Corporate Social Responsibility and Profitability of Listed Oil Firms in Nigeria

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**Abstract**

**Purpose:** Corporate social responsibility (CSR) activities are crucial for the cordial relationship between the business and the community, and despite the cost involved in CSR investments such relationship may have favourable consequence on community patronage and financial outcome. This study investigated the effect of CSR activities on the profitability of oil firms listed in Nigeria by ascertaining how community development costs (CDC) and employee benefits are associated with the financial performance of the firms.

**Methodology:** Data on the study variables from thirteen oil and gas firms were collected over a period of twenty-one years (1998 to 2018), and analysed using a heteroscedasticity and autocorrelation-consistent regression technique to determine the effect of CSR activities on the financial performance of the sampled firms.

**Findings:** The results showed that community development cost (CDC) had a significant positive effect on profitability. Employee benefits also have similar effect on financial performance. These findings indicate that investing in CSR activities ultimately has a favourable impact on corporate financial performance. Accordingly, the study recommended that oil firms should increasingly invest in employee welfare and community development projects in Nigeria.

**Originality/Value:** This paper used a data set drawn from almost all the listed oil firms in Nigeria over a relatively long time span. The results support the usefulness of CSR activities to corporate entities, thereby encouraging oil firms to conduct more CSR investments in Nigeria.
1.0 Introduction

Nigeria is endowed with petroleum resources that constitute the economic base of the country. The exploitation of these resources expose the country to unpleasant environmental hazards, resulting mainly from oil spillages, gas flaring, emission of hazardous gases, and unprofessional disposal of toxic wastes. These hazardous events pollute the sources of drinking water, harm aquatic life, degrade soil quality, produce pollutants that are harmful to the health of children and adults. More recently, there has been massive air pollution from black suits emanating from poor quality refining of petroleum products in the Niger Delta area. Apart from the quality of the environment which has been degraded, oil exploitation has also imposed considerable socio-economic burden on the livelihood of the peoples of the Niger Delta area, where oil is produced in commercial quantity in Nigeria (Chukwu et al., 2020; Iloma, 2022).

The adverse effects of corporate activities on the environment places some measure of responsibility on firms whose activities pollute the ecosystem of victim communities. To respond to the environmental burden suffered by these communities, it is expected that polluting firms would address some physical and social needs of these communities. Corporate social responsibility connotes the commitment of companies towards encouraging community development, human capacity development, environmental protection, employee welfare and voluntarily eliminating practices that are not in accordance with public interest.

Generally, communities expect some level of social concern and programme to alleviate the consequences environmental chaos (such as polluted water sources and declining means of livelihood). The neglect or outright refusal of the firms to respond to the social needs of host communities results in most cases to face-offs between the oil firms and the communities. It is possible that the financial burden associated with CSR activities and the fear that such costs may outweigh the benefit derivable, may be responsible for the reluctance of many environmental polluting firms to engage in substantial community development programmes. Several studies have investigated the effect of corporate social responsibility (CSR) on the financial performance of a
variety firms in different accounting jurisdictions (Hopkins, 2003; Olayinka, 2012; Orlitzyky, 2003). Some of the Nigerian studies used very limited samples, such as studying a single firm, very firm firms or using a limited time window (Amole et al., 2012; Out, et al., 2018). Accordingly, evidence provided on the CSR-financial performance relationship has been inconsistent. In Nigeria, the worst environmental polluters are firms in the petroleum industry. Accordingly, these firms have more impelling moral burden to implement CSR in other to ameliorate the impact environmental pollution. To provide evidence based on substantial data set drawn from oil firms, the current study used data from a large proportion of listed oil firms over a period of twenty-one years. This enabled the study to provide research evidence based on a broad spectrum of observations. Also, the increasing burden of environmental pollution and the vagaries of oil firm operations in Nigeria, worsened by continued community protests even in recent times (Nwaoku, 2023), necessitate continuous research on the association between CSR and financial performance of oil firms in Nigeria. If the result shows a positive relationship between CSR and financial performance, oil firms will be encouraged to implement and continue to sustain robust CSR activities. If the result reveals a negative relationship, polluting firms may be able to persuade stakeholders on the reason for implementing only very key CSR investments. Either way, the determination of this relationship will assist in reducing the rancorous relationship between oil firms and host communities. This study used two variables of CSR (community development cost and employee benefit) in determining how corporate social responsibility is associated with financial performance.

