

# The Impact of Sustainability Practices on the Financial Performance: Evidence from Listed Oil and Gas Companies in Nigeria

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**Abstract** This paper seeks to examine the relationship between corporate sustainability practices and three corporate financial performance measures (return on equity (ROE), return on capital employed (ROCE) and price earnings ratio (P/E)), of listed Nigerian oil and gas companies between 2008 and 2010. Data collected was tested through two models and the results indicate positive relationship between Sustainability practices and corporate performance. The implication of this is that the causation may run on both directions. That is, better corporate performance may lead to improved sustainability practices. Also, better sustainability practices may lead to improved corporate performance. These results are consistent with prior empirical studies.

## 1 Introduction

Corporate organisations are operating in ever more complex systems that are subjected not only to commercial and economic pressures but also social and environmental pressures from governments, shareholders, investors, creditors, suppliers, civil societies, consumers, managers and workers.

Some of these influences are external to a company, such as explicit government requirements or more general expectations of social legitimacy (DiMaggio and Powell 1983; Wood 1991). Other influences on social performance are internal to a company, often reflecting the commitments of key managers (Greening and Gray 1994; Miles 1987). Corporations' responses to expectations of responsible behaviour can also vary (Oliver 1991). In some cases, pressures for social responsibility may generate meaningful changes that are integrated into the regular affairs of the company. In other cases, as argued by Meyer and Rowan (1977) corporate responses to pressures for responsible behaviour tend to be "window dressing," responses that can be easily decoupled from normal, ongoing organizational activities.

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This study investigates the evidence within the context of Nigerian oil and gas companies the link between corporate performance (CP) and sustainability performance (SP) that has been viewed as vicious cycle whereby an improvement in the former has positive impact on the latter and vice versa.

An organisation is said to be socially sustainable when it internalise social costs, maintain and grow the capital stock. Kaptein and Wempe (2001) argue that socially sustainable companies are those that are seen to be fair and trustworthy by all stakeholders.

The following sub-section discusses the aims and objectives of the research work. Section 2 contains the literature review. Section 3 explains the methodology of the study. Section 4 explains the analysis and result to date. Conclusion is provided in Sect. 5.

## **2 Literature Review**

### ***2.1 Sustainability***

According to Dobson (1996) Sustainability is a term that has been used and interpreted in substantially different ways. Crane and Matten (2007) said the most common usage of sustainability is in relation to sustainable development, which is defined by (WCED 1987) as cited by Bebbington and Thomson as “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”.

The concept of sustainability has been broadened to not only include environmental considerations, but also economic and social considerations (Elkington 1998) as cited in Crane and Matten (2007). Elkington advocated the Triple Bottom Line (TBL) as it represents the idea that business does not have just one single goal—namely economic value, but that it has goals that includes environmental and social values too.

The basic principles of sustainability from the environment perspective concern the effective management of physical resources so that they are conserved for the future. The economic concept would focus on the long term economic performance of the entity itself, and whilst the key issue in the social perspective is social justice.

### ***2.2 Evolution of Corporate Sustainability Practices***

The theoretical framework of Sustainable practices evolved between 1972 and 1992 through series of international conferences and initiatives. The first major international gathering to discuss sustainability at the global scale was the UN Conference on the Human Environment, held in Stockholm in 1972. One of the

recommendations led to the establishment of the UN Environment Programme (UNEP) as well as the creation of numerous national environmental protection agencies at the national level. In 1980, during the World Conservation Strategy (collaboration between the International Union for the Conservation of Nature, the World Wildlife Fund (WWF), and UNEP) which aimed to advance sustainable development by identifying priority conservation issues and key policy options was formed also from the Stockholm conference recommendations.

The UN established the World Commission on Environment and Development (WCED) in 1983 headed by the Norwegian Prime Minister Gro Harlem Brundtland. The commission was made up of representatives from both developed and developing countries, it was charged with the responsibility to address the growing concern over the “accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development”. In 1987 WCED, in a publication *Our Common Future* (or the Brundtland report) that provided a stark diagnosis of the state of the environment the most commonly used definition of sustainable development: “Development that meets the needs of current generations without compromising the ability of future generations to meet their own needs” (WCED 1987, p. 45) as cited in Drexhage and Murphy (2010) was produced. The Brundtland report provided the direction for the 1992 Earth Summit in Rio that laid the foundations for the global institutionalization of sustainable development. According to Keating (1993) as cited in Dyllick and Hockerts (2002), it was that summit that brought the widespread acceptance of politicians, business leaders and NGOs that none of the three problems (economy growth, social equity and environment degradation) can be solved without the solving the other two.

