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NEXUS BETWEEN EARNING MANAGEMENT AND WASTE MANAGEMENT COST OF LISTED OIL AND GAS FIRMS IN NIGERIA

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Abstract: The study examined the Nexus between Earning Management and Waste Management Cost of Listed Oil and Gas Firms in Nigeria. The specific objectives of the study sought to; evaluate the relationship between earnings per share and waste management cost and assess the relationship between return on equity and waste management cost of listed Oil and Gas firms in Nigeria. The study adopts an ex-post facto research design. The study adopts a secondary source of data. the data was obtained from the financial statements and annual accounts of the selected oil and gas firms. The data was analysis using panel data regression technique. The panel data include observations on N cross section units (i.e., firms) over T time-periods. The result revealed that earnings per share have positive and insignificant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.1578). while return on equity has positive and significant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.1578). while return on equity has positive and significant relationship with waste management has significant positive relationship with Waste Management Cost of Listed Oil and Gas Firms in Nigeria. The study recommended that Government should set standards as industrial average amounts that corporate organizations within such industrial sector must spend on CSR in each financial year of operation.

Keywords: Cost, Earning, Management, Waste

1.1 Introduction

In recent years, the global business landscape, particularly in the oil and gas sector, has witnessed increased scrutiny and emphasis on sustainable business practices. One crucial aspect of corporate sustainability is the effective management of waste, given the environmental and social implications associated with the extraction and production processes in the energy industry. This study delves into the intricate relationship between earnings management and waste management costs, focusing specifically on listed oil and gas firms in Nigeria. Nigeria, as a major player in the international oil and gas market, faces a dual challenge of optimizing financial performance while adhering to environmental regulations and societal expectations. The exploration, production, and refining activities in the oil and gas sector inherently generate a significant amount of waste, ranging from hazardous byproducts to non-hazardous materials. The effective management of these waste streams is not only critical for environmental conservation but also for the reputation and long-term viability of the firms involved. The extraction, exploration, and refining processes in the oil and gas industry inherently generate substantial waste streams, ranging from hazardous byproducts to non-hazardous materials. The effective management of these waste streams is not only for regulatory compliance but also for mitigating environmental risks and fostering sustainable corporate practices. In this context, the term "earnings management" gains prominence,

referring to the strategic manipulation of financial reporting to achieve specific financial outcomes. Earnings management practices have been extensively studied in financial literature, often in the context of financial performance metrics and investor perceptions. However, its implications for waste management costs in the oil and gas sector remain relatively uncharted territory. As these firms grapple with the need to balance financial objectives and environmental responsibilities, questions arise regarding the potential influence of earnings management strategies on waste management practices.

EPS is a financial ratio, which divides net earnings available to common shareholders by the average outstanding shares over a certain period of time. The EPS formula indicates a company's ability to produce net profits for common shareholders. This guide breaks down the Earnings per Share formula in detail. A single EPS value for one company is somewhat arbitrary. The number is more valuable when analyzed against other companies in the industry, and when compared to the company's share price (the P/E Ratio). Between two companies in the same industry with the same number of shares outstanding, higher EPS indicates better profitability. EPS is typically used in conjunction with a company's share price to determine whether it is relatively "cheap" (low P/E ratio) or "expensive" (high P/E ratio).

1.2 Statement of the problem

The dynamic landscape of the oil and gas industry in Nigeria presents a complex challenge at the intersection of financial management and environmental responsibility. The primary research problem revolves around understanding the intricate relationship between earnings management practices and waste management costs within the context of listed oil and gas firms. The oil and gas sector are known for its strategic financial decisions, including earnings management practices. However, the extent to which these practices influence waste management costs remains unclear. The research problem centers on identifying and quantifying the impact of strategic earnings management on the financial allocation and efficiency of waste management processes.

Thus, environmental cost provides a framework to environmental responsibility and corporate financial performance. The extent to which the environmental costs influence financial performance of firms is determined by some variables, such as the disclosure index of community development costs, waste management costs and environmental taxes and fines. The impact of these variables on financial performance, represented here by return on asset, profit for the year, Earnings per share, return on equity and total asset would be examined in this work.

1.3 Objectives of the Study

The main objective of this study is to effect of Earning Management on the Waste Management Cost of Listed Oil and Gas Firms in Nigeria. The specific objectives of the study sought to;

- Evaluate the relationship between earnings per share and waste management cost of listed Oil and Gas firms in Nigeria.
- Assess the relationship between return on equity and waste management cost of listed Oil and Gas firms in Nigeria.

