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COMMUNITY DEVELOPMENT COST AND FINANCIAL PERFORMANCE OF OIL AND GAS FIRMS IN NIGERIA

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ABSTRACT

This study examined community development and financial performance of oil and gas firms in Nigeria. Specifically, the study analyzed the effect of community development cost on return on asset of selected oil and gas firms. Six (6) oil and gas firms were sampled for the study and data were collated from published annual reports of these firms over the period of 10 years, spanning between 2010 and 2019. Data were analyzed using panel based estimation techniques and evaluations were done for the most consistent and efficient result based on restricted F-test and Hausman test. Result showed that a unit increase in community development cost by 1 billion naira led to insignificant increase in return on asset by 0.7%. By implication this result showed that increase in the level of community development cost of oil and gas firms in Nigeria significantly influenced the performance of oil and gas firms as measured in terms of return on asset. This study concluded first that engagement in community development in Nigeria by oil and gas firms has the potential to culminate into improved corporate performance; however, such potential is yet to be fully harnessed by most of the oil and gas firms in Nigeria. Hence oil and gas firms in the country, should be more objective in their engagement in community development in the country, so as to further boost their performance potential.

Keywords: Community development cost, financial performance, oil and gas firms, Nigeria.

INTRODUCTION

In recent time, the situation of socio-economic development at the heart of environmental discourse fell surely in line with what is already considered the focal plan for growth in African states (Egwu, 2006). The effects of climate change and environmental degradation have already become real issues in Nigeria. Industrial activities such as timber and logging, textile companies including oil exploration have led to increase in water channel sedimentation, water contamination and loss of

bio-diversity (Ifeanyi, 2002). The Niger Delta which is the bedrock of oil and gas exploration in Nigeria presents a clear picture of what industrial pollution can do to an environment in the face of lack of corporate will to sustain the environment. While evidence abounds as to the damage of farmlands, fish ponds and water ways resulting from oil spillage, it is a fact that Nigeria flares more gas than any other petroleum producing nation around the globe (Bassey, 2008). The socio-economic development implications of such high levels of pollutions are that, there is reduction in biodiversity of the natural environment and food security is undermined as a result of soil contamination as well as youth restiveness in the Niger Delta which is as a result of environmental degradation induced poverty brought by oil industry pollution of the entire region (Adejumo & Adejumo, 2014). Despite centuries of concern over environmental and sustainability issues, the beginning of social, environmental and sustainability reporting are largely linked with the dawn of modern corporation.

The attention of Modern Corporation was drawn toward environmental sustainability, following global environmental awareness and the campaign for sustainable economic development for decades as emphasized by Oti, Effiong and Tiesieh (2012). In fact, the quest for sustainability has led to the emergence of many global institutions promulgating various regulations and acceptable standards that guide human interaction with the environment. These standards are making organizations to realize what effects their activities have on the environment. At various national levels are government regulations and society pressure groups that are responsible for the pronouncements of various regulations and acceptable standards for environmental sustainability. These groups include: The National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business; Global Reporting Initiative (GRI) Guidelines; Carbon Disclosure Project organization and the likes. These developments are reawakening modern corporation to strategic and competitive role of environmental sustainability for corporate survival. However, within the developing nations, the understanding is somewhat different mainly because of inadequate government regulations and lack of organized pressure groups and consumer awareness to influence corporate behaviour. Hence many corporations in developing countries such as Nigeria behave in such a way that suggests that they can achieve the goal of profit maximization even at the expense of sustaining the environment where they operate.

At the heart of social responsibility is the sustainability of the environment. Consequently, the quest in achieving the environmental sustainability of oil and gas companies' operations have received considerable attention of recent, with companies trying to fulfill the immediate needs of markets and the environment as well as their future requirements (Seurig, Sarkis, Müller & Rao, 2008; Quental, Lourenço & Nunes da Silva, 2011). Environmental sustainability involves living and working by using methods that meet and integrate existing environmental, economic, and social needs without compromising the well-being of future generations. Sustainable development provides benefits to the current society and ensures a more secure future. Organization for Economic Co-operation and Development (OECD, 2001), defined sustainability as means

of linking the economic, social, and environmental objectives of societies in a balanced way in which it takes a long-term perspective about the consequences of today's activities. Meeting the challenges of sustainable development requires that the process through which decisions are reached is informed by full range of possible consequences and is accountable to the public.