2.0 Literature Review

2.1 Concept of corporate social responsibility

The history of corporate social responsibility (CSR) dates to several centuries ago as there are evidences that businesses have been responding to societal needs long before now. In modern times the evolution of the concept of CSR can be traced to the 1950s, especially when in 1953 Howard Bowen published a work entitled *Social Responsibilities of the Businessman*, wherein the author defined social responsibility
as the obligations of businessmen to undertake actions that will enhance the objectives and values cherished by the society. Several authors have offered various definitions of the concept. Essentially, they note that the concept is applicable to situations where a business balances its goals with the interest of the society. In a book written by Harold Johnson in 1971, the author defined a “socially responsible firm” as one “whose managerial staff balances a multiplicity of interests. Instead of striving only for larger profits for its stockholders, a responsible enterprise also takes into account employees, suppliers, dealers, local communities, and the nation” (Johnson, 1971 p. 50 cited in Carroll, 1979).

Given the definition of CSR by Johnson, the constituents of CSR include employees, local community hosting the business, customers, suppliers and the state. In exploring the relationship between CSR and financial performance, this study focussed on two CSR dimensions (employees and community). The aspect relating to community refers to the costs incurred by the firm in providing amenities to the host community that positively affect the welfare of the people in the community. The employee dimension deals with costs incurred by the firm to improve the workplace for the benefit of the employees. Such actions will be expected to improve employee motivation and performance.

Research evidence on the effect of CSR on financial performance (FP) have provided inconsistent result. These results may be grouped in three categories; namely, studies that record positive relationship between CSR and profitability (e.g. Ashrat et al, 2017; Kaskeen, 2017; Manokaran et al., 2018), those that document negative relationship between CSR and financial outcome (e.g. Sameer, 2021), and studies that failed to find statistically significant relationship between CSR and financial performance (e.g. Masoud & Halaseh, 2017; Out et al., 2018). It has also be shown that the nature of the relationship between CSR and financial performance sometimes depends on the CSR dimension in the study, resulting to a situation where in a particular study, there will be both negative and positive relationship between measures of CSR and FP (Yoon & Chung, 2018).
Studies that found a negative relationship between CSR and FP view CSR as cost that outweighs the benefit of the social investments made by the firm. Although buyers may recognise the product of a socially responsible firm, other factors may affect the purchasing decision of buyers. Therefore expenditure incurred on CSR projects may adversely affect the profitability of the socially sensitive firm. On the other hand, studies that support a positive link between CSR and FP believe that CSR investments positively influence the reputation of the firm, and this enhances the loyalty of buyers and other stakeholders. Customer loyalty and favourable perception of stakeholders translates into increased purchases, and consequently more revenue to the reporting firm (Servera-Francés & Piqueras-Tomás, 2019).

2.2 Theoretical foundation of the study

The stakeholder theory holds that there are many actors in the environment in which an entity operates, and the entity interacts with these actors in the course of its operations. These actors include investors, customers, suppliers, pressure groups in the host community, professional bodies, trade unions, regulatory agencies, and the public, and they constitute what is termed stakeholders in the stakeholder theory. In the process of interaction, the activities of the business will have some effect on these actors, and the actions of the stakeholders will also affect the operations on the business. For a business to achieve its objectives, it should take into account the interest of its stakeholders in the decisions it makes, and the in manner in which it conducts its operations. This is the central argument of the stakeholders theory (Donaldson & Preston 1995). To be successful, a firm seeking to maximise the wealth of its shareholders as well as achieve its objective and goals, must consider the interest of its stakeholders. An ethically oriented firm would engage in decision-making processes that are favourable to its stakeholders. When the actions of a firm are ethically motivated and allows for the interests of the stakeholders in its environment, it is most likely that the actors in the environment in which the business operates will perceive the business as socially responsible.
2.3 Hypotheses development

