Does Green Accounting Disclosure Have An Effect On Financial Performance Of Oil And Gas Companies In Nigeria?

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Abstract
This study examined the effect of green accounting on financial performance of listed oil companies in Nigeria. The study adopted experimental research design using ex-post-facto data which was extracted from NGX Group Factbook and the annual published financial statement of the oil companies in Nigeria. The sample size of the study was eight. The study covered a period of ten (10) years from 2012-2021. Descriptive statistics and unit root test were conducted. The study used Panel data regression for the test of hypothesis with the aid of E-view statistical software version 9. The dependent variable in the study is financial performance measured with return on capital employed, earnings per share (EPS), and net profit margin NPM) while the independent variable is green accounting measured with environmental sustainability costs, waste management costs, and environmental clean-up costs. The findings of the study revealed that the relationship between environmental sustainability costs, environmental clean-up cost, waste management cost and return on capital employed, earnings per share and net profit margin is not significant. The study concluded that green accounting is a determinant of financial performance of the listed oil companies in Nigeria and recommended that quoted oil and gas companies should increase the extent of economic activities on the environment and disclose them in their annual reports for investment decision making and long-run benefits, corporate sustainability and better financial performance. Furthermore, Government and regulators should strictly enforce green accounting disclosure in the annual reports of oil companies.

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I. Background Of The Study

Environmental impact assessment has become necessary for companies to review their operating activities on the environment which has led to climatic change and global warming. The climate change has been linked to the activities companies such as the manufacturing, oil and gas companies that produce environmental waste, carbon monoxide and exploration of crude oil as this has caused environmental degradation. Most companies are just profit conscious and are not concerned about the negative impact of their activities on the environment and the host communities. Environmental degradation is on the increase as a result of the operational activities of the oil companies and other industrial and technological companies. These negative results from the operational activities consists of pollution, emissions, and environmental degradation. Beredugo and Mefor (2012) explained that natural resources such as crude oil and natural gas are continously explored and exploited by multinational companies resulting in environmental pollution and global warming. Green accounting is not a well known concept in Nigeria which may be attributed to the low level of awareness of its benefits hence, listed companies are not mandated to report on the environment in their annual reports. In Nigeria, there is no uniformity in environmental reporting as no accounting standard has been established but rather guidelines issued by some organizations for example Regulation Enforcement Agency Act of 2007. These guidelines are not mandatory but recommended (Okafor, 2018).That is, there are no mandatory environmental accounting policies or environmental reporting disclosure guidelines, for Nigerian companies to make these disclosures. This implies that no mandatory requirement for quantitative or qualitative disclosures of environmental accounting information in annual reports exists neither is there any mandatory requirement under the Companies and Allied Matters Act (CAMA 1990) nor as per International Accounting Standards (IAS's) or International Financial Reporting Standards (IFRS).

There is no Stock Exchange listing requirement for Nigerian companies, to disclose environmental accounting information although the Nigerian Exchange Group in its recently published Guideline (2018) gave guidance on sustainability reporting recommending the disclosure of environmental information. Since, environmental accounting reporting in Nigeria is voluntary, it does not encourage the disclosure of environmental costs. A closer look at the annual reports have revealed an increase in cost of production in the oil industry which has also had a negative impact on the profitability of the companies. According to Olushola (2020), the increase in cost of production could be traced to increased operational expenses such as the various levies paid to various agencies that regulate the industry and costs of security as a result of difficult investment environment, production disruptions and militancy that has continuously affected the operations of oil and gas companies . Adediran and Alade (2013) observed in their findings that there is a significant negative relationship between green accounting and profitability. Some other research findings have revealed positive relationship between green accounting disclosures and profitability of companies (Ogoun and Ekpulu, 2020; Menike 2020). On the other hand, other studies have found that a negative or mixed association exists between green accounting and financial performance of entities (Azzam, Alqudah, Haija and Shakhatreh 2020) .Thus, findings from these studies revealed different results which could partly be attributed to different statistical test techniques employed by the researchers. These mixed and inconclusive findings inspired the researcher to conduct this study as an addition to the existing body of knowledge with an earnest desire to have an in-depth understanding regarding the effect of green accounting on the financial performance of oil and gas companies in Nigeria.

