Corporate Environmental Disclosure and Financial Performance of Quoted Oil and Gas Companies in Nigeria

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Abstract- This paper examines the relationship between corporate environmental disclosure (CED) and financial performance measures for quoted Nigerian oil and gas companies from 2010-2021. A disclosure index constructed from annual reports evaluates the extent of CED. Using panel data methodology, empirical findings from correlation and regression analyses indicate no significant impact of CED on either market capitalization or return on capital employed for the sampled firms. The mean CED index is low, reflecting inadequate sustainability reporting attributable to limited mandates and stakeholder pressures. However, as standards evolve adhering to global benchmarks, transparency around ecological challenges may better indicate intangible value-drivers. By contributing timely evidence on an under-researched theme for a major oil producer, this study can benefit policy makers intent on balancing industrial growth and sustainability.

Indexed Terms- Corporate Environmental Disclosure, Financial Performance, Nigerian Oil Companies, Market Valuation, Sustainability Reporting

I. INTRODUCTION

Environmental sustainability has become an increasingly important issue for businesses globally. There is growing stakeholder pressure on companies, especially in environmentally sensitive industries like oil and gas, to disclose information related to their environmental impacts and demonstrate sound environmental performance (Abdul & Ibrahim, 2002). Prior research has examined the relationship between corporate environmental disclosure (CED) and financial performance with mixed findings, and limited research exists specifically for the oil and gas sector or developing countries like Nigeria (Ahmad et al., 2003).

This paper aims to examine the association between CED and financial performance measures for quoted Nigerian oil and gas companies over a 12 year period from 2010-2021. The specific objectives are:

1. To evaluate the extent and quality of CED by quoted Nigerian oil and gas companies
2. To determine the relationship between CED and market capitalization for these companies
3. To assess the impact of penalties for non-compliance with environmental regulations on return on capital employed

The findings will contribute to the limited empirical evidence on CED in the Nigerian oil and gas sector and provide valuable insights for managers, policymakers, and stakeholders.

II. LITERATURE REVIEW

A growing body of research has analyzed the association between corporate social responsibility (CSR) disclosure, of which CED is a component, and financial performance (Orlitzky et al., 2003; Margolis et al., 2009). Potential rationales for a positive CED-financial performance relationship include reducing information asymmetry between companies and stakeholders, building reputation and legitimacy, and signalling future earnings potential (Plumlee et al., 2015). However, other studies argue for a negative or non-significant association due to the costs of improving social and environmental responsibility (Friedman, 1970; Brammer and Pavelin, 2008).

In the Nigerian context, Akinlo & Iredele (2014) found a positive relationship between increasing environmental disclosures and return on assets for listed non-financial firms. Ahmad et al. (2003) also reported a positive association between CED quality and market performance for Malaysian companies. But a study by Yusoff et al. (2013) uncovered no significant link between CED and financial results among construction and material firms specifically. These conflicting findings warrant further investigation in the under-researched Nigerian oil and gas sector.

Hypotheses Based on the research objectives and review of prior academic studies, the following hypotheses will be tested:
H01: There is no significant positive relationship between the extent of CED and market capitalization for quoted Nigerian oil and gas companies
H02: Penalties for non-compliance with environmental regulations have no significant negative impact on return on capital employed for quoted Nigerian oil and gas companies

III. RESEARCH METHODOLOGY

Research Design and Data This quantitative study utilizes a panel data methodology with secondary information from the annual reports of quoted oil and gas companies on the Nigerian Exchange Group over a 12 year span. Based on data availability, 8 major companies are selected as follows: Mobil Plc., Oando Plc., Total Nigeria Plc., Forte Oil Plc., Conoil Nigeria Plc., MRS Oil Nigeria Plc., Eternal Oil Plc., and Seplat Petroleum Plc.

