$$

However, to prevent the problem of omitted variables associated with previous studies such as Aggarwal (2013), another determinant of performance is included. The model estimated for this study is therefore as follows:

$$PRF = \beta_0 + \beta_1 ERI_{it} + \beta_2 LSOF_{it} + \epsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..2$$

PRF stands for financial performance indicators (Return On Asset [ROA], Revenue growth and EPS); ERI is Environmental Sustainability Reporting Index;

LSOF represents the size of firms; and $\in$ represents the stochastic disturbances, which capture the influences of other variables not included in the model.

3.4. Measurement of variables

The independent variable in this study is environmental sustainability reporting. The environmental indicators according to GRI (G4) sustainability reporting guidelines employed for this study include materials, water, energy, wastes, emission, effluents, environmental compliance, grievance mechanism, transport, product and service related impacts, environmental expenditures, biodiversity, and suppliers.

A checklist, using the GRI G4 environmental reporting indicators listed above was developed for the study (see appendix A). This was used to assess environmental sustainability practices among quoted manufacturing firms. The annual reports of these firms were scrutinized for phrases, graphics or tables containing quantitative or qualitative information regarding environmental indicators. A basic rating scale (0 and 1) was used for noting the presence or absence of environmental information disclosed. A score of '0' means that no meaningful information is provided whereas a score of '1' shows the existence of such information in some way. An ERI was then derived for each firm as follows in the period of study:

$$ERI = \frac{Total\ score\ obtained\ by\ each\ firm}{Total\ score\ Obtainable}\ 100 \dots\dots\dots\dots\dots\dots 3$$

Financial performance, which is the dependent variable, is measured using ROA, revenue growth (LREVG) and Earnings per share (EPS). The ROA is a measure of profitability, which estimates how efficient management is at using its assets to generate earnings; this measure has been utilised in previous studies by Eccles *et al.* (2012) and Uadiale and Fagbemi (2011).

Revenue growth is a measure of a firm's growth. It is calculated as change in sales divided by sales. Ameer and Othman (2012) used sales revenue growth to measure financial performance. EPS, which is key in determining the share price of a firm, measures the market value of the firm. Managers take special interest in EPS, especially when their compensation is linked to it. Bragdon and Marlin

(1972) and Sturdivant and Ginter (1977) have used EPS growth in their studies to measure financial performance of firms.

Firm size (LSOF) is used as a control variable for this study. Larger firms are likely to have higher profitability since they have access to more resources to make investments. Previous studies have used total sales revenue, total assets, book value equity, or market value of equity as proxy for size of firm. This study used the logarithm of total assets as proxy for firm size as used by Aggarwal (2013).

3.5. Analysis technique

Data obtained from the checklist were analysed using descriptive and inferential statistics. Popularity of environmental sustainability reporting practices among quoted manufacturing firms in Nigeria was analysed using descriptive statistics. From the checklist, the number and percentage of firms which make any form of environmental disclosure was derived to show the popularity of environmental sustainability reporting among the firms. Having derived this, those firms which report environmental issues were further evaluated to determine the extent of conformity with global best practice. Using the GRI standard disclosures, an ERI was derived for each firm using equation 3.

The following guide used by Michael and Oluseye (2014) is used to interpret the ERI:

Table 2: Interpretation guide for ERI

ER Index	Interpretation
100-70	Substantial
69-60	High
59-50	Moderate
49-40	Low
39-0	Very Low

Source: Michael and Oluseye (2014)

The relationship between ERI and financial performance was analysed using regression and correlation analysis. Product-moment correlation was used to examine the existence of a relationship between environmental sustainability reporting and financial performance, while regression analysis was used to ascertain the amount of variations in financial performance, which can be associated with changes in the amount of environmental disclosures (represented by ERI). The E-Views software package was used for analysis.

