

## **Implications of Corporate Social Responsibility for the Performance of Nigerian Firms**

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### **Abstract**

Although a fairly large body of literature generally exists on the subject of Corporate Social Responsibility (CSR), there is observably scant empirical evidence emanating from countries in sub-Saharan Africa, like Nigeria, that have become most vulnerable to ecological degradation problems as a result of increased environment-related business activities. This study seeks to contribute to closure of this gap with its examination of the effect of corporate social responsibility activities on the financial performance of firms operating in some of the industries that have the greatest impact on the environment in Nigeria. Using an inferential research design, a cross-sectional study was carried out to test the effect of CSR, represented by the cost of Corporate Social Performance variables of waste management, pollution abatement, social action and fines and penalties on the financial performance of firms, measured by Return on Capital Employed. It was found that waste management and pollution abatement are both significantly and positively associated with firm performance, while social action and fines and penalties are strongly, but negatively related. Based on these mixed results, we recommend that firms should actively invest in proper waste management and pollution abatement, while social action should be approached with caution, and effective disclosure policies and practices put in place in order to avoid or eliminate liabilities of fines and penalties for environmental infractions. The study indicates scope for a wider coverage of firms and use of longitudinal data for measuring the CSR effects over an extended period of time.

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**Keywords:** Corporate Social Responsibility, Firm performance, Stakeholder's theory, Normative Accountability theory, Legitimacy theory, Nigeria

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## 1 Introduction

The daily interactions between human elements and their respective environments usually have long-lasting implications and consequences for the physical landscape. And, as people attempt to meet their daily needs and wants, the consequences of their interaction continue to mount. Most particularly, rural-urban migration, deforestation, desertification and emission of effluence and other wastes have impacted negatively on the natural environment. These activities generate a variety of problems including soil, atmospheric, water and noise pollution (Dutta & Bose, 2008). Also, the unplanned use of natural resources due to ignorance, neglect and greed has led to systemic degradation of the environment with attendant high costs. Such costs roughly reflect the extent to which the environment has been abused. Although the accumulation of environmental degradation costs occurs at both individual/personal and firm/corporate levels, the latter tends to contribute more to the problem. In spite of the fact that the impact of firms' activities is a global concern, its ramifications have increased significantly in recent years particularly in developing countries like Nigeria, where environmental degradation issues and bitter complaints of marginalization or neglect of the host communities have fueled environmental activism and regulatory sanctions for the firms.

Until fairly recently, release of hazardous wastes and endangerment of the ecosystem were commonly considered to be some of the necessary consequences of doing business. As such, the attendant cost of these to the environment neither counted nor was to be accounted for. This mindset has however altered dramatically as there is now a universal recognition of the fact that environmental sustainability and economic development are not necessarily positions that are mutually exclusive or parallel. Thus, firms can operate in ways that are consistent with the profit motive while simultaneously ensuring maintenance of a wholesome relationship with the operating environment. Further reinforcing this new paradigm is the growing phenomenon of consumers' willingness, or even enthusiasm, to pay higher for goods that are produced under environmentally safe or friendly circumstances. Preserving an environment that is characterized by clean air, water and land now therefore appears to be more important to consumers than paying lower prices for goods and services. This new approach tends to promote the environmental sustainability objective of satisfying present-day needs without necessarily impairing or jeopardizing future generations' ability to meet their own needs (United Nations, 1987).