The Earth Summit adopted the *Rio Declaration on Environment and Development* and Agenda 21, a global plan of action for sustainable development. According to Drexhage and Murphy (2010) the Rio Declaration contained 27 principles of sustainable development, including principle 7 on “common but differentiated responsibilities,” which stated: “In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. At the Summit developed countries acknowledged the responsibility that they have to bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.” Also contained therein is the Agenda 21 which have 40 separate chapters, setting out actions with regard to the social and economic dimensions of sustainable development, conservation and management of natural resources, the role of major groups, and means of implementation (Drexhage and Murphy 2010). In Agenda 21, developed countries reaffirmed their previous commitments to reach the accepted UN target by contributing 0.7% of their annual gross national product (GNP) for developmental assistance, and to provide favourable access to the transfer of environmentally sound technologies in particular to developing countries.

### ***2.3 Development of Corporate Sustainability Practices***

Since the meeting of 1992 at Rio, a number of important international conferences on sustainable development have been held—including the 1997 Earth Summit+5 in New York and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg. These conferences were primarily reviews of progress. Drexhage and Murphy (2010) argue that a number of positive results had been achieved, but implementation efforts largely had been unsuccessful at the national and international level.

Due to the flexibility nature and universal adoption by governments, international organisations and civil organisations of Sustainable development has transitioned from being an interesting yet at times contested ideal, to a concept that enjoys widespread support. This had allowed various stakeholders to adapt the concept to their own purposes. This strong point, however, is also a weak point because various interpretations have led to disorganisation and compromised implementation.

Notwithstanding the confusion, sustainable development has been incorporated into the operations and governing mandate of many international organisations, among them includes the World Bank (2010), which has affirmed a commitment to “sustainable globalization” that “enhances growth with care for the environment”; the International Monetary Fund (IMF 2010), with a commitment to “sustainable economic growth”; as well as the World Trade Organization (WTO 2010) which endeavours to contribute to sustainable development through the pursuit of open borders and the removals of barriers to trade. Sustainable development is also a prominent component of the Millennium Development Goals (MDG), which have been widely endorsed by national governments and the world’s foremost development organizations since they were adopted at the Millennium Summit in 2000.

According to UN (2010), when the Millennium Declaration was adopted the signature countries agreed to attain eight Millennium Development Goals by 2015. The eight goals included: halving extreme poverty, halting the spread of HIV/AIDS, providing universal primary education, eliminating gender disparity in education, reducing the under-five mortality rate, reducing the maternal mortality rate and achieving universal access to reproductive health, developing a global partnership (to address the needs of the poorest countries, to further an open non-discriminatory trade system, and to deal with developing country debt); and ensuring environmental sustainability (by integrating sustainable development into country policies and programs, reducing biodiversity loss, improving access to safe drinking water and sanitation, and improving the lives of slum dwellers) as cited in Drexhage and Murphy (2010).

In addition, as a response to the Agenda 21, many local authorities have implemented the local Agenda 21 actions plan aiming at local sustainability (Keating 1993). During, the Tony Blair regime, he mandated local authorities to produce their own local Agenda 21 strategy before the year 2000. Many success stories at business organisation level have been recorded and managers of

**Table 1** Payoffs of improved sustainability performance

Financial payoffs	Reduced operating costs, increase revenue, lower administration costs, lower capital costs and stock market premiums
Customer-related payoffs	Increased customer satisfaction, product innovation, market share increases, improved reputation and new market opportunities
Operational payoffs	Process innovation, productivity gains, reduced cycle times, improved resources yields and waste minimisation
Organisational payoffs	Employee satisfaction, improved stakeholder relationships, reduced regulatory intervention, reduced risk and increased learning

Source: Epstein (2008) pp. 251–252

businesses have accepted sustainability practices as a requirement for doing business (Crown et al. 1987; Hedström and Swedberg 1998; Holliday 2001) as cited in Dyllick and Hockerts (2002). Also according to SustainAbility (2010) as cited in Dyllick and Hockerts (2002) numerous businesses have incorporated sustainability, appointed corporate sustainability officers and produced sustainability reports.

### 2.4 *Benefits of Sustainability for Corporations and Society*

Research has shown considerable evidence of the measurable payoff of sustainability initiatives on businesses as well as their stakeholders. Businesses have so many reasons for being socially-attentive. But beyond the many bottom-line benefits outlined below, businesses that adopt sustainability practices also benefit the society at large even though the initiatives are driven by regulatory requirements. According to Epstein (2008), increasing number of companies are noticing decrease in operating costs and increase revenues. Epstein continued that recent studies have shown strong and positive link between corporate performance and good sustainability policies. Some of the documented payoffs of improved sustainability performance as illustrated by Epstein (2008) are in tabular form in Table 1.