4. EMPIRICAL RESULTS

4.1. Popularity of environmental reporting practices

There are lists of mandatory reporting requirements in countries such as Australia, Denmark, France, Norway, Sweden, and the Netherlands. There is no such requirement with accounting, reporting, and auditing of corporate sustainability (Hibbitt and Collison, 2004). However, there are recommended guidelines on environmental disclosures. One of such guideline is the GRI and, as such, is used in this study to assess the popularity of environmental sustainability reporting practices among the quoted manufacturing firms in Nigeria. The environmental dimension of sustainability is used in this study.

Based on availability of data, 33 quoted manufacturing firms were sampled, out of which only 20 firms reported environmental sustainability practices within the study period. This represents 60.6% of the sample; a fair representation of the popularity of environmental sustainability reporting among manufacturing firms in Nigeria. Moreover, it was observed that most of the firms that made environmental disclosures in their annual reports had foreign affiliates or exposure. This could be a major reason for their disclosure since environmental reporting is more common in the western and more developed countries where there are either mandatory requirements for environmental disclosures or investors are highly enlightened and would rather make ethical investments in firms that give voluntary environmental or sustainability reports, represented in Figure 1. Meanwhile, the popularity of environmental sustainability practices by sector is illustrated in Table 3; nine out of the 14 sampled manufacturing firms in the consumer goods sector adopted environmental sustainability reporting practices, while two out of the three sampled manufacturing firms in

conglomerates adopted environmental sustainability practices. Furthermore, environmental sustainability reporting practices appear more popular in the industrial goods sector as seven out of the nine sampled manufacturing firms adopted the practices over the study period. On the contrary, environmental sustainability reporting practices are seemingly unpopular in the natural resource sector as none of the sampled firms adopted the practices. Finally, two out of the five sampled manufacturing firms adopted environmental sustainability reporting practices, indicating a slightly below average rate of popularity.
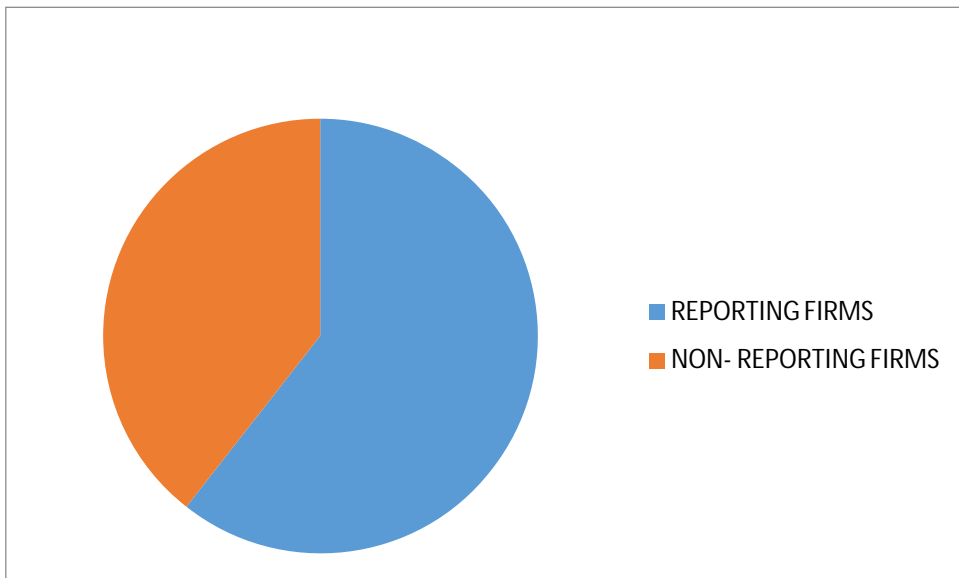

Figure- 1: Environmental reporting practices

Table 3: Popularity of disclosure by sector

| S/No	SECTOR	Reporting firms	Sampled Firms
1	Consumer goods	9	14
2	Conglomerates	2	3
3	Industrial goods	7	9
4	Natural Resources	0	3
5	Healthcare	2	5
	TOTAL	20	33

Source: Author's field survey (2018)

4.2. Extent of conformity with global best practices

This study examines the extent to which the manufacturing firms that disclosed environmental practices conformed with global best practices as contained in the GRI's G4 sustainability reporting guidelines. These guidelines provide a list of what firms should disclose as environmental information in their annual reports as stated above. A content analysis of firms' annual reports was conducted where each environmental indicator was reviewed.