As firms are the socio-economic agents that have the greatest impact on the environment, they accordingly have a significant part to play in actualizing the environmental sustainability objective. Indeed, given the enormous power, position and rights that firms wield, occupy and enjoy in society, they expectedly accept some form of social duties and obligations (Garriga & Melé, 2004). The actions they take that are geared towards contributing to the realization of the environmental sustainability objective are often embedded in their social responsibility agenda. For the firm, pursuing this agenda would often include voluntarily integrating such additional roles as securing and maintaining a better operating environment, and formulating and executing social-oriented programmes that serve to increase the net benefit of the relationship between the firm and its host community (European Commission, 2006). However, given that the contract between the firm and its host typically does not define such expanded responsibility, justification for this added burden, at best, remains arguable (Babbie, 1990). This is so especially in view of the fact that actions taken to protect the environment and/or promote the interest of host

communities expectedly come with substantial underlying costs; and, for most firms, costs are decisive in corporate performance. Therefore, as pressure to behave in a socially responsible way heightens, its effect on the financial performance of firms continues to generate debate (Backman, 2003; Brammer & Millington, 2008; Jensen, 2002; Margolis & Walsh, 2003).

Since every interaction between the firm and the environment has an implied or explicit cost, one way or another, the acceptance of responsibility and consequent focus of efforts on conducting business accountably creates a compelling need to examine the financial and other implications of the interplay between environmental activities and performance of the firm. Although the precise nature of this relationship is still a subject of argument and conflicting interpretation, credible and evidential conclusions abound. However, these conclusions have mainly emanated from earlier studies carried out on the experience in Western hemisphere countries. Given the fact that the structural and infrastructural peculiarities of sub-Sahara Africa make it different in a significant number of ways, we attempt in this paper to redirect the geographical focus of research by measuring the extent to which the cost of environmental and social activities affect the performance of firms operating in Nigeria, in a cross-cutting study covering the aviation, construction, manufacturing, mining and oil and gas industries. The findings of the study will provide the basis for understanding the implications of carrying out Corporate Social Responsibility (CSR) activities, not just for the performance of firms in Nigeria, but also other countries that have recently emerged as promising commercial hubs in sub-Saharan Africa. This effort therefore seeks to contribute to the currently scant evidence and body of literature in this regard.

## 2 Theoretical Framework and Literature Review

The definition of CSR lacks universality, and different interpretations have been given to it (Dalhsrud, 2008). It is a multifarious concept that lends itself to multiplicity of meanings. However, for the purposes of this study, CSR is described as a collection of activities which are of direct benefit to society that a firm voluntarily or discretionally undertakes. These activities form part of the overall corporate responsibilities that the firm owes its stakeholders and the natural environment within its scope of operations (Waddock, 2004, 2006). They are designed to create some positive impact on the firm's environment and its stakeholders. The extant scope and ramifications of CSR is more aptly captured as consisting of the Korea Economic Justice Institute's seven-point index (as cited in Nam & Jun, 2011) of: *Soundness* (stockholder composition, investment and financing); *Fairness* (fair trade, economic concentration, transparency and supplier relationships); *Contribution to society* (care for minority groups and corporate donations/charity/gifts); *Consumer protection* (protection of consumer sovereignty, interests and rights, product quality and ethical promotion); *Environmental protection* (environmental improvement efforts, environmental friendliness and compliance with environmental regulations) *Employee satisfaction* (workplace safety, investment in human resource training and empowerment, fair wage and welfare, labour-management relationship and gender equity); and, *Contribution to the economy* (R&D efforts, operating performance and contribution to the economy through corporate growth, export activities and payment of tax)

Beyond its stockholders, a firm has a number of stakeholders. These include its employees, customers, suppliers, distributors, creditors, host communities and the government. The performance and success of the firm depends on how well it is able to manage its relationships with these stakeholders (Freeman & Phillips, 2002). Indeed to succeed, managers need to harmonize the usually conflicting interests of these stakeholders. Where these interests are properly managed, the support of the stakeholders can be counted upon, while the firm is seen as a good platform upon which the stakeholders' interests can be maximized (Duke, Kankpang & Okonkwo, 2012). This *Stakeholder theory* suggests that since people voluntarily associate in a firm, their interests must be pursued single-mindedly. Managers of firms can only secure their cooperation towards achieving organizational goals when they successfully develop quality relationships with these stakeholders. Generating this positive relationship will naturally include the provision of social projects and other actions that are normally costly for the firm, at least in the short run. Profits may then be the assured outcome of this association, once value is created (Freeman, Wicks & Parmar, 2004). Freeman (1984) argues that firms actually derive their legitimacy from recognizing and addressing the needs of the stakeholders and in the long run, their social and financial performance tend to converge. The positive association found between CRS and financial performance by Cochran and Wood (1984), McGuire (1988), Orlitzky, Schmidt and Rynes (2003), Preston and O'Bannon (1997) and Spencer and Taylor (1987) partly serve to reinforce and justify the logic of the Stakeholder theory.