Therefore, this study will investigate the relationship between sustainability practices and corporate performance, and if so, what is the direction of the causal relationship for Nigerian companies.

## 3 Corporate Performance

Financial performance can be defined as a measure of how well a company uses its resources to generate revenue over a given period of time. It can be said to be a company’s achievement in terms of its profitability over time. Profit is the excess of a company’s generated income over its expenses. It is generally seen as the most important indicator of a company’s performance (Powell 2005). Resources used by companies to make profit is directly or indirectly generated from the society where

they operate. Therefore, it can be argued that business organisations should play an active role in their environment.

Stakeholder theorist, according to Preston and O'Bannon (1997) believed that meeting the needs of various stakeholders will eventually lead to favourable financial performance. Similarly, Cornell and Shapiro (1987) as cited in Preston and O'Bannon (1997), argued that failure to meet the expectations of the stakeholders will bring about fears in the market and this will increase the risk premium of the company and will result in increase costs and lower the profit. Profits depend to a large extent on reputation which in turn depends on how the company is seen to act in a socially responsible way (Henderson 2009). Cornell and Shapiro (1987) as cited in Preston and O'Bannon (1997) continues the argument by saying that by serving the implicit claims of stakeholders enhances the reputation of the company in such a way that there is positive impact on the financial performance and vice versa. In addition, Epstein (2008) asserted that increasing shareholder value is a key objective of most businesses and managers have recognised that shareholder value is improved by creating value for employees, suppliers, customers, community and other stakeholders. Solomon (2007) claimed that ignoring the needs of stakeholders can lead to lower financial performance and even corporate failure. He illustrated that a company that is well managed is likely to have a good environmental management system and high levels of stakeholder dialogue and engagement. And any company with bad stakeholder relations could be characterised by poor management and consequently poor financial performance.

In a recent survey by Accenture in 2012 that covers eight markets around the world to explore the relationship between sustainable business and commercial growth, many companies are placing the stewardship of environment and society at centre stage of their operations which made them to be better placed to improve their reputation, comply with regulations and reduce costs (Accenture 2012).

However, Aupperle et al. (1985) in their paper "An empirical examination of the relationship between corporate social responsibility and profitability" maintained that social responsible activities may siphon the company's resources and capital and placing it at disadvantage when compared to those compared to less socially responsive companies. It has also been argued that management pursue their own personal objectives to the detriment of shareholders and other stakeholders (Weidenbaum and Vogt 1987). In the same way managerial opportunism according to researchers like Alkhafaji 1989; Posner and Schmidt 1992 as cited in Preston and O'Bannon (1997) leads to pursue of personal managerial objectives in the context of compensation schemes linked to short term profit that leads to negative relationship between financial and social performance. This means when financial performance is high, managers attempt 'to cash in' by reducing the expenditure on social activities in order to take the advantage of increasing their own short term personal gains. And when, financial performance is weak, managers do attempt to justify the results by engaging into noticeable social activities.

One might suggest that shareholder value analysis provides an incentive for sustainability managers to pursue investment opportunities to create shareholder value. Therefore, by identifying and including broader and longer-term social and

environmental impacts that affect corporate profitability into a single performance measures like shareholder value analysis, management can improve the likelihood that a business sustainability objectives will be pursued.

Specifically in measuring the corporate performance of a company, the information provided by a company in its financial statement is used. Such information is analyzed by its users and some conclusions are drawn about the corporate performance of the company. The most important technique used in analyzing financial statements is Ratio Analysis, which involves the calculation of accounting ratios (Melville 2008). An accounting ratio is the relationship of one figure in a set of financial statement to another and they are of different types. For the purpose of this study, Return on Equity (ROE), Return on Capital Employed (ROCE) and Price Earnings (P/E) ratios will be considered and this is used to evaluate whether the company has succeeded in making an acceptable level of profit.

It is important to note that no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures. In order to fulfil the objective of analyzing the impact of sustainability practices on the financial performance of companies, researchers' opinions on sustainability practices and corporate performance have been reviewed.

## 4 Sustainability and Corporate Performance

Sustainability is understood to be an organizational tool that leads to a more effective use of resources and as a result has an impact on the corporate performance of the company.