1.4 Hypotheses of the study

- There is no significant relationship between earnings per share and waste management cost of Oil and Gas firms in Nigeria.
- There is no significant relationship between return on equity and waste management cost of Oil and Gas firms in Nigeria.

Review of Related Literature

2.1 Conceptual Review

Earnings Management

Using its techniques to define earnings management, Earnings management is defined by Shuaibu, (2020) and Tasneem et al (2016) as a communication method aimed at improving the information supplied to investors. As a consequence, the economic entity is providing financial statements to investors or prospective investors that have been filtered by certain procedures capable of producing a more favorable image on the market as well as the

illusion of some more appealing outcomes. A company can change its reported financial result, such as the income statement and statement of cash flows, or its reported financial position, such as the balance sheet, in any amount and/or direction it wants (Agubata, & Ekwueme, 2019). Earnings management degrades financial reporting quality, according to HeaJeong, & Youngchan (2020), when managers use financial reporting judgments and transaction structuring to alter financial reports in order to either mislead some stakeholders about the company's underlying performance or influence contractual outcomes based on reported accounting numbers. Similarly, earnings management, according to Sam, Zabbey, (2018), results in low-quality financial reporting as a result of purposeful participation in the external financial reporting process with the objective of gaining some private benefit. These definitions use an opportunistic perspective of creative accounting as the basis for reporting quality, in which management's goal is to earn a private advantage by deceiving stakeholders or influencing contractual outcomes.

As a result, earnings management has a negative influence on earnings quality, i.e., the bigger the scope of innovative accounting methods, the worse the earnings quality, and vice versa. The reported profits amount and the overall financial reports would be of lesser quality if earnings were managed opportunistically. Earnings management, according to Filed, Jeroh, & MOkoro, (2016), occurs when managers exert discretion over accounting statistics, with or without limitations. Firm value maximization or opportunistic discretion can both be used. Thus, opportunistic and informational earning management are the two forms of earning management. Managers use opportunistic creative accounting methods to deceive investors by promoting their own interests. Shuaibu, (2020), who discovered that managers utilize accruals to deliberately manipulate bonus income 2, started the literature on this form of creative accounting.

Earnings Per Share

Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. It is common for a company to report EPS that is adjusted for extraordinary items and potential share dilution. The higher a company's EPS, the more profitable it is considered to be (Yusoff & Adamu, 2016). Earnings per share (EPS) is a company's net profit divided by the number of common shares it has outstanding. It indicates how much money a company makes for each share of its stock and is a widely used metric for estimating corporate value. A higher EPS indicates greater value because investors will pay more for a company's shares if they think the company has higher profits relative to its share price. EPS can be arrived at in several forms, such as excluding extraordinary items or discontinued operations, or on a diluted basis (Yusoff & Adamu, 2016). Earnings per share value is calculated as net income (also known as profits or earnings) divided by available shares. A more refined calculation adjusts the numerator and denominator for shares that could be created through options, convertible debt, or warrants.

The numerator of the equation is also more relevant if it is adjusted for continuing operations.

Earnings per Share = <u>Net Income – Preferred Dividends</u>

End-of Period Common Shares Outstanding

To calculate a company's EPS, the statement of financial position and income statement are used to find the period-end number of common shares, dividends paid on preferred stock (if any), and the net income or earnings. It is more accurate to use a weighted average number of common shares over the reporting term because the number of shares can change over time (HeaJeong & Youngchan 2020).

Return on Equity

Return on equity (ROE) is a measure of financial performance calculated by dividing <u>net income</u> by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE is considered the return on net assets. ROE is considered a gauge of a corporation's profitability and how efficient it is in generating profits. Return on equity (ROE) is a financial ratio that shows how well a company is managing the capital that shareholders have invested in it. To calculate ROE, one would divide net income by shareholder equity. The higher the ROE, the more efficient a company's management is at generating income and growth from its equity

financing. When utilizing ROE to compare companies, it is important to compare companies within the same industry, as with all financial ratios (Kaoje & Auwal, 2020).