As implied by Friedman, a deflection of managerial attention to interests outside those of investors is essentially a breach of trust that serves to reduce stockholders' welfare (as cited in Preston & O'Bannon, 1997). This argument resonates with the findings of Vance (1975) that there is a negative association between CSR and financial performance. It would therefore mean that social responsibility activities are actually inimical to the objectives of the stockholder, since such actions apparently dissipate resources that would have been deployed to the benefit of the investor. The dilemma here lies in whether the manager of a firm will always take only those actions that are in the best interest of the owner of the firm. This question generates an issue of trust between the firm's stockholder/principal and manager/agent. The *Agency theory*, in describing the relationship between these two sets of organizational stakeholders suggests that conflict of interest usually characterizes the contractual relationship between both parties, and the challenge is how to manage this conflict in a mutually beneficial way. The task of managing the agency problem is however complicated by the fact that stockholders cede control of the firm to the managers under an agency contract and consequently become hostages to their agents, whom the theory assumes will always rank their own personal goals ahead of the organization's and its owners (Mintz, 2004). Therefore, while stockholders would normally expect that the agents should act in the principal's best interest, reality often proves the contrary (Padilla, 2000). Under circumstances of favourable financial performance, managers tend to take advantage by reducing social expenditure in order to cash-in on the opportunity to increase their own short term gain; but where financial performance is poor, they are more likely to posture in a way that suggests that social expenditure explains or justifies the poor results (Kurucz, Colbert & Wheeler, 2008). Where there are significant divergences between managers' information and stockholders' knowledge about the firm, the ensuing conflict of interest begins to raise the agency (monitoring) cost of the firm (Jensen & Meckling, 1976). This agency cost is an opportunity cost borne solely by the stockholder, who is the beneficiary of only

the residual cash flow of the firm (Brickley, Smith & Zimmerman, 2001). The theory implies that it is only when the interests of the managers fuse into a single long-term objective with those of stockholders and/or the firm that the manager will be expected to act in an accountable way. Part of the ways to reduce this agency problem is by selecting only the right or appropriate agents to manage the interest of the stockholders in the firm, and to ensure that social disclosure is an integral and non-negotiable component of the firm's overall reporting (Duke, Kankpang & Okonkwo (2012).

CSR is also underpinned by *the Normative Accountability theory*, which basically proposes that the extant societal law forms the basis of the social contract between the firm and society. In the absence of express or clear requirements for firms to act in socially responsible ways, the social contract therefore becomes the basis upon which the relationship is anchored. Voluntary disclosure is indicative of a firm's commitment to society (Mathews, 1993). Corporate social reporting represents a credible way of subtly pressuring firms to act in socially responsible ways. Social reporting has been the main driver of firms' recent socially responsible behaviour. And, its continued emphasis will lead to practices that facilitate sustainable development, such as, better corporate accountability, and stakeholder democracy (Hess, 2008). Similarly, failing to report on social responsibility leads to such costs as fines and penalties, increased regulatory sanctions, negative publicity and unfavourable corporate image, customers' loss and boycott (Adams, 2002; Deegan & Gordon, 1996).

The *Legitimacy theory* equally proposes that in order to survive, the firm must perform those socially desirable actions which society imposes as an obligation. By doing this creditably, the firm becomes required with favourable outcomes such as acceptance and approval, and by extension, patronage and loyalty (Guthrie & Parker, 1989). However, to succeed in doing this, the firm must disclose the critical information needed to rate or assess its social performance.