Out of the 20 manufacturing firms, only three firms disclosed moderately well (that is, scored above 50%) with one firm giving substantial disclosures (77%). Five firms reported a low level of environmental disclosures (40%-49%), while majority of the manufacturing firms reported very low levels of environmental disclosures (below 50%) as indicated in Figure 2.

Figure 2: Conformity of environmental disclosures with global best practices
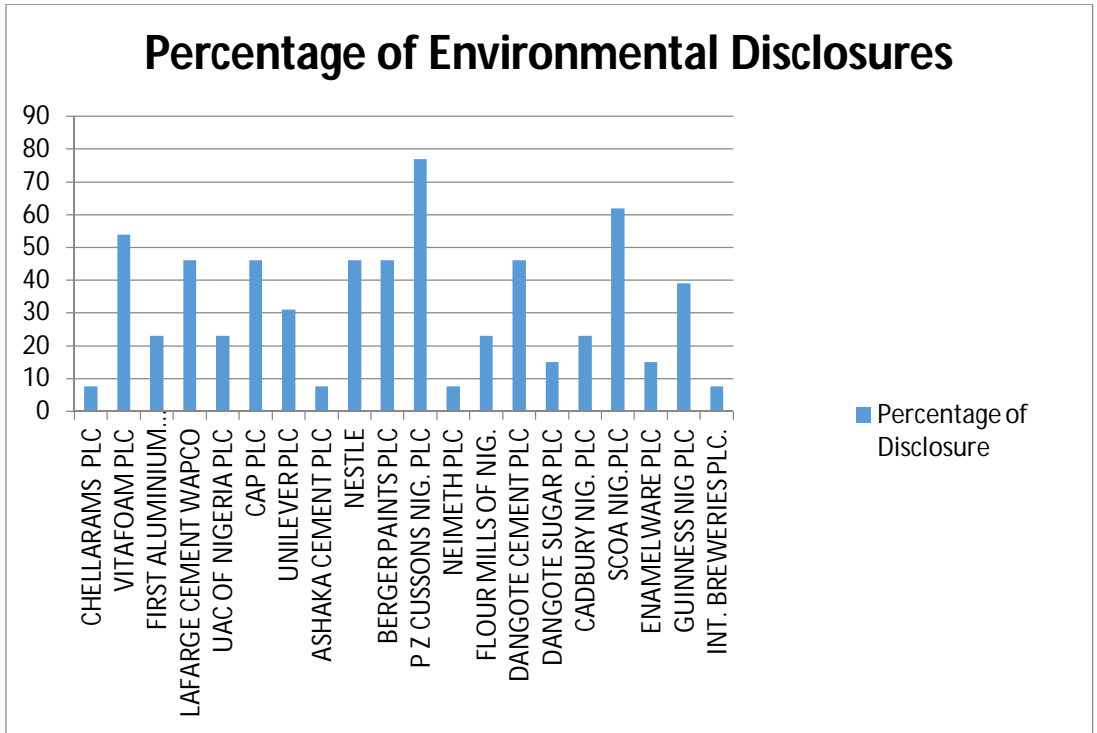
4.3. Effect of environmental sustainability reporting on financial performance of quoted manufacturing firms in Nigeria

Having derived an environmental sustainability index for each firm, it was determined whether or not environmental sustainability reporting has any effect on financial performance of quoted manufacturing firms in Nigeria.

4.3.1 Descriptive properties of the variables

Table 4 indicates that the variables display a high level of internal consistency within the maximum and the minimum values of these variables. In addition, the variables have a relatively low standard deviation, which indicates that the variances of the variables are not unnecessarily large. At five percent level of significance, the Jarque–Bera statistics of each variable accepts the null

hypothesis of the normality. This is further confirmed by the nearness of the mean and median values of each of the variable. The closer the mean and the median of each variable, the greater the probability that such series will be normally distributed. For instance, the mean of earning per share is 6.75, the median is found to be 6.37. In addition, while the mean of ERI is 0.3222, the median is 0.270. Looking at revenue growth, a similar pattern was observed with a mean of 16.8 and a median of 16.6.