Among companies who are becoming sensible of their environmental responsibilities in developing countries like Nigeria include the oil and gas sector of the economy. This is because oil pollution from spills, oil well blow-outs, improper disposal of drilling mud from petroleum prospecting and other production wastes have resulted in environmental degradation problems such as the loss of the aesthetic values of normal coasts as a result of oil spills; loss to sea nature; alteration of the ecosystem. Existing literature have shown that failure of firms in addressing environmental issues is likely to have negative effect on firm's reputation with stakeholders and customers, and its attractiveness to current and potential employees. The cost implication of environmental failure by firms in terms of litigation costs and penalties will also rise significantly. All these negative effects are no doubts likely to reduce firm's competitiveness and affect its stock market value. On the other hand, environmentally responsible firms are more likely to be perceived as transparent, reliable, less risky and attractive in terms of future financial prospects by investors and other shareholders. These positive effects may improve the stock market value of firm and reduce its cost of capital (Cormier & Magnan, 2007).

Studies on the effect of environmental cost disclosure and corporate performance of listed companies have recently gathered momentum. The activities of the oil and gas sector are often associated with severe environmental degradation which in recent past has caused social disputes and disruption of some companies' economic activities (Uwaoma & Ordu, 2016). The concerns are being intensified due to host community's increased awareness of environmental degradation issues which include: air and water pollution from heavy industrial machine; deficiency of clean fresh water; absence of sea foods due to oil spill. (Uwuigbe & Jimoh, 2012). Several studies, such as (Wagner, Phu, Azomahou & Wehrmeyer, 2002; Nyirenda, Ngwakwe & Ambe, 2013; Rajashekar & Keshavarz, 2019) have used sulfur dioxide, nitric oxide, chemical oxygen demand, carbon emissions, energy usage, water usage, biodiversity, effluents and waste to capture environmental sustainability costs or management. Also, other studies that have examined the effect of environmental costs like the employee's health and safety, waste management and community development costs on performance of oil and gas companies in Nigeria have shown inconsistent results of findings. Thus this study specifically examined the effect of community development cost on return on asset of selected oil and gas firms in Nigeria

LITERATURE REVIEW

Community development cost disclosure

Community development, an aspect of organizations social responsiveness holds that companies have a duty towards the society and business decisions should be linked to ethical values and respect for individuals, society and environment. Thus, organizations as corporate citizens are expected to give back to the society especially communities where they operate (ICAN, 2014). Community development aligns with the philanthropic expectation placed on organizations at any given time Carrol, (1991). Also, Oti et al (2017) emphasized that community development is anchored on firm's initiative at cushioning the effect of their externalities on the host communities. Disclosure on community developments costs depict a firm in good light and convince stakeholders that an organization performs its operations ethically. Dessy and Rosita, (2015) posited that utilizing local labour in a community as a form of job expansion strategy is very important as it reduces labour cost incurred by the company and impacts positively on the community. Firm's disclosure of its environmental and social effort can be used as a tool to manage a firm's relationship with its host community leading to a stable business environment devoid of protest or conflicts influenced by major stakeholders Banwarie, (2011).

Performance of oil and gas sector

According to Rahman, Zain and Yahaya (2011) it was emphasized that every business is most concerned with its performance level. Thus, Rahman et al. (2011) posit that performance as the ability to earn revenue from all the business activities of an organization, company, firm, or an enterprise. Additionally, it showed how efficiently the management can make profit by using all the available resources at their disposal. One commonly used measure of financial ratio analysis is the performance level. Sohail et al. (2011) opined that the performance of a firm is determined by the ability of a firm to earn returns on investment made in its assets that has a positive net present value. However, it can be stressed that a financial action that has a positive net present value will create wealth for shareholders and is therefore desirable. A financial action resulting in a negative net present value should be dropped because it will endanger shareholders' wealth. Hill et al. (2012) described firm's performance as the ability to generate revenue in excess of the cost of generating such revenue. Essentially, the performance is a relatively measure in terms of profit and its relation with other elements that can be directly influence the profit. Moreover, performance can be used to measure management efficiency in the use of organizational resources in adding value to the company.