## 2.1 Corporate Responsibility Measures

The term CSR is in itself not a measurable variable, which has led to the construction of the Corporate Social Performance (CSP) concept. CSP therefore operationalizes CSR through a number of measurable variables, which can be used in testing the CSR/firm performance relationship. Specifically, (i) *Corporate action* – such as philanthropy, social programmes and pollution control; (ii) *corporate reputation ratings or social indices* produced by researchers and social rating institutions; and, (iii) *social disclosure about social concern* are the three broad classes of measurable variables that have been identified by Johnson and Greening (1999), Mahoney and Thorne (2005), Moore (2001), Orlitzky, Schmidt and Rynes (2003), Sotorrio and Sanchez (2008), Van Beurden and Grossling (2008) and, Wu (2006) (as cited in Comincioli, Poddi & Vergalli, 2012). Other measurable variables under the scope of CSR include employee rights and poverty (Roberts, 1992). However, the variables used in this present study are: waste management cost; pollution abatement cost; social cost; and, fines and penalties. The first three variables fall under *corporate action*, while we identify the last variable, fines and penalties, under *social disclosure about social concern*. This is because fines and penalties often arise or become applicable when firms fail to act timely on and/or report promptly on their social responsibility (Deegan & Gordon, 1996).

### 2.3 Firm Performance

*Market, accounting and mixed* variables can be used in measuring the performance of firms in the context of CSR (Poddi & Vergalli, 2009). The market variable is Market Capitalization (MKTCAP). Accounting variables include Return on Equity (ROE), Return on Assets (ROA), Return on Investment (ROI) and Return on Capital Employed (ROCE). The mixed variable is the Market Value Added (MVA). Each of these variables provides a credible measure. However, following the lead of Preston and O'Bannon (1997), we select ROCE for use in this study. This variable is essentially a financial efficiency measure that seeks to establish the extent to which a firm generates sufficient returns to cover its cost of capital. It is represented as a ratio of pre-tax profit to the capital employed by the firm. Pre-tax profit is the profit on ordinary activities before interest charges and tax, while capital employed is shareholders' fund plus long-term liabilities and debt capital.

#### 2.4 Study hypotheses

Following the study objectives and theory, four hypotheses were developed for this study.

H1: Waste management cost has a significant influence on corporate performance.

H2: Pollution abatement cost has a significant influence on corporate performance.

H3: Social cost has a significant influence on corporate performance

H4: Fines and penalties have a significant influence on corporate performance.

## 3 Methodology, Data Analysis and Results

### 3.1 Methodology

The present study sought to establish an association between CSR and the performance of firms in Nigeria. An inferential research design involving a cross-sectional study was adopted. Data were collected from secondary sources including Corporate Affairs Commission (CAC) of Nigeria and firms' annual reports and financial statements. The study population comprised all the 240 companies currently listed/quoted on the Nigerian Stock Exchange, as well as 643 active registered companies in Nigeria not quoted on the stock exchange, but found to consistently render and file annual returns with the CAC over the last 10 years. The total identified study population was 883 firms. The Yamane (1967) formula was used in determining the study sample size. This resulted in a sample of 275 firms. The selected firms were drawn from aviation, construction, manufacturing, mining and oil and gas industries. These five industry areas were judgmentally selected on account of the fact that they represent the ones whose operations are most relevant for, or are susceptible to, CSR activities. Relatively therefore, they are more deeply engaged in environmental and social actions/activities than firms in other industry sectors.

The model used in establishing the relationship between the study variables is expressed as follows:

$$\text{CORPERF} = X_1\text{WASTMGT COS} + X_2\text{POLLABAT COS} + X_3\text{SOCICOS} + X_4\text{FINESPENCOS} + e^f$$

where:

CORPERF represents the overall performance recorded by the firms' as a result Social Responsibility-related costs

WASTMGTCOS represents the annual waste management cost

POLLABATCOS represents the annual cost of pollution abatement

SOCICOS represents the annual social cost incurred by firms

FINESPENCOS represents the annual cost incurred by firms on fines and penalties relating to environmental factors.