Objectives Of The Study
The main objective of the study is to critically examine the effect of green accounting on financial performance of oil and gas producing companies in Nigeria. The specific objectives of the study are to:
1. ascertain the effect of environmental sustainability cost on return on capital employed (ROCE) oil and gas companies in Nigeria;
2. ascertain the effect of waste management cost on return on capital employed of oil and gas companies in Nigeria;
3. determine the effect of environmental clean-up cost on return on capital employed of oil and gas companies Nigeria;
4. examine the extent of effect of environmental sustainability cost on earnings per share of oil and gas companies in Nigeria;
5. determine the extent of effect of waste management cost on earnings per share of oil and gas companies in Nigeria;
6. assess the effect of environmental clean-up cost on earnings per share of oil and gas companies in Nigeria;
7. investigate the extent of effect of environmental sustainability cost on net profit margin of oil and gas companies in Nigeria;
8. examine the effect of waste management cost on net profit margin of oil and gas companies in Nigeria;
9. determine the effect of environmental clean-up cost on the net profit margin of oil and gas companies in Nigeria.

Research Questions
1. What is the effect of environmental sustainability cost on return on capital employed (ROCE) oil and gas companies in Nigeria?
2. What is the effect of waste management cost on return on capital employed of oil and gas companies in Nigeria?
3. What is the effect of environmental clean-up cost on return on capital employed of oil and gas companies Nigeria?
4. To what extent has environmental sustainability cost affected earnings per share of oil and gas companies in Nigeria?
5. To what extent has waste management cost affected earnings per share of oil and gas companies in Nigeria?
6. What is the effect of environmental clean-up cost on earnings per share of oil and gas companies in Nigeria?
7. To what extent has environmental sustainability cost affected net profit margin of oil and gas companies in Nigeria?
8. What is the effect of waste management cost on net profit margin of oil and gas companies in Nigeria?
9. What is the effect of environmental clean-up cost on net profit margin of oil and gas companies in Nigeria?

Research Hypotheses
Ho1: There is no significant effect of environmental sustainability cost on return on capital employed (ROCE) of oil and gas companies in Nigeria is not significant.
Ho2: There is no significant effect of waste management cost on return on capital employed of oil and gas companies in Nigeria.

Ho3: There is no significant effect of environmental clean-up cost on return on capital employed of oil and gas companies Nigeria.

Ho4: Environmental sustainability cost has not affected earnings per share of oil and gas companies in Nigeria to a great extent.

Ho5: Waste management cost has not affected earnings per share of oil and gas companies in Nigeria to a great extent.

Ho6: There is no significant effect of environmental clean-up cost on earnings per share of oil and gas companies in Nigeria.

Ho7: Environmental sustainability cost has not affected net profit margin of oil and gas companies in Nigeria to a great extent.

Ho8: There is no significant effect of waste management cost on net profit margin of oil and gas companies in Nigeria .

Ho9: There is no significant effect of environmental clean-up cost on net profit margin of oil and gas companies in Nigeria.

Scope Of The Study

The study examined the effect of green accounting on financial performance of oil and gas companies in Nigeria. The study covered only quoted companies in the Nigerian Exchange Group because of availability of data. Previous studies had conducted research on the effect of green accounting on financial performance of manufacturing and the services sector in Nigeria hence this elicited the researcher to diversify into the oil and gas sector to also examine the effect of green accounting on their financial performances because this sector is the one that mostly degrades the environment. Some past studies covered fewer number of years like 5 (five) years but this study covered *a* period of 10 years (2012 -2021) . 10(ten) years was used as this is believed would produce an in-depth understanding of the effect of green accounting on financial performance of oil and gas firms in Nigeria. The reason for the time frame of 2012-2021 is the availability of data from the audited annual reports of the selected firms. Data in the study variables were sourced from the audited financial reports of eight listed oil and gas companies in the Nigerian Exchange Group. The proxies For green accounting included Environmental Sustainability cost, Environmental Waste Management cost and Environmental Clean up cost while return on capital employed, net profit margin and earnings per share were employed as measures of financial performance .