ROE is expressed as a percentage and can be calculated for any company if net income and equity are both positive numbers. Net income is calculated before dividends paid to common shareholders and after dividends to preferred shareholders and interest to lenders (Karakteristikleri, Hilesi, & Yaklaşım, 2016). <u>Net</u> Income

Return on Equity =

Average Shareholders' Equity

Net income is the amount of income, net expenses, and taxes that a company generates for a given period. Average shareholders' equity is calculated by adding equity at the beginning of the period. The beginning and end of the period should coincide with the period during which the net income is earned (Kartiningsih, 2020). Net income over the last full fiscal year, or trailing 12 months, is found on the income statement—a sum of financial activity over that period. Shareholders' equity comes from the statement of financial position-a running balance of a company's entire history of changes in assets and liabilities. It is considered best practice to calculate ROE based on average equity over a period because of the mismatch between the income statement and the statement of financial position (Ojewumi, et al, 2018).

Waste management Cost

Wastes generated from crude oil and natural gas exploration and production are generally subject to regulation under Subtitle D of the Resource Conservation and Recovery Act (RCRA) and state regulations, and many state governments have specific regulations and guidance for exploration and production wastes. In addition, some states are developing legislation and regulations in response to the increase in the use of hydraulic fracturing, including requirements related to waste management. As the use of hydraulic fracturing has increased, so too have concerns about potential impacts on public health and the environment, including potential impacts arising from improper management of wastes from exploration and production activities. Proper waste management is important for all exploration and production wastes, including those that are associated with hydraulic fracturing activities (Onyali, & Okafor 2018).

Investments in production equipment might be made in order to reduce environmentally hazardous emissions. Such investments are considered environmental costs. Most investments however are not made solely for environmental purposes but also to increase the utilization capacity. These investments are not considered as entirely environmental but also as regular investments. In these cases the environmental costs only consist of the part of the investment considered an environmental investment. Waste produced by a process often has to be processed before being released to the environment (Bassey, Effiok, & Eton, 2013). Some of the waste can be handled by the company itself, other waste is better handled by external waste treating companies. Handling of the waste causes environmental costs either way. The cost of waste transportation is also considered an environmental cost to include depletion of natural resources, noise and aesthetic impacts. Residual air and water emissions, long-term waste disposal. Thus, accounting became concerned with achieving new goals such as measuring and evaluating potential or actual environmental impacts of projects on organizations' performance. These new goals are of great importance as they enable many users to take different development decisions that are economically and environmentally sound (Bassey, Effick, & Eton, 2013).

Alikhani, & Maranjory, (2013) identified the main reasons of accounting interest in the environment to include; environmental costs which can be significantly reduced and eliminated as a result of business decisions, ranging from operational and housekeeping changes to investment in cleaner production, to redesign of processes/products. Also, environmental cost (and, thus potential cost savings) may be obscured in overhead accounts or otherwise overlooked. For the above reasons, it is believed that accounting should be responsible for measuring, evaluating and disclosure of environmental performance in financial statements or in its attachments. No doubt that measuring environmental performance depends on accounting systems but needs data, other than the conventional accounting data, such as pollution ratios. Monetizing environmental issues may not be totally

accurate but, economists and accountants have to give best estimates, according to the current level of knowledge, and techniques used (U.S. Environmental Protection Agency (EPA), 1995).

2.2 Theoretical Framework

Legitimacy Theory

This theory was propounded by Suchman, in 1995. As indicated by Suchman (1995) legitimacy alludes to a: "summed up observation or suspicion that the activities of a substance are alluring, legitimate, or suitable inside some socially developed arrangement of standards, values, convictions, and definitions" (Suchman, 1995).

Legitimacy depends on the thought of 'social contract', which speaks to the heap of desires a general public has concerning how the association exercises (Cho and Patten, 2007). Lindblom (1994) characterizes legitimacy as: "a condition or status which exists when a substance's value framework is consistent with the value arrangement of the bigger social arrangement of which the element is a section. At the point when a difference, real or potential, exists between the two value frameworks, there is a risk to the substance's legitimacy" (Lindblom, 1994)."

Legitimacy theory has turned out to be a standout amongst the most referred to hypotheses inside the social and environmental accounting writing. As indicated by legitimacy theory associations look to guarantee that they demonstration, or possibly seem to act, inside the limits and standards of the social orders where they work (Deegan, 2002). To do such, they utilize a legitimacy strategies which is reliant upon the various purposes or points of the organizations (O'Donovan, 2002). Subsequently, "legitimacy strategies might be utilized to pick up or to broaden legitimacy, to keep up the present degree of legitimacy, or to protect lost or undermined legitimacy (Kumarasiri, 2014).