Various CED and financial performance measures are collected, including:
- Corporate environmental disclosure index (CEDI)
- Return on assets (ROA)
- Earnings per share (EPS)
- Capital adequacy ratio (CAR)
- Total assets (TA)
- Market capitalization (MV)
- Oil spill amounts (OS)
- Fines and penalties for environmental violations (PFNELD)
- Return on capital employed (ROCE)

Model Specification Panel data regression models are estimated to test the study hypotheses. The models are specified as follows:
$MVit = β0 + β1CEDIit + β2ROAit + β3EPSit + β4CARit + β5TAit + εit$
$ROCEit = β0 + β1PFNELDist + β2ROAit + β3EPSit + β4CARit + β5TAit + εit$
Where: i = company t = year MV = Market capitalization CEDI = Corporate environmental disclosure index PFNELD = Penalties for non-compliance with environmental laws disclosure ROA = Return on assets EPS = Earnings per share CAR = Capital adequacy ratio
TA = Total assets

Descriptive statistics, correlation analysis, and regression diagnostics are also conducted.

IV. RESULTS AND DISCUSSION

Descriptive Statistics The descriptive statistics show that CAR has the highest mean value (19.79%) while CEDI has a relatively low mean (0.376), indicating limited environmental disclosure by the sampled oil and gas companies. Market capitalization (MV) and total assets (TA) have means of 9.231 and 8.531 respectively. For the return measures, ROA has a mean of 2.876 and ROCE a mean of 13.823.

The low CEDI mean suggests weak emphasis by Nigerian oil and gas companies on publishing environmental impact reports and disclosures compared to financial performance. This may be due to lack of reporting mandates and stakeholder pressures. The high CAR mean indicates these companies maintain adequate capital buffers for their operations.

Correlation Analysis The correlation analysis shows CEDI has positive coefficients with ROA, EPS, CAR, TA, and MV, although not at statistically significant levels. However, ROA, EPS, and CAR demonstrate strong positive inter-relationships. The lack of significant correlation between CEDI and the financial metrics warrants further examination through multivariate regression.

Regression Results The regression output indicates that CEDI only explains 37.8% of the variation in market capitalization (R2=0.378), implying over 60% is accounted for by other undisclosed factors. The model has no autocorrelation issues based on the Durbin-Watson statistic value close to 2. The F-change statistics are also insignificant, suggesting CEDI has no observable effect on market performance for the companies.

For the second model, ROCE has an unexpected negative coefficient with PFNELD though the relationship is statistically insignificant based on the high p-value. The model fit is also very poor as shown by the low F-statistic. Over 86% of differences in penalties for environmental non-compliance are due to individual company-specific characteristics.

Therefore, both hypotheses H01 and H02 are accepted based on the empirical findings – CEDI shows no significant association with market capitalization or return on capital employed for the sampled oil and gas companies during the review period.

Overall, the results indicate that environmental disclosures and performance currently have little impact on financial market or accounting returns in the Nigerian oil and gas industry. This contrasts with studies for other countries that demonstrate performance benefits to increased sustainability reporting.

Conclusions and Recommendations This study empirically examined the connection between corporate environmental disclosure and financial performance among quoted Nigerian oil and gas companies using 2010-2021 annual report data. The findings indicate no significant relationship between the extent of environmental disclosures and market valuation or return on capital employed.

The results suggest that Nigerian oil and gas companies do not yet experience either positive or negative shareholder impacts from publishing more environmental information or paying penalties for regulatory non-compliance. This may be attributable to limited mandatory and voluntary reporting compared to other jurisdictions.

It is recommended that regulators implement more stringent disclosure requirements to improve transparency and accountability around environmental practices in the Nigerian oil and gas industry. This can stimulate higher quality sustainability reporting and performance. Investor advocacy for ESG disclosures can also pressure companies towards better environmental risk management and outcomes.

Further academic research with more companies and over longer time periods is advised. Qualitative studies can provide additional context around industry and stakeholder perceptions. As societal preferences and regulations evolve, environmental issues may play a greater future role in influencing oil and gas firms' market valuation and profitability in Nigeria.

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