II.   Literature Review

Conceptual Review

Concept Of Green Accounting

Environmental accounting also known as 'green accounting' or environmental management accounting, is a variant of accounting. Iyyanki and Valli (2017) defined green accounting as a modification of the system of National Accounts to include the cost of restoration of depleted natural resources. According to the ACCA (2015), environmental accounting is the disclosure of financial and non-financial information of a firm's environmental impact or footprints for an accounting period. This environmental disclosure reports on costs incurred by the firm such as waste management, recycling, repackaging, energy and resource conservation, carbon management, emission reduction, pollution control, and the preservation of wetlands on the natural environment(Gatimbu and Wabwire 2016)"Going green" helps in mitigation of environmental degradation and pollution, maintenance and servicing of equipment, maintenance of oil pipelines etc.

Measures Of Financial Performance

Dwivedi, (2002) opines that financial performance is a subjective measure of how a company utilizes its resources in its operations to generate income. He also stated that companies within the same industry can compare their performances. Wang, Lu, Ye, Chau and Zang (2016) argued that a company's financial performance may be viewed from three aspects:- The productivity of the company, size of the profitability and the level of market value of the company. According to Rahman, Zain and Yahaya (2011), businesses are majorly concerned with maximizing profit. Hassan, Rabia and Shatha (2021) argue that the performance of a firm is the capacity of a firm to earn returns on investment from its assets that has a positive net present value. Iliemena and Okolocha (2010) submits that measures of financial performance of a company describes the financial well-being over a period of time.

Stakeholder Theory

The foundation of this study is anchored on the 'stakeholders' theory' which holds that businesses should consider the interest of other stakeholders, such as the society and operating environment while pursuing their major goal of profitability. The stakeholder theory was adopted to examine the effect of environmental degradation by oil and gas companies on the stakeholders and to determine how green accounting disclosure affect

financial performance of these oil and gas companies. To respond to the pressures of the stakeholders, companies must consider the demands of multiple stakeholder groups in their business operations. These include the concerns of the host communities in which the companies operate, their customers the capabilities of suppliers, government regulations , and the technological, organizational, and environmental determinants of green accounting. Hence, the effects of stakeholder on a company on use of green accounting is considered in this study. The stakeholder theory has been adopted for several environmental studies such that stakeholders have been instrumental in influencing both corporate ecological responsiveness (e.g., Bansal, P.; Roth, K 2000) and environmental strategies . According to Freeman, stakeholders can be classified as internal (customers, suppliers, and employees) or external (competitors and the government). To respond to pressure from stakeholders, companies must consider the demands of multiple stakeholder groups .Studies have shown the existence of a positive relationship between green accounting disclosures and profitability of firms (Ogoun and Ekpulu, 2020; Menike, 2020). .However, the results have been mixed, and the influence of stakeholders on environmental management has been inconsistent. For example, whereas Ogoun and Ekpulu, 2020; Menike, 2020 found a positive relationship between environmental disclosure and firms' performance while Azzam and Alqudah, 2020 posits that a negative or mixed association exists between green accounting and financial performance of firms. Darnall , Henriques and Sadorsky (2010) noted that, a new business model has emerged that recognizes and considers the conflicting needs of the different stakeholders by creating business policies and strategies that are beneficial to all. Those at the helm of affairs must incorporate the welfare of different stakeholders by strategizing on maximizing value. Hence, pressure from the different stakeholders to disclose on social and environmental information.

III.   Research Design

This research assessed the relationship between green accounting and financial performance hence experimental research design using Ex-post-facto data was adopted for the study due to the nature of the data required and also data relating to both variables in this study already exists in the literature (Madugba, Ben-caleb, Lawal and Agburuga 2020) and the researcher cannot manipulate the variables as there is no control over the variables hence a causal relationship exists between green accounting and financial performance.

The population of this study comprised quoted oil and gas companies in Nigerian Exchange Group. Eight (8) oil and gas companies whose shares are actively quoted on the floors of Nigerian Exchange Group (NGX Group) were selected. See appendix (A)

This study investigated the effect of green accounting on financial performance of oil and gas companies in Nigeria which covered a period of ten years from 2012 – 2021. The eight companies were selected based on availability of data required for the study. The period was chosen by the researcher due to the availability of data as it will give a conclusive decision on the green accounting activities of the oil and gas in Nigeria. See appendix (B).

Secondary data was generated from the financial statement of the selected oil and gas companies in Nigeria covering a period of ten years for the eight companies from 2012- 2021 making eighty firm years.