In view of the idea of the procedures, legitimacy strategies utilized by organizations can be partitioned into two classifications; substantive and representative (Pellegrino and Lodhia, 2012; Hrasky, 2012; Savage and Rowlands, 2000). "Substantive" legitimacy procedures involve genuine, material changes to organizational objectives and procedures. "Emblematic" methodologies don't roll out any genuine improvements; they are utilized just to depict that corporate activities are in consistence with social values and standards (Pellegrino and Lodhia, 2012; Hrasky, 2012; Savage and Rowlands, 2000). In an examination led by Neu, Warsame, and Pedwell (1998) in Canada, presumed that associations use "a blend of quiet submission, bargain and resistance methodologies inside their environmental disclosures to react to the worries of significant publics; further, the technique received is impacted by the general intensity of these publics".

Avocation for legitimacy theory gives the hypothetical position to organizations looking for help for corporate activities, as such legitimizing corporate exercises, through imparting social and environmental issues, so as to improve corporate picture and value. Legitimacy theory gives the fundamentals to investigating thought processes behind intentional social and environmental disclosure by organizations (Pellegrino and Lodhia, 2012; Hrasky, 2012; Deegan and Blomquist, 2006).

2.3 Empirical Review

Zaid (2013) studied the influence of firm characteristics on the level of corporate social responsibility (CSR) reporting in Pakistan from 2013-2016. A total of 33 non-financial firms listed in Pakistan Stock Exchange were selected for the study. Secondary data for the period 2013 to 2016 were collected from the sampled firms. Panel data regression analysis was applied on the data to test the association between firm characteristics and the extent of CSR disclosure. Findings from the analysis suggest that firm characteristics, namely, firm size, profitability, firm age, have a positive and statistically significant relationship with CSR disclosure.

HeaJeong & Youngchan, (2020) used panel data from 2010 to 2018 for 184 US-listed firms, and examined how the corporate social responsibility (CSR) and CSR adverse events (CSR AE) affect the corporate financial performance (CFP) and investigate the moderating effect of firm age on the relationship between CSR and CFP. Result from the panel data regression analysis shows that firm age effects on CFP positively however, it negatively moderates the positive relationship between CSR and CFP. It was further observed that the impact of CSR on

CFP is very weak for older firms. It was suggested in view of the findings that older firm are more focused on managing CSR AE and younger firm are encouraged to devote more to CSR activities.

Oraka and Egbunike (2016) appraised the degree of environmental accounting data in the fiscal summaries of cited firms in Nigeria. The examination used the elucidating exploration structure. The example contained twenty-two buyer goods manufacturing organizations. The exact information investigation was led utilizing Cochran's Q and various relapse system. The outcomes indicated huge contrasts in environmental disclosure topics of the chose firms. Environmental disclosure significantly affected all out resource turnover and profits for value; be that as it may, no noteworthy impact was found for income proportion, current proportion, and profits for resources. The indication of the coefficient of environmental disclosure was negative in all occasions with the special case for profits for resources.

Nze, Okoh, and Ojeogwu (2016) examined the effect of corporate social duty on income in Nigeria. The example included two firms in the Oil and Gas division over a ten-year time frame. They utilized auxiliary information acquired from yearly reports and records of the chose firms. They utilized different linear relapse to break down the information. The outcomes uncovered that CSR had a positive and noteworthy impact on profit.

3. Methodology

This research work adopted *ex-post facto* research design. *Ex-post facto* means after the event, meaning that the events under investigation had already taken place and data already exist. The adoption of this *ex-post facto* research design hinges on two (2) reasons: (1) that the study will rely on historic accounting data; and, (2) that the data will be obtained from the financial statements and accounts of the selected oil and gas firms. The research work made use of secondary data from annual reports and accounts of oil and gas firms in Nigeria for the period 2011 to 2021. The study made use of panel data regression technique. A panel data include observations on N cross section units (i.e., firms) over T time-periods. As panel data analysis uses variation in both these dimensions, it is considered to be one of the most efficient analytical methods for data. The panel least squares (panel data technique) has some advantages that include: addressing more complex issues, and it can estimate several time-series and/or cross sections available in the data.