The stakeholders of a business have one expectation or the other from the entity. A socially responsible business will seek to protect the interest of its stakeholders by seeking to satisfy the interest of both internal stakeholders (such as shareholders and employees) and external stakeholders (such as creditors, suppliers, host community, and the government). Managers must therefore consider how their activities will affect not just the shareholders but all other key stakeholders of the business. This is important as these stakeholder groups can enhance or frustrate an entity from achieving its goals. Put briefly, the stakeholder theory posits that there are many stakeholders in the environment in which a firm operates. Ignoring the interests of these stakeholders will imperil the performance of the business. Relying on the stakeholder perspective some studies have documented a positive relationship between CSR activities and financial performance (Ashrat et al, 2017; Kaskeen, 2017; Manokaran et al., 2018). These discussions lead to the following hypothesis.

Hypothesis 1: Community development costs positively affect the earnings per share of listed oil/gas companies in Nigeria.

An entity which directs its CSR activities at its employees will enjoy numerous advantages. There will be reduction in absenteeism and labour turnover, a greater sense of belonging among staff, increased motivation, higher team spirit and an efficient workforce. The overall effect of staff-related CSR activities is improvement in productivity and enhanced financial performance. Employees constitute one of the critical categories of the internal stakeholders of any firm. Using the stakeholder perspective it has been shown that when employee welfare is adequately addressed beyond the industry requirement, the fortunes of the firm will be improved (Chukwu & Timah, 2018). The stakeholder theory proposed by Freeman (1984), suggests that firm value will be enhanced if a business recognises and respects the interest of its stakeholders. Chukwu and Etoko (2018) have argued that enhancing the welfare of employees in the oil industry in Nigeria positively affects a firm’s wealth creation. This will result from increased commitment and consequent productivity. Umobong
and Uche (2018) who examined the association between financial performance and corporate social responsibility of Nigerian firms (using data from 2005 to 2015) reported that employee had significant impact on financial performance. A similar finding was reported in Jordan by Hamdam et al. (2018), and in Uganda by Nassazi (2013) who focussed on employee training in the telecommunication industry of that country. A positive relationship is therefore expected between employee welfare (a major CSR category) and financial performance. The second hypothesis is therefore as follows:

**Hypothesis 2:** Employee welfare costs positively affect the earnings per share of listed oil/gas companies in Nigeria.

### 3.0 Methodology

#### 3.1 Research design and sample

This study is based on data drawn from the published accounts of listed oil firms in Nigeria. When variables are chosen after the occurrence of the event to be investigated, it is unlikely that such variables can be controlled by the researcher. Such circumstances warrant the use of ex post facto design, which also requires that two groups of variables in the research are matched after the occurrence of the event (Ryan et al., 2002). Since the data for the study were drawn from events that occurred before the research, the researcher cannot manipulate the data. Importantly also, the data from independent and dependent variables in the study are matched post the event. Given these facts, the research approach considered appropriate for this study is the ex-post design. The period covered by this study is twenty-one years (1998 to 2018). The 2019 *Fact Book* of Nigerian Exchange group shows that there are thirteen firms in the oil and gas category. Of this number, nine firms were selected because they had available data for the study period, given rise to 180 firm-year observations. Data on CSR variables (community development cost and employee benefit cost) and financial performance (earnings per share) were extracted from the financial statements of the selected firms. A control variable (financial leverage) was introduced in the empirical model used in the study. To address the situation where variables are in substantially different magnitudes, the
data was scaled using their natural logarithms. The study used Newey West robust standard errors in the regression analysis to address the problem of autocorrelation. Further description of the variables used in the study is provided below.

3.2 Description of variables

Independent variables

Corporate social responsibility (CSR) was used as the independent variable in this study. The dimensions of corporate social responsibility in this study are community development cost (CDC) and employee benefit (EPB).

Community Development Cost (CDC): This proxy was measured using the natural logarithm of community development costs reported in published statement of accounts of listed oil firms.