This study employed Panel data regression analytical tool. This statistical tool was adopted because of the number of Oil and Gas firms and the period of time involved .The data generated from the financial statement of the oil and gas companies in this study was subjected to the panel data regression. and the Hausman test to select the appropriate model for the ten years covering 2012-2021.

IV.   Data Analyses

In this study, a panel data regression was used in which both the fixed effect and random effect of panel data regression was carried out hence the Hausman test was used to determine which of the fixed or random effect should be used for interpretation.

The relationship between environmental sustainability cost, waste management costs, and environmental clean-up costs and return on capital employed of listed oil companies in Nigeria is not significant.

Decision rule: Reject null hypothesis if probability value computed by means of E-view is less than or equal to 0.05 ($p \leq 0.05$)

Table 4.3.1 presents the fixed effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on return on capital employed of listed oil companies in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.200279	0.110792	10.83361	0.0000
LESC	-0.008989	0.017172	-0.523461	0.6024
LWMC	-0.009848	0.014093	-0.698821	0.4871
LECC	-0.011076	0.013982	-0.792166	0.4311
Effects Specification				
Cross-section fixed (dummy variables)				

R-squared	0.538483	Mean dependent var	1.066530
Adjusted R-squared	0.468557	S.D. dependent var	0.453410
S.E. of regression	0.330537	Akaike info criterion	0.755367
Sum squared resid	7.210808	Schwarz criterion	1.090196
Log likelihood	-18.08163	Hannan-Quinn criter.	0.889296
F-statistic	7.700674	Durbin-Watson stat	1.567849
Prob(F-statistic)	0.000000		

Source; Author's computation, 2023

Table 4.3. 2 presents the random effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on return on capital employed of listed oil companies in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.139829	0.150915	7.552808	0.0000
LESC	-0.005220	0.024082	-0.216751	0.8290
LWMC	-0.010668	0.019789	-0.539072	0.5915
LECC	0.000716	0.019389	0.036941	0.9706
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			0.484809	1.0000
Weighted Statistics				
R-squared	0.007475	Mean dependent var		1.066530
Adjusted R-squared	-0.033314	S.D. dependent var		0.453410
S.E. of regression	0.460901	Sum squared resid		15.50737
F-statistic	0.183256	Durbin-Watson stat		0.762207
Prob(F-statistic)	0.907454			

Source: Author's computation, 2023

Table 4.3.3 presents the Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	0.694840	3	0.8744

Source Author's computation, 2023

Decision Rule: accept random effect if probability of Hausman test is less than or equal 0.05

As contained in Table 4.3.3 (the Hausman Test) the probability of the test is not significant at 5% level and since the null hypothesis is that the random effect model is the preferred, we reject the null hypothesis and accept the alternative. Hence, we conclude that the fixed effect model is more appropriate. This implies that our discussion of result will be based on the fixed effect model.

From Table 4.3. 1 above,(fixed effect model) the adjusted coefficient of multiple determination of 0.468557 indicate that about 46.856% of the variations observed in return on capital employed (ROCE) of listed oil companies in Nigeria is determined by changes in the value of the predictor variable, (environmental sustainability costs, environmental clean-up costs and waste management costs). This implies that about 53.14% of the changes in return on capital employed are attributable to factors other than the one considered in our study. The econometric value of F-ratio of 7.700678 is significant at 5% level and this further highlights the appropriateness of the model specification.

Again, the Durbin-Watson statistic of 1.567849 is approximately 2 and indicated the absence of auto-correlation.

Therefore, this study rejected the null hypothesis and concluded that the independent variables jointly has a significant influence on Return on capital employed of listed oil companies in Nigeria.

Test of hypothesis two

The relationship between environmental sustainability cost, waste management costs, and environmental clean-up costs and earnings per share of listed oil companies in Nigeria is not significant.