Table 4: Descriptive Statistics of variables

Statistics	Variables				
	EPS	ERI	LREVG	LSOF	ROA
Mean	6.7591	0.322700	16.84753	16.80424	7.999
Median	6.370000	0.270000	16.62689	16.68977	7.243985
Maximum	1216.000	0.770000	24.30012	24.48847	397892.5
Minimum	-103.0000	0.076000	13.48036	6.910651	-20.27081
Std. Dev.	2.6003	0.197471	1.829348	2.081876	3.7113
Skewness	2.509972	0.433291	0.795116	-0.679222	9.496769
Kurtosis	9.455376	2.306890	4.781183	9.786854	95.43604
Jarque-Bera	420.7346	5.130691	35.87162	301.4134	56399.45
Probability	0.000000	0.076893	0.000000	0.000000	0.000000
Sum	18687.62	32.27000	2543.978	2537.440	620311.8
Sum Sq. Dev.	7976475.	3.860491	501.9772	650.1314	2.04E+11
Observations	155	155	155	155	155

Source: Authors' computation (2018)

4.3.2. Correlation Analysis

Correlation quantifies both the strength and direction of the linear relationship between two measurement variables. This is contained in Table 5. The table shows the degree and direction of linear relationship between the pair of variables in the estimated model.

It is of pertinent to note from the table that ERI has a positive linear relationship with each of the measures of financial performance. However, the degree or the strength of the relationship is not high as it is less than 0.5.

Table 5: Correlation matrix

Correlation Probability	Variables				
	EPS	ERI	LREVG	LSOF	ROA
EPS	1.0000000	-	-	-	-
ERI	0.155657	1.00000	-	-	-
LREVG	0.315717	0.12729	1.00000	-	-
LSOF	0.291064	0.20414	0.51912	1.00000	-
ROA	-0.079235	0.3281	-0.2372	-0.1342	1.00000

Source: Authors' computation (2018)

4.4. Regression analysis

In order to regress the measure of financial performance on the environmental reporting index, time series properties of the variables using panel unit root test are first determined.

The results of the panel unit root test, otherwise known as time-series properties of the variables, are considered at levels in Table 6. All the variables are regarded as stationary at their levels, since the reported probability value for each of the variables is significant at 5%. Consequently, econometric estimation of these variables at levels are void of being spurious. By implication, results of the regression analysis are largely reliable, other things being equal.

Table 6 Panel Unit Root Test for the Variables in Levels

SERIES	LLC		IPS		ADF-Fisher Chi-Square		PP-Fisher-Chi-square	
	Statistic	Prob.**	Statistic	Prob.**	Statistic	Prob.**	Statistic	Prob.**
LREVG	49.958	0.000	22.647	0.000	119.62	0.000	162.11	0.000
ROA	37.392	0.000	14.308	0.000	138.61	0.000	156.00	0.000
LSOF	40.458	0.000	31.454	0.000	116.38	0.000	145.22	0.000
EPS	136.85	0.000	27.198	0.000	95.620	0.000	118.19	0.0000
ERI	30.623	0.0002	25.198	0.0001	28.264	00000	23.653	0.0001

Source: Authors' computation (2018)

In order to determine the quantitative effect of ERI on the financial performance of firms, panel least square estimations were carried out with each of the measures of financial performance serving as dependent variables. Both the random and fixed results are presented in tables 7, 8 and 9.

From the result of the random effects presented in Table 7, a unit change in ERI increases earning per share by 8 units, ceteris paribus. However, the positive effect is not significant as the t-statistic is less than 2. Meanwhile, the Durbin Watson Statistic, which is a measure of serial correlation, suggests the absence of autocorrelation in the estimated model. Also, the result indicates that both environment reporting index and size of the firm combined together accounts for about 8% variation in the dependent variable.