$e^i$  is the error term for the model

$X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  are the coefficient of the social responsibility cost elements in the model.

The above Social Responsibility Performance model measures the effect of the different social and environmental responsibility-related costs on the overall financial performance of firms.

### 3.2 Data

The data for social responsibility performance represented by waste management cost (WNC), pollution abatement cost (PAC), social cost (SC) and fines and penalties (FP), and firm performance, represented by return on capital employed (ROCE), are presented in Tables 1-5 with the multiple regression results, the estimated Pearson Correlation Coefficients, standard errors, t-value and the coefficient of determination arranged vertically for each social responsibility cost variable. The t-value is calculated using a two-tailed test. The level of significance of 5% was used. Other statistics found to be necessary for the study, such as, the coefficient of determination ( $R^2$ ), the adjusted  $R^2$  and F-statistic are also presented.

Table 1: Firms' Annual Waste Management Cost (WMC)/Corporate Performance model by Ordinary Least Squares method

Variables	Estimated coefficient	Standards error	t- value	Sig.
Constant Term	0.540	0.216	2.500	.000
LogWMC	0.111	0.035	13.148	.000
Rho	0.851			
$R^2$	0.724			
F-statistic	9.913			
DW	2.086			

a. Predictors: (Constant), logWMC

b. Dependent Variable: logROCE

Source: Authors' estimates [from SPSS (version 17.0) output]

Table 2: Firms' Annual Pollution Abatement Cost (PAC) / Corporate Performance Model by ordinary least square method

<b>Variables</b>	<b>Estimated coefficient</b>	<b>Standards error</b>	<b>t- value</b>	<b>Sig.</b>
Constant Term	0.521	0.243	2.142	.000
LogPAC	0.144	0.040	23.875	.000
Rho	0.774			
R <sup>2</sup>	0.599			
F-statistic	8.267			
DW	2.970			

a. Predictors: (Constant), logPAC

b. Dependent Variable: logROCE

Source: Authors' estimates [from SPSS (version 17.0) output]

Table 3: Firms' Annual Social Cost (SC) / Corporate Performance model by ordinary least squares method

<b>Variables</b>	<b>Estimated coefficient</b>	<b>Standards error</b>	<b>t- value</b>	<b>Sig.</b>
Constant Term	.515	.333	9.545	.000
LoSC	-.111	.052	24.111	.000
Rho	0.870			
R <sup>2</sup>	0.757			
F-statistic	12.455			
DW	2.24			

a. Predictors: (Constant), logSC

b. Dependent Variable: logROCE

Source: Authors' estimates [from SPSS (version 17.0) output]



Table 4: Firms' Annual Fines and Penalties Cost (FP) /Corporate Performance model by ordinary least squares method

Variables	Estimated coefficient	Standards error	t- value	Sig.
Constant Term	.560	.257	12.181	.000
LogFP	-.108	.042	21.568	.000
Rho	0.944			
R <sup>2</sup>	0.891			
F-statistic	56.595			
DW	2.076			

a. Predictors: (Constant), logFP

b. Dependent Variable: logROCE

Source: Authors' estimates [from SPSS (version 17.0) output]

Table 5: Firms' Annual Waste Management cost, Pollution Abatement cost, Social cost and Fines and Penalties costs / Corporate Performance model by ordinary least squares method

Variables	Estimated coefficient	Standards error	t- value	Sig.
Constant term	0.350	.327	1.053	.000
logWMC	0.067	.051	8.315	.000
logPAC	0.048	.060	9.801	.000
logSc	-0.007	.069	6.103	.001
logFP	-0.35	.057	5.612	.001
Rho	0.756			
R <sup>2</sup>	0.572			
Adjusted r <sup>2</sup>	0.542			
F-statistic	23.783			
DW	2.228			

a. Predictors: (Constant), logFP, logSC, logWMC, logPAC

b. Dependent Variable: logROCE

Source: Authors' estimates [from SPSS (version 17.0) output]