Theoretical review

Stakeholder's Theory

This study is anchored on stakeholders' theory because it encourages business managers to execute environmental practices for which the non-financial stakeholders are

considered important for the maximization of stakeholders' value as well as minimization of environmental costs. The theory asserted that, management must please a range of stakeholders such as employees, clients, vendors, the surrounding community and many others, who might otherwise affect the organizational survival. According to this viewpoint, it is insufficient for managers to concentrate solely on the interest of investors or company owners. Thus, it will be a great benefit for the corporate organization to participate in definite environmental deeds that add no financial benefit to the stakeholders but perceive to be important and enjoy the support of all groups for the business. However, before the emergence of this theory, Freeman (1983) incorporated the perception of stakeholders' into categories such as: business planning and policy model and business social responsibility model of stakeholder management. From the first model, the stakeholder analysis focused on developing and evaluating the approval of corporate organization strategy on decisions by groups whose support is required and important for the organization's survival and continuous existence. In the model, the stakeholders are identified as the owners, customers, public groups and suppliers. Thus, the model enables managers and accountants to consider a strategic plan that is acceptable in changing the social demands of non-traditional stakeholders.

Empirical review

Asuquo (2012) examines environmental friendly policies and their financial effects on corporate performance of selected oil and gas companies in Niger Delta region of Nigeria. The study reveals that environmental friendliness, firms' competitiveness and firms' profitability are found to be positively related. Also, when environmentally friendly firms disclose sufficient environmental related information, they enjoy competitive advantage, high quality and reduced environmental cost in the long run. The study therefore recommended that firms should formulate and implement environmental friendly policies and adopt uniform reporting and disclosure standards of environmental issues for firms' competitiveness and corporate performance.

On the other hand, Acti, Lyndon and Bingilar (2013) in their own study investigate the impact of environmental cost on corporate performance: a study of oil companies in Niger Delta states of Nigeria using returns on total assets (ROTA) as performance measure. The multiple regression analysis was explored in the study. Three selected indicators of sustainable business practices were used namely: community development cost (CDC); waste management cost (WMC) and employee health and safety cost (EHSC). The study reveals that CDC is statistically significant but negatively related to corporate performance, WMC is statistically significant but negatively related to corporate performance and EHSC has a positive significant relationship with corporate performance. The findings showed that investment in social and environmental responsibilities such as employee health and safety cost will likely improve return on total assets of the environmentally conscious firms. The study recommended that management of oil companies in the Niger Delta States of Nigeria should develop a well-articulated environmental costing system that will guarantee a conflict free corporate atmosphere needed by managers and workers for maximum productivity and

eventually improve corporate performance.

Furthermore, Odesa, Igbru and Agbasi (2016) examine the effect of environmental cost on firm performance: a study of selected manufacturing and oil and gas companies in Nigeria. Data covering a period of 2010-2014 were obtained from the annual report of the selected firms. The study used descriptive statistics, correlation and regression analysis. The regression result shows that a positive significant relationship exists between corporate social responsibility, employee health and safety cost, waste management and firm performance while community development cost has a negative and insignificant relationship with firm performance. The study therefore recommends that firms should invest more in the development of their host communities to boost their corporate image and maintain good relationship with the host communities.

Obara, Ohaka, Nangih and Odinakachukwu (2017) validating the work of Odesa et.al. (2016) found that waste management cost has positive and significant influence on ROA, ROE and operating profit. The study examines the effect of waste management cost on the profitability of oil and gas companies in Nigeria. Three companies were used for the study; the study examined four operational variables which were waste management cost, return on asset, return on equity and operating profit. Research questions and hypotheses were formulated and tested using statistical tools and simple regression analysis. The result tested at 0.05 level of significance showed that waste management has positive and significant influence on the return on assets, return on equity and operating profit level.

Umoren, Akpan and Okafor (2018) expanding the performance measures of previous studies analyzes oil and gas companies' performance and environmental accounting in Nigeria. Eleven (11) quoted oil and gas companies were randomly selected from the Nigerian Stock Exchange. The secondary data used were sourced from the audited financial statements of these companies for a period of three years and analyzed using multiple linear regression analysis technique. Return on capital employed (ROCE), net profit margin (NPM), dividend per share (DPS) and earnings per share (EPS) are the performance measures while the explanatory variables are cost of air pollution, water pollution, land degradation, staff welfare, community welfare and litigations. The findings of the study showed insignificant relationships between environmental accounting costs and performance variables that is ROCE, NPM, DPS and EPS.