Decision rule: Reject null hypothesis if probability value computed by means of SPSS is less than or equal to 0.05 ($p \leq 0.05$)

Table 4.4.1 presents the fixed effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on earnings per share of listed oil companies in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.564418	0.129277	4.365967	0.0000
LESC	0.030032	0.020037	1.498833	0.1387
LWMC	-0.027381	0.016444	-1.665108	0.1006
LECC	-0.020737	0.016315	-1.271031	0.2082

Effects Specification				
Cross-section fixed (dummy variables)				

R-squared	0.541914	Mean dependent var	0.518888
Adjusted R-squared	0.472507	S.D. dependent var	0.531035
S.E. of regression	0.385684	Akaike info criterion	1.063966
Sum squared resid	9.817638	Schwarz criterion	1.398796
Log likelihood	-29.96271	Hannan-Quinn criter.	1.197895
F-statistic	7.807781	Durbin-Watson stat	2.256593
Prob(F-statistic)	0.000000		

Source: Author's computations, 2023

Table 4.4 2 presents the random effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on earnings per share of listed oil companies in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.610811	0.162691	3.754435	0.0003
LESC	0.047426	0.025961	1.826833	0.0718
LWMC	-0.043112	0.021333	-2.020874	0.0470
LECC	-0.038217	0.020902	-1.828415	0.0716

Effects Specification		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		0.522638	1.0000

Weighted Statistics			
R-squared	0.118882	Mean dependent var	0.518888
Adjusted R-squared	0.082672	S.D. dependent var	0.531035
S.E. of regression	0.508611	Sum squared resid	18.88400
F-statistic	3.283112	Durbin-Watson stat	1.153752
Prob(F-statistic)	0.025540		

Source: Author's computations, 2023

Hausman Test
Decision Rule: accept random effect if probability of Hausman test is less than or equal 0.05

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	1.720466	3	0.0324

Source: Author's computations, 2023

As contained in Table 4.4.3 (the Hausman Test) the probability of the test is significant at 5% level and since the null hypothesis is that the random effect model is the preferred, we accept the null hypothesis and conclude that the random effect model is more appropriate. This implies that our discussion of result will be based on the random effect model.

From Table 4.4.2 above,(random effect model) the adjusted coefficient of multiple determination of 0.082672 indicate that about 8.27% of the variations observed in the listed oil companies in Nigeria is determined by changes in the value of the predictor variable, (environmental sustainability costs, environmental clean-up costs and waste management costs). This implies that about 91.73% of the changes in return on capital employed are attributable to factors other than the one considered in our study. The econometric value of F-ratio of 3.283112 is significant at 5% level and this further highlights the appropriateness of the model specification.

Again, the Durbin-Watson statistic of 1.153752 is approximately 2 and indicated the absence of auto-correlation.

Therefore, this study rejected the null hypothesis and concluded that the independent variables jointly has a significant influence on earnings per share of listed oil companies in Nigeria.

Test of hypothesis three

The relationship between environmental sustainability cost, waste management costs, and environmental clean-up costs and net profit margin of listed oil companies in Nigeria is not significant.

Decision rule: Reject null hypothesis if probability value computed by means of SPSS is less than or equal to 0.05 ($p \leq 0.05$)

Table 4.5.1 presents the fixed effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on net profit margin of listed oil companies in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.369397	0.146472	2.521970	0.0141
LESC	0.017870	0.022686	2.787689	0.0337
LWMC	-0.003073	0.018734	-0.164033	0.8702
LECC	0.001380	0.018483	0.074666	0.9407
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.411966	Mean dependent var		0.454476
Adjusted R-squared	0.321499	S.D. dependent var		0.530101
S.E. of regression	0.436651	Akaike info criterion		1.313762
Sum squared resid	12.39316	Schwarz criterion		1.651105
Log likelihood	-38.92296	Hannan-Quinn criter.		1.448581
F-statistic	4.553774	Durbin-Watson stat		1.571757
Prob(F-statistic)	0.000069			

Source: Author's computation, 2023

Table 4.5 2 presents the random effect of panel data regression showing the effect of environmental sustainability cost, waste management costs, and environmental clean-up costs on net profit margin of listed oil companies in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.530731	0.173668	3.056007	0.0031
LESC	0.006701	0.027754	0.241440	0.8099
LWMC	-0.015300	0.022891	-0.668363	0.5060
LECC	-0.011197	0.022301	-0.502088	0.6171
Effects Specification			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			0.557636	1.0000
Weighted Statistics				
R-squared	0.011290	Mean dependent var		0.454476
Adjusted R-squared	-0.029906	S.D. dependent var		0.530101
S.E. of regression	0.537970	Sum squared resid		20.83763
F-statistic	0.274051	Durbin-Watson stat		0.886025
Prob(F-statistic)	0.843926			

Source: Author's computations, 2023

Hausman Test
Decision Rule: accept random effect if probability of Hausman test is less than or equal 0.05

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	1.101390	3	0.7767

Source: Author's computations, 2023

As contained in Table 4.5.3 (the Hausman Test) the probability of the test is not significant at 5% level and since the null hypothesis is that the random effect model is the preferred, we accept the null hypothesis and conclude that the fixed effect model is more appropriate. This implies that our discussion of result will be based on the fixed effect model.