Table 1 shows the effect of firms' annual waste management cost on the corporate performance of firms measured by ROCE. The result indicates that the model fits the data well as measured by the coefficient of determination (R<sup>2</sup>). The R<sup>2</sup> value of 0.724 indicates that 72.4% of the observed changes in the dependent variable, that is, firms' performance

were explained by the independent variable of firms' annual waste management cost. It follows that the remaining 27.6% was not accounted for by the model and therefore was represented by the stochastic error term. The high value of the R-squared did not occur by chance, since its overall statistical significance, as measured by the F-statistic, was at a high level [F-statistic (1, 273) = 9.913 compared to  $F_{0.05}(1, 273) = 3.84$ ]. This therefore confirms the model's high predictive power.

To examine the statistical significance of the individual variables in the model, the t-statistic value was used. First, the expected *a priori* sign confirmed the theoretical position that waste management cost is positively related to corporate performance. Specifically, the independent variable was found to be statistically significant at better than 1% level [ $t_{cal} = 13.148 > t_{0.01} = 1.697$ ]. This was read from a two-tailed test table. Testing for the existence or otherwise of serial correlation in the residuals of the model, the Durbin Watson (DW) statistic was used. By rule of thumb, since the calculated DW value of 2.086, which is between the expected values of the upper (*Du*) of the table and the 4-DW value at 5% level, it can be concluded that the model is free from auto-correlation. Therefore, the estimates are considered reliable.

Table 2 shows the results of the relationship between pollution abatement cost and firm performance. Again, the model shows a high predictive power of the independent variable on the dependent variable. The R-squared value of 0.599 indicates that about 59.9% of the observed changes in the dependent variable were explained by changes in the independent variable. The remaining 40.1% was captured in the stochastic error term with its usual normality assumptions. The high F-statistic also confirmed that the high explanatory power of the independent variable is better. This could not have occurred by chance. A look at the statistical significance and the *a priori* sign of the variable in the model indicates that the independent variable was statistically significant at the conventional levels. Specifically, the independent variable was observed to be statistically significant at better than 1% level [ $t_{cal} = 23.875 > t_{0.01} = 1.697$ ]. The model was also free from auto-correlation since the calculated value of the Durbin–Watson statistic fell within the “no correlation” region. This confirms the statistical reliability of the model.

Table 3 indicates the effect of firms' annual social cost on corporate performance. The R-squared value of 0.757 or 75.7% indicates that the model has a high predictive power and it fits the data well. The high and statistically significant value of the F-statistic [F-stat. (1, 273) = 12.455]  $> F_{0.05}(1, 273) = 3.84$  confirms the overall significance of the model and the predictive power of the independent variable. The independent variable in the model was found to be statistically significant at better than 1% level [ $t_{cal} = 24.111 > 1.697$ ] and carried a negative *a priori* sign which means that a negative relationship exists between social cost and financial performance of firms. Again, the DW statistic of 2.204 is within the region of “no auto-correlation”. This again confirms the statistical significance of the model.

Table 4 shows the effect of fines and penalties paid by firms (for environmental infractions) on performance. The result confirms that the model fits the data well, as measured by the coefficient of determination ( $R^2$ ). The adjusted  $r^2$  value of 0.891 indicates that about 89.1% of the negative observed changes in the dependent variable were explained by the independent variable. It follows that the remaining 12.8% was not accounted for by the model and was therefore represented in the usual stochastic error term. This high value of R-squared did not occur by chance, since its overall statistical significance measured by the F-statistic showed high values [F-stat. (1, 273) = 56.595 compared to  $F_{0.05}(1, 273) = 3.84$ ]. This therefore confirms that the model had a high