In this same vein, Oti and Mbu-Ogar (2018) investigate the analysis of environmental and social costs and financial performance of selected quoted oil and gas companies in Nigeria. Time series data for five years were collected from 5 oil and gas companies and analyzed using the ordinary least square regression technique. Employee health and safety (EHS), waste management (WM) and community development (CD) are the explanatory variables for the study while return on capital employed (ROCE) is dependent variable use for measuring performance. Results from the statistical analysis revealed that costs on employee health and safety and community development do not

significantly affect financial performance while costs on waste management had a positive and significant effect on firms' financial performance. The study recommended that oil and gas companies should constantly review their waste management strategy and employ bespoke technology in waste management to mitigate their impact on the environment.

In contrast, Nwaiwu and Oluka (2018) examine the effect of environmental cost and financial performance measures of quoted oil and gas companies in Nigeria. Time series data were collected from annual financial reporting and economic review of Central Bank of Nigeria. A Pearson product moment correlation and multiple linear regression analysis were used and the result revealed that adequate disclosure of environmental cost and compliance to corporate environmental regulations has positive and significant effect on financial performance. Thus, it was emphasized that regulatory enforcement for adequate environmental cost accounting and proper reporting by the management of oil and gas companies in Nigeria would guarantee a conflict free corporate atmosphere that would lead to improve corporate performance.

However, Erhinyoja and Marcella (2019) analyze corporate social sustainability and financial performance of oil and gas industry in Nigeria. The study adopted ex-post facto research design and data for the study were sourced from the annual reports and accounts of ten sampled companies out of 15 listed oil and gas companies in Nigeria covering a 10 year period from 2007-2016. The data was analyzed using descriptive statistics and regression analysis technique. Return on asset, return on equity and return on capital employed were used as measures for financial performance. The findings showed that social sustainability exerts negative effect on all the three performance proxies, howbeit only its effect on equity was statistically significant. The result of this finding is not in conformity with that of Nwaiwu and Oluka (2018).

Similarly, Polycarp (2019) in his study analyzes environmental accounting and financial performance of oil and gas companies in Nigeria. Data for this study were sourced from annual reports and accounts of oil and gas companies in Nigeria for the period of 2015-2017. Eleven (11) oil companies were randomly selected; data sourced from these companies were analyzed using multiple regression analysis technique. The data sourced includes environmental practices such as air pollution, water pollution, land degradation, staff welfare, community welfare and externalities. For the purpose of the study performance was measured with returns on capital employed (ROCE), net profit margin (NPM), dividend per share (DPS) and earnings per share (EPS). The result of the study showed that environmental accounting has an insignificant relationship with returns on capital employed (ROCE), net profit margin (NPM), dividend per share (DPS) and earnings per share (EPS). The study recommended that the relevant authorities should make environmental disclosure mandatory for oil and gas companies in Nigeria. The findings of the previous studies have not been consistent, this may be due to scope or methodological approach employed by different authors. Hence research on the effect of environmental costs and performance of firms remain inconclusive.

METHODOLOGY

Model specification

This study adapted the model of Agbo, Ohaegbu and Akubuilo (2017), which specified financial performance as a function of environmental cost as presented in equation (i).

$$ROA_{it} = \beta_0 + \beta_1 DN_{it} + \beta_2 ME_{it} + \beta_3 TRC_{it} + e_{it} \text{---------(i)}$$

Where ROA is return on assets, DN is donation as a measure of environmental cost, ME is medical expenses as a measure of environmental cost and TRC is environmental cost measured by trainings, recruitment and canteen expenses.

This study modified model presented in equation (i) by specifying return on asset as a function of Community Development Cost (CDC) measured in terms of corporate social responsibility cost of the selected oil and gas firms, alongside firms and leverage ratio as control variables. Thus, the model for this study is presented is equation (ii) thus.

$$ROA_{it} = \beta_0 + \beta_1 CDC_{it} + \beta_2 SIZ_{it} + \beta_3 LEV_{it} + e_{it} \text{-------(ii)}$$

Methods of Data Analysis

Data for this study were collected from the annual reports six randomly selected oil and gas firms in Nigeria including Total Nig. Plc, MRS Oil Plc, Oando Plc, Forte Oil Plc, Conoil Plc and Mobil plc. data used in the study covered a 10 years period spanning from 2010 to 2019. This study employed panel-based estimation techniques such as Pooled OLS, fixed effect estimation and random effect estimation, alongside post estimation test such as restricted F-test and Hausman test.