From Table 4.5. 1 above, (fixed effect model) the adjusted coefficient of multiple determination of 0.321499 indicate that about 32.14% of the variations observed in net profit margin of listed oil companies in Nigeria is determined by changes in the value of the predictor variable, (environmental sustainability costs, environmental clean-up costs and waste management costs). This implies that about 67.86% of the changes in net profit margin are attributable to factors other the one considered in our study. The econometric value of F-ratio of 4.553774 is significant at 5% level and this further highlights the appropriateness of the model specification. Again, the Durbin-Watson statistic of 1.1571757 indicated the absence of auto-correlation.

Therefore, this study rejected the null hypothesis and concluded that the independent variables jointly has a significant influence on net profit margin of listed oil companies in Nigeria.

Discussion of result for Hypotheses one
Table 4.3.1 indicated that there is evidence that supports a co-efficient of regression of -0.008989 for environmental sustainability cost (ESC) and a probability value of 0.6024. This implies that ESC is negative and insignificant determinant of return on capital employed of oil and gas companies in Nigeria. The implication is that oil companies in this study do not consider the sustainability of the environment as paramount as this is reflected in the amount of environmental sustainability cost. Our finding disagrees with that of Madugba et al (2020) that oil companies do invest heavily in their ESC. The reason could be linked to the lower number of 5 (five)years used in their study .

Statistical evidence as contained in Table 4.3.1 confirmed that the co-efficient of regression value of -0.009848 was shown for waste management costs (WMC). The probability value shown for the same variable is 0.4871. Meaning that WMC is negative and insignificant determinant of return on capital employed of oil companies in Nigeria. This implies that oil companies in Nigeria are not properly managing or curbing waste that emanates as a result of their activities in the host communities, no wonder the continuous youth hostilities and loss of the aquatic species in the host communities.

Environmental clean-up costs (ECC) is shown to have a co-efficient of regression of -0.011076 with a probability value of 0.4311. This means that environmental clean-up costs do not have an affirmative and significant relationship with return capital employed of the oil companies in Nigeria. A caveat is whether the impact of the clean-up costs is enough to cushion the effect of their distortive activities on the host communities was not considered in this study.

Discussion of Result for Hypotheses two
There is evidence that supports a positive but insignificant association between environmental sustainability costs and earnings per share of oil companies in Nigeria. This is affirmed by a co-efficient of regression value of 0.047426 and a probability value of 0.0718. The implication is that a unit increase in earnings per share of the oil companies will lead to an equal decrease in the ESC of the companies in Nigeria. Again the implication is that compared to their earnings ,their investment in environmental sustainability costs is too poor.

Table 4.4.2 indicated that waste management cost has a co-efficient of regression of -0.043112. This means that waste management cost has a negative but significant association with earnings per share of the listed oil companies in Nigeria. This implies that investment of the oil companies in waste management in the host communities are too small to impact on their earnings per share.

Environmental Clean-up Costs (ECC) is indicated to have a co-efficient of regression value of -0.039217 with a probability of 0.0716. Meaning that ECC is negative and insignificant determinant of earnings per share of the oil companies in Nigeria. The reason for this could be that the oil companies has neglected the impact of their activities on the host communities or that the government do not mandate the oil companies to clean up the environment.

Discussion of Result for hypotheses three

There is evidence that supports a positive but insignificant association between environmental sustainability costs and net profit margin of oil companies in Nigeria. As contained in Table 4.5.1, the co-efficient of regression value of 0.17870 is positive and the probability value is lower than 0.0357 hence, we conclude that the relationship between environmental sustainability cost and net profit margin of oil and gas companies in Nigeria is significant.

Waste Management cost (WMC) as shown above is indicated to have a co-efficient of regression value of -0.003075. This means that the relationship between WMC and net profit margin of the oil companies in Nigeria is negative and insignificant. The result disagrees with that of Oti et al.(2018) whose study result revealed a positive and significant relationships between Waste Management cost and a firm's financial performance .