Employee benefit (EPB): Under IAS 19, employee benefits “are all forms of consideration given by an entity in exchange for the service rendered by the employee or for the termination of employment”. This proxy was measured using the natural logarithm of employee benefit as disclosed in the published financial reports of the selected firms.

Dependent variable

The dependent variable for this study is earnings per share (EPS). Earnings per share is calculated in accordance with the requirements of International Accounting Standards (IAS) 33 and disclosed in the financial statements. For the purpose of this study, EPS numbers were hand collected from the annual financial statements of the selected firms.

Control variable

A control variable was introduced in this study. The control variable is financial leverage. Kaluarachchi et al. (2021) have suggested that financial leverage is significantly associated with profitability, either negatively or positively depending on the level of business analysis.

3.3 Model specification

The regression model formulated for this study used the variables of corporate social responsibility (CSR) and financial performance. The CSR variables are community
development cost (CDC), and employee benefits (EPB), while financial performance was measured using earnings per share (EPS). Financial leverage (FLEV) was introduced in the model as a control variable. As noted above, financial leverage is associated with financial performance. This relationship may be positive and negative. The model is as follows.

\[ \text{EPS} = \lambda_0 + \lambda_1 \text{CDC}_{it} + \lambda_2 \text{EPB}_{it} + \lambda_3 \text{FLEV}_{it} + U_{it} \]

Where

EPS = earnings per share. A measure of financial performance usually calculated by a firm in accordance with IAS 33 and disclosed in the financial statements

CDC = community development costs. Costs incurred by a firm to meet certain needs of the community. Community development activities undertaken in a given period, together with the related costs are disclosed in the audited financial statements of the firm

EPB = Employee benefit cost. This is the monetary value of considerations received by an employee from the employer by reason of the service rendered by the employee. It includes also termination benefits. The extent of these considerations and benefits disclosed in the financial statements constitute employee benefit cost in this study.

FLEV = Financial leverage of the firm is measured by dividing total equity by the total assets of the firm

\[ \lambda_0 = \text{regression constant} \]

\[ \lambda_1, \lambda_2, \lambda_3 = \text{Regression coefficient} \]

\[ U_{it} = \text{Stochastic error term} \]

4.0 Empirical results and discussion

4.1 Bivariate analysis

Data collected for the study were analysed using bivariate correlation and regression analysis.

Table I presents the Pearson correlation of the variables in the study. Earnings per share (EPS) is positively associated community development cost (CDC) and employee benefit cost (EPB). The correlations are significant suggesting that when
investments in community development cost (CDC) increases, profitability of the firm (measured by earnings per share, EPS, will also increase) and vice versa. Similarly, when employee benefits (EPB) increases, EPS will also increase, and vice versa. On the other hand, EPS is negatively associated with financial leverage (FLEV), and the relationship is significant. This indicates that when FLEV increases EPS will decrease, and vice versa. The relationship between employee benefit cost (EPB) and community development cost (CDC) is positive and significant. This is not surprising as each of the two variables is positively associated with EPS.

<table>
<thead>
<tr>
<th>Table I Pearson correlation of variables</th>
</tr>
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<tbody>
<tr>
<td>EPS</td>
</tr>
<tr>
<td>Earnings per share (EPS)</td>
</tr>
<tr>
<td>Employee benefit cost (EPB)</td>
</tr>
<tr>
<td>Community development cost (CDC)</td>
</tr>
<tr>
<td>Financial leverage (FLEV)</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>

***, ***, * correlation significant at 0.01, 0.05 and 0.10 respectively

Source: Authors’ computation (2023)

The relationship between financial leverage (FLEV) and earnings (EPS) is negative; similarly, FLEV and EPB are negatively associated, but the relationship between financial leverage and community development is positive. None of the correlation coefficients is up to 0.5, suggesting that there is no serious issue of multicollinearity that will violate the regression assumption of no perfect relationship between explanatory variables.