RESULTS AND DISCUSSION

Table 1. Correlation matrix**.**

	ROA	CDC	SIZ	LEV
ROA	1.00000			
CDC	0.3015	1.00000		
SIZ	-0.5888	0.6801	1.00000	
LEV	0.3928	-0.1157	0.1328	1.00000

Source: Author's computation (2021).

Table 2. Estimation result.

Coefficient	Pooled	Prob	Fixed	Prob	Random	Prob
C	46.89899	0.000	49.91048	0.000	46.79895	0.000
CDC	0.017376	0.001	0.0078307	0.204	0.0172281	0.000
SIZ	-4.243056	0.000	-3.948766	0.000	-4.23124	0.000
LEV	1.142452	0.000	.2204097	0.264	1.135337	0.000
	R-square = 0.6515		R-square = 0.8238		R-square = 0.6515	
	Adj R-square = 0.6328		Adj R-square = 0.7962		Wald chi2 (5) = 102.9	
	F-statistics = 34.89		F-statistics = 29.81		Prob> chi2 = 0.0000	
	Prob (F-stat) = 0.0000		Prob(F-stat) = 0.0000			
	Restricted F-test = 9.98 (p = 0.0000 < 0.05)					
	Hauman test = 96.38 (P = 0.0000 < 0.05)					

*Significance at 5% level of significance (**Source:** Authors' computation, 2021).

Table 3. Post estimation test.

Test	Null hypothesis	Statistics	Probability
Wald test	Panel homoscedasticity	1.0387	0.3446
Pesaran test	No cross sectional dependence	1.570	0.1163
Wooldridge test	No AR (1) panel autocorrelation	2.0116	0.2153

Source: Author's computation (2021).

Table 1 revealed that there is positive correlation between community development cost and performance of selected oil and gas firms measured in terms of return on asset, which connote that over the period covered in the study both return on asset for

the sampled firms and community development cost moved predominantly in the same direction. In terms of magnitude result showed that the correlation between return on asset and community development cost of the sampled firms is weak in magnitude reflect weak level of movement of community development cost and return on asset of oil and gas firms sampled in the study.

Table 2 showed results of estimations using pooled OLS, fixed effect and random effect techniques, alongside restricted F-test and the Hausman test. Evaluating the result for consistency and efficiency it was established that for all the models estimated in the study the most consistent and efficient estimation result is the fixed estimation, as such the discussion for the study will be based on fixed effect estimation result. As presented in table 2 community development cost has significant positive impact on performance of the selected firms as measured in terms of return on asset, reported estimate showed that a unit increase in community development cost by 1 billion only lead to 0.7% return on asset. By implication this result showed that increase in the level of community development cost of oil and gas firms in Nigeria does not significant influence on performance as measured in terms of return on asset, though there is established positive influence of such increase on performance on the firms on the average. Reported R-square statistics reflected that about 82% of the systematic variable in the performance of sampled oil and gas firms can be explained by community development cost alongside firms and leverage, thus confirming the fitness of the model.

Result presented in Table 2 showed that there is no enough evidence to reject null hypothesis on panel homoscedasticity, null hypothesis of no cross sectional dependence and null hypothesis of no AR (1) panel autocorrelation, given the reported probability statistics of 0.3446 > 0.05 for Wald test, 0.1163 > 0.05 for Pesaran test, and 0.2153 > 0.05 for Wooldridge test. Hence it can be established in the study that assumptions of equal variance of residual terms, cross sectional independence and absence of serial autocorrelation for the estimated panel based model is valid. Discovery made in this study is in congruence with the findings of Burgwal and Vieira (2014) that profitability of firms is not significantly related to the level of environmental disclosure, as well as with the discovery of Makori and Jagongo (2013) that established that environmental accounting measured in terms of environmental cost has a positive relationship with the net profit margin (NPM) and dividend per share (DPS)

CONCLUSION AND RECOMMENDATIONS

Result from estimations conducted in this study established that the rising community development cost of oil and gas firms in Nigeria contrite to better performance in terms of return on asset, however such contribution is not statistically significant. In clear terms, this study concluded first that engagement in community development in Nigeria by oil and gas firms has the potential to culminate into improved performance, however such potential is yet to be fully harness by most of the oil and gas firm in Nigeria. Hence oil and gas firms in the country, should be more objective in their engagement in

community development in the country, so has to further boost their performance potential.

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