From Table 4.5.1 above, it is evident that environmental clean-up cost has a positive but non-affirmative association with net profit margin of the oil and gas companies in Nigeria. This assertion is confirmed by a co-efficient of regression value of 0.001380. This reason for this finding could be that the oil and gas companies has neglected to mop-up the oil spills within the host communities.

V.   Summary Of Findings

This study examined the relationship between   green accounting and financial performance of listed oil and gas companies in the Nigerian Exchange Group for ten financial years from 2012-2021.Findings revealed the following :

Hypothesis one: environmental sustainability costs has a negative and insignificant effect on return on capital employed of listed oil companies in Nigeria. The implication of this finding is that most of the oil companies in Nigeria do not invest in environmental sustainability cost to preserve the natural environment within the host communities where they operate.

Hypothesis two: There is a negative and insignificant relationship between waste management cost and return on capital employed of oil companies in Nigeria. This result is consistent with that of Umoren et al. (2018) which showed insignificant relationships between environmental accounting practices and performance variables (return on capital employed, net profit margin earnings per share, and earnings per share). This implies that oil companies   are not environmentally responsive because they do not give attention to waste control and management.

Hypothesis three: Environmental clean-up costs (ECC) have a regression of co-efficient   of -0.011076 with a probability value of 0.4311. This means that environmental clean-up costs do not show a positive and significant relationship with return on capital employed by the oil companies in Nigeria. Although some of these companies invest in clean up of oil spills and removal of other hazardous waste, the impact of the investment is not felt by the communities as either proper clean up is not done or there are no government oversight agencies to monitor and supervise the clean up.

Hypothesis four: Here, a positive but insignificant association exists between environmental sustainability costs and earnings per share of oil companies in Nigeria. Some companies that are not environmentally conscious will tend to invest a paltry amount in sustainability of the environment hence unlikely to impact earnings per share.

Hypothesis five: waste management cost has a negative but significant association with earnings per share of the listed oil companies in Nigeria meaning that the oil companies have not deemed it fit to be environmentally friendly and responsive to effects of their operational activities. This can lead to sabotage by the residents in the communities especially when there is no compensation from the oil companies and the government for environmental degradation. This, no doubt will impact on their earnings per share.

Hypothesis six: From above results, the oil companies do not deem it expedient to clean up the environment they have exploited as the hazardous remains of their activities filters to destroy the eco-system and the government has turned a blind eye to these. This can be seen from the results as ECC is negative and an insignificant determinant of earnings per share of the oil companies in Nigeria.

Hypothesis seven: Here, the relationship between environmental sustainability cost and net profit margin of oil and gas companies in Nigeria is positive and significant. This depicts that though the oil and gas companies invests in sustainability cost, the impact is not felt as there is still an outcry by the host communities regarding the devastation of their bio-system that has led to abject poverty by the business explorational activities of these companies.

Hypothesis eight: waste Management cost (WMC) as shown above is indicated to have a co-efficient of regression value of -0.003075. This means that the relationship between waste Management cost and net profit margin of the oil companies in Nigeria is negative and insignificant. Implying that the oil companies does not engage in waste management and control in the host communities, meaning they are not proactive and responsive enough ,the outcome of which is vices such as sabotage, destruction of pipelines, youth unrests etc. This would affect the revenue of the companies.

Hypothesis nine: : From the result of test of hypothesis nine , we conclude that that environmental clean-up cost has a positive but non-affirmative association with net profit margin. This implies that the oil and gas companies has neglected to mop-up the oil spills within the host communities.

VI.   Conclusion

Having examined the effect of green accounting on financial performance of listed oil companies in Nigeria, green accounting has been identified as a critical determinant of efficient and effective management of listed oil companies both in emerged and emerging economies alike. It also showed that non-compliance to codes of environmental laws occurs in different dimensions among the oil companies. Therefore, it is the researcher's view that if oil companies in Nigeria comply with environmental laws and governance principles, it will significantly enhance the financial wealth of oil companies in the subsector of Nigeria which will in turn boost stakeholders' confidence in the Nigerian oil sector.

Considering the findings of the study, the researcher will like to make the following recommendations;

Accounting bodies and the Nigerian Exchange Group as a matter of fact should provide in their guidelines mandatory reporting of environmental costs in annual reports of companies.