Model Specification

A model is a simplified view of reality deigned to enable a researcher describe the essence and inter relationship within the system or phenomenon it depicts. The models will be specified below in explicit form:

 $WMC_{i, t} = \beta_0 + \beta_1 EPS_{i, t} + \beta_2 ROE_{i, t} + \varepsilon_{i, t} \quad \dots \dots (1)$

For hypothesis three which states that there is no significant relationship between earnings per share and waste management cost of Oil and Gas firms in Nigeria. The hypothesis is modelled thus:

WMC = $\beta o + {}_{b1}EPS_{it} + e_{it}$(2)

For hypothesis for which states that there is no significant relationship between return on equity and waste management cost of Oil and Gas firms in Nigeria. The hypothesis is modelled thus:

$WMC = \beta o + {}_{b1}ROE_{it} + e_{it}$	(3	;)
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Description of Variables

Proxy	Description	Measurement
EPS	Earnings per Share	Corporate performance
ROE	Return on Equity	Corporate performance
WMC	Waste management cost	Environmental disclosure Index

4. Data Presentation and Analysis

4.1 Data Presentation

Data here were presented according to the individual oil and gas firms and also in panel statistics.

4.1.1 Data Presentation for Caverton oil

The firm level data used for the test of hypotheses were presented in 4.1.1

Table 4.1 Processed Data for Carverton Oil

Caverton	Oil		
Years	EPS	ROE	WMC
2011	105835	47226	17085.8
2012	128553	53425	20253.8
2013	154627	57564	25053.8
2014	136241	61410	28163.7
2015	139546	66585	31588.9
2016	157546	68366	32464.7
2017	185246	68782	33444.6
2018	192455	69410	32793.1
2019	239641	71571	32980.4
2020	264858	81022	36970.8
2021	333476	105284	36754.8

Source: Computed Data from Annual Reports (2011 - 2021) from Appendix I Where:

- EPS = Earnings per share
- ROE = Return on Equity
- WMC = Waste Management Cost

The descriptive Statistics of Caverton Oil data is presented in table 4.6

Table 4.6 Descriptive Statistics for Caverton Oil

	EPS	ROE	WMC
Mean	185274.9	68240.45	29777.67
Median	157546.0	68366.00	32464.70
Maximum	333476.0	105284.0	36970.80
Minimum	105835.0	47226.00	17085.80
Std. Dev.	68582.78	15404.05	6484.029
Skewness	0.966493	1.115812	-0.835327
Kurtosis	2.948668	4.235935	2.499134
Jarque-Bera	1.713740	2.982685	1.394228
Probability	0.424489	0.225070	0.498020
Sum	2038024.	750645.0	327554.4
Sum Sq. Dev.	4.70E+10	2.37E+09	4.20E+08
Observations	11	11	11

Source: author's computation using e-views version 9

We find that return on asset of Caverton Oil grew at an average of 9.75% over eleven years (2011 - 2021), while profit after tax of the company grew remain constant for three years and change at 18.5% in the 2014 to 2021. Within the eleven year period, earning per share performed worst with a positive growth of 7.82%, while its best performance was a growth of 73.78%. While the return on equity increases at average of 4.1% while waste management cost also increases at average of 5.2%. The probability of the Jarque-Bera statistics shows that earning per share (EPS), return on equity (ROE) and waste management cost (WMC) data series are not normally distributed (P-value 0.000001 > 0.0500). The skeweness statistics of earning per share (EPS), return on equity (ROE) and waste management cost (WMC), the variables are stable and predictable, given the very low standard deviation of less than one (1) for all variables.

4.2 Pre-Estimation

	WMC	EPS	ROE
Mean	460138.8	169650.4	69475.40
Median	158662.1	104850.0	53112.50
Maximum	2133114.	1638241.	638612.0
Minimum	13030.00	22048.00	8473.000
Std. Dev.	647670.2	242300.8	94965.21
Skewness	1.546646	4.433796	4.978646
Kurtosis	3.829901	24.25056	27.82469
Jarque-Bera	41.88355	2165.067	2921.270
Probability	0.000000	0.000000	0.000000
Sum	45093599	16625740	6808589.
Sum Sq. Dev.	4.07E+13	5.69E+12	8.75E+11
Observations	99	99	99