The result of panel least square (fixed effect) presented shows that a unit change in ERI increases earning per share (EPS) by 8.75 units, ceteris paribus. The coefficient is statistically insignificant as the t-statistic is less than 2. Also, the Durbin Watson Statistic suggests the absence of autocorrelation in the estimated model. The result also indicates that both environment reporting index and size of the firm combined together account for about 9% variation in the value of earning per share, ceteris paribus.

Empirical evidence from table 8 shows that a unit change ERI increases growth of the revenue of firms (LREVG) by 0.01 units, ceteris paribus. The coefficient is,

however, statistically insignificant as the t-statistic is less than 2. Furthermore, serial correlation suggests the absence of autocorrelation in the estimated model. The result also indicates that both ERI and size of the firm combined together accounts for about 27% variation in the value of growth of the revenue of the firm, ceteris paribus. Evidence from Table 8 (fixed effect) also indicates that a unit change in ERI increases growth of the revenue of firms (LREVG) by 0.23 units, ceteris paribus. The coefficient is statistically insignificant as the t-statistic is less than 2. The result also indicates that both ERI and size of the firm combined together account for about 28% variation in the value of growth of the revenue of firm, ceteris paribus.

From the results presented in Table 9 (random effects) a unit change in ERI increases ROA by 7.65 units, ceteris paribus. The coefficient is statistically significant as the t-statistic is greater than 2. Moreover, the serial correlation suggests the absence of autocorrelation in the estimated model. In addition, the result also indicates that both ERI and size of the firm combined together accounts for about 11% variation in the value of return on assets, ceteris paribus. Meanwhile, the results of fixed effects showed that a unit change in ERI increases ROA by 7.88 units, ceteris paribus. The coefficient is statistically significant as the t-statistic is greater than 2. Consequently, the Durbin Watson Statistic suggests the absence of autocorrelation in the estimated model. The result also indicates that both ERI and size of the firm combined together accounts for about 15% variation in the value of return on assets, ceteris paribus.

Table 7: Dependent Variable: EPS

EPS	Random Effects	Fixed Effect
ERI	8.89 (0.06)[1]	8.75(0.62)
LSOF	38.5 (2.9)	-38.6 (2.3)
Constant	-542.1 (-2.2)	545.2 (2.3)
R-Square	0.89456	0.092279
Adjusted R^2	0.06922	0.028950
Durbin Watson	1.68992	2.27795
Pro (F-Stat)	0.1474	0.202621

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[1] Figures in parenthesis in tables 6 – 9 indicate t-statistics

Table 8: Dependent Variable: LREVG

EPS	Random Effects	Fixed Effect
ERI	0.01 (0.02)	0.02(0.03)
LSOF	-0.40 (-5.7)	-0.40 (-5.69)
Constant	10.23 (8.2)	10.2 (8.0)
R-Square	0.277583	0.288499
Adjusted R^2	0.261530	0.238859
Durbin Watson	2.277535	2.06648
Pro (F-Stat)	0.000000	0.000041

Table 9: Dependent Variable: ROA

EPS	Random Effects	Fixed Effect
ERI	7.65 (3.33)	7.88 (3.11)
LSOF	-1578.58 (-0.6)	-1523.13 (0.65)
Constant	8263.62 (0.19)	6557.1 (0.155)
R-Square	0.112424	0.15646
Adjusted R^2	0.092020	0.093864
Durbin Watson	2.0574434	2.157195
Pro (F-Stat)	0.005584	0.027439

4.6. Hausman test

The Hausman test was carried out to determine the choice between random effects and fixed effects. The Hausman test is found to be insignificant for each of the variables. Hence, the conclusions would be based on random effects. It should, however, be noted that the results of both random effects and fixed effects are not significantly different from each other.