4.2 Multivariate analysis

Table 2 presents the model summary as well as the test of normality, multicollinearity, and heteroskedasticity. Panel D presents the model summary which shows an adjusted R square of 0.206, indicating that the independent variables explain about twenty per cent of variations in the dependent variable. The model is significant at the 1 per cent level (p < .01), suggesting that the model fits the data. The Table also shows the value of Durbin Watson (DW) statistic which tests whether the residuals from ordinary least square (OLS) regression are autocorrelated. The Durbin
Watson (DW) statistic of 0.794, indicates positive autocorrelation. This violation of the regression requirement of no autocorrelation necessitated the use of Newey West robust standard errors in the regression analysis.

### Table 2: Model Summary and Test of multicollinearity, normality, heteroskedasticity

<table>
<thead>
<tr>
<th>Panel A Test of multicollinearity</th>
<th>Panel B Test of normality</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIF 1/VIF</td>
<td>Variables  Skewness Stat  Std. Error</td>
</tr>
<tr>
<td>EPB 1.25 0.802120</td>
<td>EPS -0.624 0.177</td>
</tr>
<tr>
<td>CDC 1.22 0.819320</td>
<td>EPB -0.937 0.177</td>
</tr>
<tr>
<td>FLEV 1.04 0.959909</td>
<td>CDC -0.895 0.177</td>
</tr>
<tr>
<td>Mean VIF 1.17</td>
<td>FLEV -1.406 0.177</td>
</tr>
</tbody>
</table>

**Panel C Test for heteroskedasticity**

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

| chi2(1) = 0.38 | Prob > chi2 = 0.5399 |

**Panel D Model summary**

| R Square = 0.218 | Adjusted R Square = 0.206 |
| Sig. F Change = 0.000 |

**Durbin-Watson = 0.794**

**Source:** Authors’ computation

Panel A presents the values of variance inflation factor (VIF) which tests the multicollinearity of the independent variables. The VIF of each variable is less than 10 and the overall mean VIF of 1.17 indicates that there is no multicollinearity of the independent variables. The correlation coefficients in Table I (which is less than 50 per cent in each case) further confirms the absence of multicollinearity.

Panel B presents a test of normality based on skewness values computed from the data. Each of the skewness statistic is less than 3, indicating that the normality assumption was not violated. Panel C presents the result test of heteroscedasticity using the Breusch-Pagan / Cook-Weisberg test. Given the probability value of .5399, it is clear that test result was not significant, therefore, the assumption of homoscedasticity was not violated.

Table 3 presents the results of regression of CSR variables on earnings per share (EPS), the profitability measure in this study. The analysis used Newey West standard errors which is heteroscedasticity and autocorrelation corrected. Correcting for autocorrelation was necessary given the low DW statistic reported in Table 2. The use of the Newey West approach therefore corrects for the violation of...
the assumption of no autocorrelation, and ensures that the standard errors used in the analysis are robust.

**Table 3: Effect of CSR on Profitability**

<table>
<thead>
<tr>
<th>Regression with Newey-West</th>
<th>Number of obs</th>
<th>=</th>
<th>189</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard errors</td>
<td>F(3, 185)</td>
<td>=</td>
<td>22.31</td>
</tr>
<tr>
<td></td>
<td>Prob &gt; F</td>
<td>=</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>R squared</td>
<td></td>
<td>0.218</td>
</tr>
</tbody>
</table>

| EPS | Coeff | Std. Err | t   | p>|I| | [95% conf. interval] |
|-----|-------|----------|-----|-----|---------------------|
| EPB | 0.177 | 0.062    | 2.87| 0.005| 0.055 - 0.299 |
| CDC | 0.176 | 0.047    | 3.78| 0.000| 0.084 - 0.268 |
| FLEV| -0.48 | 0.169    | -2.86| 0.005| -0.816 - -0.149 |
| _cons| -4.910| 0.701  | -7.00| 0.000| -6.293 - -3.526 |

**Source:** Authors’ computation (2023)

Results presented in Table 3 based on robust standard errors shows that the t statistic for community development cost (CDC) has a positive value of 3.78 which is significant at the 1 per cent level. This means that community development costs positively affect the profitability of the sampled firms in the study. Given this result, there is insufficient evidence to reject hypothesis one, which proposes that community development costs positively affect the earnings per share of listed oil and gas firms in Nigeria.