predictive power. To examine the statistical significance of the [*individual estimates corresponding to the respective variables in the model*] model, the t-statistic value was used. The result shows that the independent variable is statistically significant at better than 1% level [ $t_{cal} = 21.568 > t_{0.01} = 1.697$ ]. With an estimated negative coefficient, it is clear that the result indicates a negative relationship between fines and penalties and the operational performance of firms. Testing for the existence or otherwise of serial correlation in the residuals of the model, the Durbin –Watson (DW) statistic was used. By the rule of thumb, since the calculated DW value is 2.076 - which fell between the expected values at the upper value (*Du*) of the DW table and the 4-*Du* value at 5% level, it can be concluded that the model was free from auto-correlation. Therefore, the estimates are considered reliable.

Table 5 shows the result of the effect of waste management cost (WMC), pollution abatement cost (PAC), social cost (SC) and fines and penalties (FP) on firms' performance. The result produced an adjusted *R-squared* of 0.542. The adjusted R<sup>2</sup> [*The adjusted R-squared*] value means that 54.2% of the observed changes in the dependent variable, firm performance (ROCE), were explained by the combined effect of the independent variables in the model. It follows therefore that, the remaining 45.8% was not accounted for by the model and was therefore represented by the stochastic error term. The high value of adjusted R<sup>2</sup> did not occur by chance, since its overall statistical significance measured by the F-statistic showed high value [*F-stat.* (4, 270) = 23.783 >  $F_{0.05}$  (4, 270) = 3.84]. This therefore confirms that the model has a high predictive power. To examine the statistical significance of the model, the t-statistic value was used. The expected a priori sign confirmed the theoretical position that performance of CSR by way of expenditure on waste management and pollution abatement were actions that are positively associated with corporate performance. However, social cost and fines and penalties were found to be negatively related with corporate performance. The results show that the independent variables are statistically significant at better than 1% level for waste management and pollution abatement costs and statistically significant at 1% for social cost and fines and penalties [ $t_{cal} = 8.315, 9.801, 6.103, 5.612 > t_{0.01} = 1.697$ ]. In testing the existence or otherwise of serial correlation in the residuals of the model, the Durbin – Watson (*DW*) statistic was used. By the rule of thumb, since the calculated *Du* value is 2.228 which fell between the expected values at the upper value (*du*) of the DW table and the 4-*du* value at 5% level, it is concluded that the model was free from auto-correlation. Therefore, the estimates are considered reliable.

### 3.3 Analysis of Results

The first hypothesis involved a test to establish whether or not a statistically significant relationship exists between waste management cost and corporate performance. The results showed a t-statistic of 13.148. This confirms that there is a significant and positive relationship between waste management cost and corporate performance. This is further confirmed by the value of the F-statistic, which is higher than the tabulated or theoretical value.

The second hypothesis which tested for an association between pollution abatement cost and corporate performance showed that the estimated t-value for pollution abatement cost in the equation was 23.875. This indicates a significant positive relationship between pollution abatement cost incurred by firms and corporate performance.

In the third hypothesis test, the estimated t-value of the equation was 24.111. The F-Statistic was 12.455 at 1% level. This result confirms that there is a significant relationship between social costs and corporate performance.

The fourth hypothesis resulted in a t-value of 21.568, which was statistically significant at 1% level. This indicates that fines and penalties are significantly related to corporate performance.

#### 4 Discussion and Conclusion

This study sought to establish the relationship between CSR and the financial performance of firms using the accounting measure of ROCE. Analysis of the results showed that the social responsibility variables used in this study have varying positive and negative relationships with corporate performance. The mixed results are consistent with the trend in the literature on empirical studies carried out on CSR so far. The purpose of the study was to provide empirical evidence and results that can provide the basis for guiding firms in Nigeria and other sub-Saharan countries on the implications of performance (and, non-performance) of CSR roles.