Reference:

[1]   Adediran, S.A And Alade, S.O (2013)- The Impact Of Environmental Accounting On Corporate Performance In Nigeria, European Journal Of Business And Management 5(23)

[2]   Azzam M., Alqudah A., Haijaa. A., &Shakhatreh, M. (2020). The Association Between Sustainability Disclosures And The Financial Performance Of Jordanian Firm. Cogent Business & Management, 7(1), 1-13 [4]

[3]   Bansal, P.; Roth, K.(2000) Why Companies Go Green: A Model Of Ecological Responsiveness. Acad. Manag. J. 43, 717–736. 31.

[4]   Beredugo S.B, Mefor I. P. (2012)The Impact Of Environmental Accounting And Reporting On Sustainable Development In Nigeria. Research Journal Of Finance And Accounting. Vol 3. No.7,

[5]   Darnall N, Henriques I. &Sandosky P. (2010) :Adopting Proactive Environmental Strategy: The Influence Of Stake Holders Firm Size. Journal Of Management Studies, 47(6) 1072-1094

[6]   Dwivedi N. (2002), Determinants Of Weaknesses In Internal Control Of Over Financial Reporting And The Implications For Earnings Quality, Working Paper.

[7]   Emoyan, O. O, Akpoborie I. A &Akporhonor E. E. (2008) The Oil And Gas Industry And The Niger Delta: Implications For The Environment. Journal Of Applied Science And Environmental. Management.2008 Vol. 12(3) 29 – 37

[8]   Gatimbu, K.K & Wabwire, J.M. (2016). Effect Of Corporate Environmental Disclosure On Financial Performance Of Firms Listed At The Nairobi Stock Exchange, Kenya. International Journal Of Sustainability Management And Information Technology, 1-6.

[9]   Hassan M H, Rabia MS, Shatha MA(2021): Emerging Trends In Sustainability Reporting(SR):Comparative Literature Review In Developed And Developing And GCC Countries. Journal Of Business And Management. Vol.9, No. 6 ICAN (2014) 181-201

[10]   Illiemena R. O.& Okolocha C.B (2020) Environmental Accounting Practices And Corporate Performance: Study Of Listed Oil And Gas Companies In Nigeria European Journal Of Business And Management 12(22). 58-70.

[11]   Madugba, J. U., Ben-Caleb E., Lawal, A., And Agburugba ,T.U (2020). Firm Size And Tax Saving Behaviour Of Listed Companies In Nigeria. Academic Journal Of Interdisciplinary Studies 9(3)

[12]   Madugba, J. U, Ben-Caleb E.,Agburugba ,T.U,Fadoju S.O, Ani. W.C, And Jegede S.L (2021). Environmental Reporting And Sustainability Reporting In Oil Companies In Nigeria. International Journal Of Financial Research. Vol 12, No.1

[13]   Ogoun1 S. Ekpulu G. A. (2020). Environmental Reporting And Operational Performance: A Study Of Listed Manufacturing Firms In Nigeria. International Journal Of Intellectual Discourse, 3(1), 381- 396.

[14]   Okafor, T. G. (2018), Environmental Costs Accounting And Reporting On Firm Financial Performance: A Survey Of Quoted Nigerian Oil Companies, International Journal Of Finance And Accounting ,7 (1), 1-6.

[15]   Olushola, B. (2020). How To Address Rising Cost Of Production In Oil And Gas Industry In Nigeria: Stakeholders View. Online At Https://Businessday.Ng/News/Article/How-To-Address-Risingcost-Of-Production-In-Oil-And-Gas-Industry-Stakeholders/

[16]   Rahman, N. H., Zain, W.A M.M & Yahaya N H (2011)CSR Disclosures And Its Determinants: Evidence From Malaysian Government Link Companies, Social Responsibility Journal 7(2) 181-201 Level Refining

[17]   Umoren A, Akpan M & Okafor L (2018) Oil Companies Performance And Environmental Accounting Reporting In Nigeria. Asian Journal Of Economics, Business And Accounting 8 (1), 1-8.

[18]   Wang, H., Lu, W., Ye, M., Chau, K. W., & Zhang, X. (2016). The Curvilinear Relationship Between Corporate Social Performance And Corporate Financial Performance: Evidence From The International Construction Industry. Journal Of Cleaner Production, 137, 1313-1322