Table 3 also reports the value of the t statistic and coefficient for employee benefit costs (EPB). The value of the t statistic is 2.87 and the related coefficient is positive, and significant at the 1 per cent level. This also means that employee benefit costs (EPB) has a significant and positive effect on the profitability of the firms in the oil industry in Nigeria. Accordingly, there is insufficient evidence to reject hypothesis two which states that employee benefit costs positively affect the earnings per share of listed oil and gas firms in Nigeria. Table 3 also shows that financial leverage (FLEV) has a significant negative effect on profitability, indicating that FLEV is negatively associated with profitability in the oil industry. This means that oil firms should finance their usually capital intensive investments with less of debt, where practicable.
Exploitation of petroleum resources in Nigeria has led to the despoliation of the environment in Nigeria creating a moral burden on the part of these firms to invest in CSR activities. The damage to the environment affects the livelihood of persons in the communities that host the firms, and even the workers in the industry are sometimes exposed to hazards in their work life. In response to the danger to life arising from the damage to the environment in the Niger Delta area in Nigeria, there have been protests from different communities in the area some of which have led to loss of lives and property. A number of oil firms have embarked on different forms of investments in CSR to enhance their reputation, ensure uninterrupted operations, and sustain a committed workforce.

Results from the data analysis showed that community development costs (CDC) has a significant and positive effect on profitability. A number of prior studies have reported a positive effect of CSR on financial performance (Ashrat et al, 2017; Kaskeen, 2017; Manokaran et al., 2018). Literature that found a positive association between CSR on financial performance often argue that CSR positively impact the reputation of firms and this translates into greater customer loyalty and more revenue (Servera-Francés & Piqueras-Tomás, 2019). It has also been argued that satisfying the stakeholders of a business through CSR favourably disposes the business to sustained financial performance (Sameer, 2021). In Nigeria, the positive effect of community development costs (CDC) on financial performance may be due to the positive effect CSR has on the relations between the community and the firm. This favourable relationship ensures that the operations of the business are not interrupted through youth militancy and community protests. This result of the study is explained by the stakeholders theory; implying that as the firm through CSR gets better reputation in the community that supports the business to be more successful.

The results further showed that employee benefit costs (EPB) has significant positive effect on profitability. Employees constitute one of the critical stakeholders of any firm. Using the stakeholders perspective, it has been documented that CSR investment in employees motivate the employees to work harder and this in turn
increases firm’s financial performance (Yoon & Chung, 2018). A number of studies have also reported a positive relationship between employee benefits and firm financial performance (Hamdan et al., 2018; Nassazi, 2013; Umobong & Uche, 2018). The oil industry in Nigeria is the most attractive industry in terms of employee benefits and other compensations. The industry is therefore able to attract and retain good talents, and motivate its workforce to sustain expected level of productivity. This explains why employee focussed CSR has a positive effect on profitability in the Nigerian oil sector.

5.0 Conclusion

This study looked at two dimensions of CSR – community development costs (CDC) and employee benefit costs (EPB). A number of prior studies have found a positive association between CSR and corporate financial performance. Accordingly, two hypotheses (based on the two dimensions of CSR studied) were formulated, and profitability was measured based on the earnings per share reported of the sampled firms. The data collected from the firms studied (for a period of twenty-one years) were analysed using autocorrelation corrected robust standard errors. Findings showed that community development costs (CDC) has a significant and positive effect on profitability. Similarly, employee benefit costs (EPB) has a significant and positive effect on the financial outcomes of firms in the petroleum industry. The findings of this study support the assertion that addressing the needs of external stakeholders (such as host communities) and satisfying internal stakeholders (such as employees) has positive effect on the financial performance of a firm.

The increasing destruction of the biosphere arising from the operations of firms in the petroleum industry is still an issue of concern, and the consequential and continuous agitation of victim-communities degrade the performance of the oil industry in Nigeria. Given the positive effect of CSR activities on profitability, it is recommended that oil firms should scale up their CSR investments in host communities in Nigeria.
References