Table 4.19: Descriptive Statistics of the Variables

Source: e-view's Result

The table shows descriptive statistics of the variables. In the model established in the study, there is one dependent variable and six independent variables. These variables consist of Waste management Cost (WMC), Earnings per Share (EPS), and Return on Equity (ROE) respectively. The mean of Waste management Cost (WMC) was 460138.8, the median was 158662.1, maximum was 2133114.0, minimum was 13030.00 and sum of the variable was 45093599 respectively. The mean of Earnings per Share (EPS) was 169650.4, the median was 104850.0, maximum was 1638241.0, minimum was 22048.00, and sum of the variable was 16625740 respectively. The mean of Return on Equity (ROE) was 69475.40, the median was 53112.50, maximum was 638612.0, minimum was 8473.000, and sum of the variable was 6808589 respectively.

4.2.1 Correlation Matrix of the Variables

Table 4.	20: Result of (Correlation N	Aatrix
	WMC	EPS	ROE
WMC	1.000000	-0.073761	-0.032691
EPS	-0.073761	1.000000	0.950081
ROE	-0.032691	0.950081	1.000000

This correlation matrix presents a table showing <u>correlation coefficients</u> between sets of variables. Each <u>random</u> <u>variable</u> (X_i) in the table is correlated with each of the other values in the table (X_j) . This result of correlation

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matrix helps to identify which pairs of variables have the highest correlation. This test is to detect whether exact or perfect relationship exist among explanatory variables (multicollinearity). The Waste management Cost (WMC) and Earnings per Share (EPS) have no linear relationship between the two variables (-0.0737). The Waste management Cost (WMC) and Return on Equity (ROE) have no linear relationship between the two variables (-0.03269). This test presented clear understanding on the assumption of ordinary least square that there is no perfect or exact linear relationship among explanatory variables. The result of correlation matrix showed that every explanatory variable in the study is linearly independent of each other.

4.2.2 Estimation (Hausman Test)

Null Hypothesis: Random Effects are independent of explanatory variables.

Alternative Hypothesis: Null hypothesis is not true.

 Table 4.21 Results of 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	1.982383	5	0.8516

** WARNING: estimated period random effects variance is zero.

The Hausman Test (also called the Hausman specification test) detects <u>endogenous</u> regressors (<u>predictor</u> <u>variables</u>) in a regression model. Endogenous variables have values that are determined by other variables in the system. Having endogenous regressors in a model will cause <u>ordinary least squares estimators</u> to fail, as one of the assumptions of OLS is that there is no correlation between an predictor variable and the <u>error term</u>. The Hausman test helps to choose between <u>fixed effects model</u> or random effects model. The <u>null hypothesis</u> is that the preferred model is random effects. The <u>alternate hypothesis</u> is that the model is fixed effects. The <u>null hypothesis</u> is that there is no correlation between the two. Interpreting the result from a Hausman test is fairly straightforward: if the <u>p-value</u> is small (less than 0.05), reject the null hypothesis. In the test above, the Chi-square statistics was 1.9823 and P-value was (0.8516). Owing to the result, the null hypothesis was accepted and alternative hypothesis was rejected that null hypothesis is true because the <u>p-value</u> of Chi-square statistics was small (greater than 0.05). It means that random effect model was the best model specification.

4.2.3 Random Effect Panel Data Estimation Table 4.22 Results of Random Effect Panel Data Estimation

Dependent Variable: WMC Method: Panel EGLS (Period random effects) Date: 11/04/22 Time: 09:07 Sample: 2011 2021 Periods included: 11 Cross-sections included: 9 Total panel (balanced) observations: 99 Swamy and Arora estimator of component variances

Variable	Coefficien	t Std. Error	t-Statistic	Prob.
ROE EPS C	11.86028 0.802498 489720.6	3.137385 0.993260 94387.61	3.780309 0.807944 5.188399	0.0003 0.4212 0.0000
	Effects Sp	ecification	S.D.	Rho
Period random Idiosyncratic randor	n		0.000000 616779.0	0.0000 1.0000
	Weighted	Statistics		
R-squared Adjusted R-squared S.E. of regression F-statistic Prob(F-statistic)	0.805271 0.762079 592864.4 4.752548 0.000659	Mean de S.D. dep Sum squ Durbin-V	pendent var endent var ared resid Vatson stat	460138.8 647670.2 3.23E+13 1.961339
	Unweighte	ed Statistics		
R-squared Sum squared resid	0.205271 3.23E+13	Mean de Durbin-V	pendent var Watson stat	460138.8 0.361339