In this study, we found that waste management and pollution abatement actions impact directly on the well-being of the firm's environment. Although often costly, performing them supports the survival and other long term interests of the firm. The positive association of these two CSR variables with firm financial performance in Nigeria confirms the Legitimacy theory, and proves that paying attention to the preservation of the environment and good corporate performance are mutually supportive. The results corroborate earlier empirical studies that found positive association between CSR and the financial performance of firms, including Cochran and Wood (1984), McGuire (1988), Orlitzky, Schmidt and Rynes (2003), Preston and O'Bannon (1997) and Spencer and Taylor (1987). The finding also resonates with Freeman's (1984) argument that favourable social performance is a requirement for business legitimacy, and that social and financial performance tends to be associated over the long term. It equally finds consistency with the earlier conclusion of Glautier and Underdown (1998) that effective management of environmentally-related costs, especially management of waste, can have a significant positive impact on the profit and contribution maximization of firms. The practical implication of the empirical evidence provided by this study is that Nigerian firms should actively invest in proper management of waste, avoidance or containment of pollution, and other environmentally-friendly actions, as doing so not only facilitates achievement of the widely espoused environmental sustainability objective, but also aligns with profit motive of the firm.

The study interestingly showed that social costs, and fines and penalties behave differently from waste management and pollution abatement costs. These findings enjoy some congruence with the results of Vance (1975), who concluded that CSR costs are negatively associated with corporate performance. It also agrees with the argument of Friedman (1970) that attention to social activities detracts from the business objective of profit, and is therefore counter-productive for firms (as cited in Preston & O'Bannon, 1997). The finding of the effect of social cost on firm performance in this present study, while not directly contradicting the Stakeholder theory's proposition, questions the suggestion that firms' survival will depend mainly on the focus of corporate attention and resources on addressing the needs of stakeholders. Social activities are usually costly in a

country like Nigeria, where basic infrastructures and facilities are either totally absent or, at best inadequate, due to the abdication of this responsibility by the state. Accordingly, firms often find that in attempting to be socially responsible, they end up investing huge financial and managerial resources in providing such basic infrastructures as roads, transportation, electricity, health and educational and other facilities. The implication of this is that pursuance of CSR objectives tends to compromise the focus of firms on the primary objective because of the financial requirements involved in addressing the interest of such stakeholders as the host community. As such, firms need to approach engagement in social projects with reasonable caution, as our results do not support the received literature that social expenditure necessarily contributes to superior corporate performance. A way out of the dilemma is for firms to support political activity aimed at galvanizing efforts to compel state officials to deliver on provision of basic infrastructures, while corporations focus on areas like capacity building, R&D and sponsorship of business support services for entrepreneurial and early-stage firms.

Findings of this study also indicated that fines and penalties are negatively associated with firms' financial performance. Where firms refuse to or fail to meet their social responsibilities, they often end up incurring a different set of costs - fines and penalties. As shown in this study, these costs affect firm performance adversely in a significant way. This result confirms the findings of Ahmad and Abdul Rahim (2003) that the payment of fines and penalties impact the financial performance of firms significantly. Our finding proves the Normative Accountability theory, that is, failure to disclose leads to a number of costs including fines and penalties and increased regulatory sanctions. The practical implication of this finding is that firms should disclose and ensure a high level of transparency in order to reduce or eliminate such liabilities as fines and penalties payments, as these are more costly and tend to drain organizational resources.

It should however be noted that there are limitations inherent in this study, and this may mean that its results are to be treated with understandable caution. For instance, the study was limited to only those industries that were perceived by the researchers to be the ones whose activities have the greatest impact on the environment, and are therefore most liable to engaging in or performing CSR activities and roles. The financial implications of the CSR behaviour of all Nigerian firms may not be sufficiently reflected. Furthermore, we used an inferential research design that involved a cross-sectional study which concentrated on data obtained in a particular accounting year, 2011. A more robust use of longitudinal data and comprehensive industry coverage or spread is therefore recommended for further research.

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