5. CONCLUSION

The existing evidence shows that environmental sustainability reporting has positive impacts on earnings per share, growth of revenue and return on asset of manufacturing firms in Nigeria. The positive impact on return on assets is found to be statistically significant while that of earnings per share and growth of the revenue are statistically insignificant. Theoretically, the nexus between environmental reporting and measures of financial performance are conflicting. The current empirical evidence supports the theoretical school of thought, which proposes that environmental reporting enhances customer goodwill, cost savings through efficient use of resources, and reduced government penalties. This, in turn, may bring economic benefits in terms of improved financial performance.

The insignificant positive impacts of environmental reporting on earnings per share and growth of revenue could be due to the harsh macroeconomic environment in which the manufacturing firms operate in Nigeria. It is a well-known fact that environmental reporting could only bring about the desired impacts on financial performance if the prevailing macroeconomic environment is enabling and friendly. For instance, current state of infrastructural deficits, among others, has made manufacturing operations costlier than usual. This may have negative implications for the impacts of environmental reporting on the financial performance of manufacturing firms.

In view of the above findings , the study concludes that management of companies should understand that improving environmental sustainability practices is as important as improving their financial performance. Preserving the environment for future generations is ensuring the survival of the business in the long run. Management should, therefore, build environmental sustainability practices and reporting into their policies. Also, shareholders should know that environmental issues affecting local communities can affect the social contract between the community and organizations, thereby affecting survival. This study recommends that at annual general meetings, shareholders should compel the management of their companies to have well-structured environmental practices. Finally, government should be concerned about the great environmental impacts manufacturing firms have on the environment in terms of emissions, wastes, effluents, and resource consumption. To ensure a sustainable environment,

government should support regulatory bodies in improving environmental sustainability practices in firms through mandatory reporting requirements.

References

Aggarwal, P. (2013). Impact of sustainability performance of company on its financial performance: A study of listed Indian companies. *Global Journal of Management and Business Research.* https://journalofbusiness.org/index.php/GJMBR/article/download/1150/1061

Ameer, R. & Othman, R. (2012). Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of Business Ethics*, *108*(1), 61-79.

Asaolu, T. O., Agboola, A. A., Ayoola, T.J. & Salawu, M. K. (2000). Sustainability reporting in the Nigerian oil and gas sector. *Proceedings of the Environmental Management Conference, Federal University of Agriculture1,* 1-24.

Ayres, E. (2004). Molecular study of worldwide distribution and diversity of soil animals. *Proceedings of the Natural Academy of Sciences*, *108(43)*, 17720-17725.

Buhr, N. (1998). Environmental performance, legislation and annual report disclosure: the case of acid rain and Falconbridge. *Accounting, Auditing & Accountability Journal*, *11*(2), 163-190.

Bragdon, J.H. & Marlin, J.A. (1972). ls pollution profitable. *Risk management*, *19*(4), 9-18.

Brammer, S., Brooks, C. & Pavelin, S. (2006). Corporate social performance and stock returns: UK evidence from disaggregate measures. *Financial management*, *35*(3), 97-116.

Buhr, N. (1998). Environmental Performance, Legislation and Annual Report Disclosure: The Case of Acid Rain and Falconbridge. *Accounting, Auditing & Accountability Journal, 11(2),*163-190.

Campbell, D., Craven, B. & Shrives, P. (2003). Voluntary social reporting in three FTSE sectors: a comment on perception and legitimacy. *Accounting, Auditing & Accountability Journal*, *16*(4), 558-581.

Cochran, P. L., & Wood, R. A. (1984). Corporate social responsibility and financial performance. *Academy of Management Journal*, *27 (1),* pp.42-56.

Dutta, P. and Bose, S., 2012. Corporate environmental reporting on the internet in Bangladesh: an exploratory study. Eccles, R. G., Ioannou, I., and Serafeim, G. (2012). The impact of a corporate culture of sustainability on corporate behaviour and performance. *National Bureau of Economic Research.*

Gibson, K. & O'Donovan, G. (2007). Corporate governance and environmental reporting: an Australian study. *Corporate Governance: An International Review*, *15*(5), 944-956.

GRI. (2013), [website].(http://www.globalreporting.org). Retrieved 29-09- 2015.