Source: E-view Results

The random effect model specification was carried out to examine parameters estimates. In testing this hypothesis, Earnings per Share (EPS), and Return on Equity (ROE) were regressed against Waste management Cost. The result of the regression analysis represents the model for investigating the relationship between corporate performance and environmental accounting disclosure of listed Oil and Gas firms. The empirical result shows that the coefficient of Earnings per Share (EPS) has positive and insignificant impact on Waste management Cost (WMC) because [P-value (0.4212) was greater than its significant value (0.05]. The Return on Equity (ROE) has positive and significant impact on Waste management Cost (WMC) because [P-value (0.003) was less than its significant value (0.05]. The result of the F – statistical test shows that the overall regression of the variables was statistically insignificance. This is because observed values of the F – statistics (4.7525) was greater than its critical value (3.830). Again, our empirical result shows that the R-squared (R²) is 0.8052.

4.3 Test of Hypotheses

The results for the various hypotheses testing are presented in the section.

4.3.1 Test of Hypothesis One

H₀₃ There is no significant relationship between earnings per share and waste management cost of Oil and Gas firms in Nigeria.

Correlation Analysis: Spearman rank-order Date: 11/04/22 Time: 10:23 Sample: 2011 2021 Included observations: 99

Correlation	WMC	EPS
WMC	1.000000	
EPS	0.157824	1.000000

In testing this hypothesis, earnings per share was regressed against waste management cost. The empirical result showed that the coefficient of earnings per share has positive and insignificant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.1578). The null hypothesis was accepted and alternative hypothesis was rejected.

4.3.2 Test of Hypothesis Two

Ho1 There is no significant relationship between return on equity and waste management cost of Oil and Gas firms in Nigeria.

Correlation Analysis: Spearman rank-order Date: 11/04/22 Time: 10:25 Sample: 2011 2021 Included observations: 99

Correlation	WMC	ROE
WMC	1.000000	
ROE	-0.868430	1.000000

In testing this hypothesis, return on equity was regressed against waste management cost. The empirical result showed that the coefficient of return on equity has positive and significant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.8684). The null hypothesis was rejected and alternative hypothesis was accepted.

5.1 Summary of Findings

The following are the major findings of the study:

- Earnings per share have positive and insignificant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.1578). In addition, earnings per share have 80 percent positive and insignificant impact on environmental accounting disclosure of listed Oil and Gas firms in Nigeria. A percentage change in earnings per share results to 80 percent no change in environmental accounting disclosure of listed Oil and Gas firms in Nigeria.
- Return on equity has positive and significant relationship with waste management cost of listed Oil and Gas firms in Nigeria (r-value 0.8684). In addition, return on equity has 34 percent positive and significant impact on environmental accounting disclosure of listed Oil and Gas firms in Nigeria. A percentage change in return

on equity results to 34 percent increase in environmental accounting disclosure of listed Oil and Gas firms in Nigeria.

5.2 Conclusion

This study set out to carry the nexus between Earning Management and Waste Management Cost of Listed Oil and Gas Firms in Nigeria from the periods 2011 to 2021. Descriptive statistics and correlation matrix were preestimation tests that were carried out in the study. The descriptive statistics provide nature and characteristic of the variable, the correlation matrix ensures that variable of the study does not have perfect linear correlation among explanatory variables. However, having established this, the study went ahead to conduct estimation tests such as Hausman test and fixed effect panel data estimation to confirm the viability of the model. This study concludes that Earning Management has significant positive effect on the Waste Management Cost of Listed Oil and Gas Firms in Nigeria. Return on equity have positive and significant relationship with Waste Management Cost of listed Oil and Gas firms in Nigeria while earning for share have positive but insignificant relationship with Waste Management Cost of listed Oil and Gas firms in Nigeria.

5.3 Recommendations of the Study

Based on the findings of this study, the following recommendations were made.

- 1. Government should adopt a measure that monitors corporate organizations fair investment in social responsibility so as to discourage some management who records high costs on their financial report for CSR to evade tax and without giving anything back to the society.
- 2. Government should set standards as industrial average amounts that corporate organizations within such industrial sector must spend on CSR in each financial year of operation. This will go a long way to boast the idea behind triple-bottom-line reporting where people, planet and profit are the three (3) focal points.

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