Guthrie, J. S. Cuganesan & Ward, L. (2006). Reporting social and environmental accountability within the Australian food and beverage industry. *Presented to the 5th International Conference on Social and Environmental Accounting Research, 22-24th November, Wellington, New Zealand.*

Guthrie, J. & Parker, L.D. (1990). Corporate social disclosure practice: a comparative international analysis. *Advances in public interest accounting*, *3*, 159-175.

Hedberg, C.J. & Von Malmborg, F. (2003). The global reporting initiative and corporate sustainability reporting in Swedish companies. *Corporate social responsibility and environmental management*, *10*(3), 153-164.

Hibbitt, C. & Collison, D. (2004). Corporate environmental disclosure and reporting developments in Europe. *Social and Environmental Accountability Journal*, *24*(1), 1-11.

Ioannou, I. & Serafeim, G. (2011). *The consequences of mandatory corporate sustainability reporting. Harvard Business School Research.* Working Paper 11-100. Recuperado el 12 de enero de 2015 de: http://papers. ssrn. com/soL3/papers. cfm.

Isenmann, R. (2004).   Internet-based sustainability reporting. *International Journal of Environment and Sustainable Development*, *3*(2), 145-167.

Jones, M.J. (2010). Accounting for the environment: towards a theoretical perspective for environmental accounting and reporting. In *Accounting Forum*, 34(2), 123-138.

Jones, S. (2005). Notes of the University of Sydney Pacioli Society. Abacus, 41(2), 211-216.

KPMG (2005): *KPMG International Survey of Corporate Sustainability Reporting*, Retrieved October 19, 2015, from http://www.kpmg.pt/index.th.html.

Kuasirikun, N. (2005). Attitudes to the development and implementation of social and environmental accounting in Thailand. *Critical Perspectives on Accounting*, *16*(8), 1035-1057.

Lamberton, G. (2000). Accounting for sustainable development: A case study of city farm. *Critical Perspective on Accounting*, *11*(5), 583–605.

McGuire, J.B., Sundgren, A. & Schneeweis, T. (1988). Corporate social responsibility and firm financial performance. *Academy of management Journal*, *31*(4), 854-872.

Michael, O.B. & Oluseye, B.S. (2014). Sustainable development reporting practices by Nigerian banks. *Mediterranean Journal of Social Sciences*, *5*(23), 25-35.

Ngwakwe, C.C. (2009). Environmental responsibility and firm performance: evidence from Nigeria. *International Journal of Humanities and Social Sciences*, *3*(2), 97-103.

Nigerian Stock Exchange (2008): Fact book: various issues, Lagos: Nigeria Stock Exchange.

Onyali, C. I., Okafor, T. G. & Egolum, P. (2014). An assessment of environmental information disclosure practices of selected Nigerian manufacturing companies. *International Journal of Finance and Accounting, 3(6),* 349-355.

Perez, F. & Sanchez, L.E. (2009). Assessing the evolution of sustainability reporting in the mining sector. *Environmental management*, *43*(6), 949-961.

Sturdivant, F.D. & Ginter, J.L. (1977). Corporate social responsiveness: Management attitudes and economic performance. *California Management Review*, *19*(3), 30-39.

Uadiale, O.M. & Fagbemi, T.O. (2011). Corporate social responsibility and financial performance in developing economies: the Nigerian experience. *The 2011 New Orleans international Academic Conference Financial Management 35,*97-116.

United Nations World Commission on Environment and Development (UNWCED) (1987). *Our Common Future (The Brundtland Report).* Oxford: Oxford University Press.

Uwuigbe, U. (2011). Corporate social environmental sustainability reporting and firms: Performance."BVIMSR's. *Journal of Management Research, 3(1),* 23-36.

Walden, W. D. & Schwartz, B. N. (1997). Environmental disclosures and public policy pressure. *Journal of Accounting and Public Policy, 16,* 125-154.

Xiaoping, L. (2003). Establishing environmental reporting system under the guidance of the government. http: www.cpasonline.org.cn