According to Perrini and Tencati (2006), the capacity of a firm to continue operating over a long period of time, depends on the sustainability of its stakeholder relationship. The stakeholders of the business include the owners, employees, customers, suppliers, government, competitors and others that are directly or indirectly involved in the business or affected by its policies.

There are a number of studies that seeks to test the relationship between sustainability and corporate performance, the studies adopted different methodologies that revealed variety of results.

According to Freeman (1994); Waddock and Graves (1997) and Dong-Shang and Li-Chin (2008) argued that positive relationship with key stakeholders improves the corporate performance of a business. This is because good stakeholder relationship increase the satisfaction of the parties involved which, in turn, improves the profitability of the business. Equally important is Ameer and Othman (2012) findings that shows that the higher corporate performance of sustainable companies has increased and has been sustained over the periods 2006–2008, 2006–2009, and 2006–2010, respectively. They claimed that return of assets, profit before tax and cash flow from operations have consistently increased over the period 2006–2010. Furthermore adopting sustainability practices in the long-run

will lead to improved corporate performance of the firm (McWilliams and Siegel 2001).

However, various researchers have questioned such positive impact. Preston and O'Bannon (1997) argue that managers tend to pursue short-term policies that focus on financial result instead of long term social issues. It was noted that such actions were carried out by recently appointed managers to acquire greater seniority. In addition, Aupperle et al. (1985) as cited in Prior et al. (2008), also argued that managing relationships of a wide set of stakeholders with differing objectives can result in an extremely rigid and resource-consuming organization. This, in effect, may damage a firm's financial performance because differing (sometimes conflicting) objectives could delay the decision making process in the organization. Similarly, Jones (1995) as cited in Prior et al. (2008) questioned the practices of managers. He added that such practices are aimed at satisfying stakeholders' interests but leads to the detriment of the company's financial results.

Again, Kasum and Osemene (2009) argued that high performance in sustainable development would be to reduce profitability and Sneirson (2009) found that the pursuit of profits have stood in the way of achieving sustainability.

These mixed results arise due to the constant problem of measuring sustainability and its impact on corporate performance. This complexity provides a further room for a new study which this research aims to address.

## **5 Research Methodology**

### ***5.1 Research Design***

The way in which research is conducted may be conceived of in terms of the research philosophy which is a belief about the way in which data about a phenomenon should be gathered, analysed and used. The two philosophies of research approach identified are: positivist and interpretivist. For this study, the positivist paradigm will be adopted and the methodology would focus on quantitative approach comprising of collecting and analysing quantitative. The normal process for the positivist is that research is usually based on a deductive approach, testing of theory through development of hypotheses and collection of data (Saunders et al. 2011).

### ***5.2 Data and Sample Selection***

In the beginning, this study selected the top 50 companies in terms of market capitalization and liquidity on Nigerian stock exchange. A total of 18 financial services companies were removed because of their specific core business. Two companies



**Table 2** Variables measures

No	Variable	Measure	Study
1	Sustainability performance (SP)	Support for educational institutions; health establishments; community projects such as the building of roads, markets; help to disabled and less privileged persons and promotion of sports	Fauzi et al. (2007), Aras and Crowther (2008)
2	Corporate performance (CP)	Return on Equity (ROE), Earnings per share (EPS) and Price Earnings ratio (P/E)	Bragdon and Marlin (1972), Waddock and Graves (1997), Poddi et al. (2009), Ahmed et al. (2012)
3	Control	Size, debt and industry	Waddock and Graves (1997), Dierkes and Preston (1977), Trebucq and D'Arcimoles (2002), Fauzi et al. (2007), Poddi et al. (2009), Yang et al. (2010)

without the financial data of 2008 were removed from the sample leaving a sample size of 30 companies. The names of the companies are listed on the Nigerian Stock Exchange.<sup>1</sup>

The secondary data was collected from published annual reports and account of the sampled companies between 2008 and 2010. The Corporate Annual Reports (CAR) for these companies was obtained from the NSE and the respective company's web sites. Information on the financial variables used was collected from CAR of the companies. So also information on corporate social performance was collected through content analysis by examining the annual reports and web sites of the companies as used by several studies (Abbott and Monsen 1979; Anderson and Frankle 1980; Aras and Crowther 2008; Ahmed et al. 2012).

The sample companies were separated into two categories; oil and gas companies and non-oil and gas companies. Afterwards, t-test was conducted to determine if there is difference between the two categories of companies with respect to their ROE, EPS and PE ratio based on the data collected from the CAR. The method of analysis is that of regression to establish the relationship.

### 5.3 Measures

Table 2 shows the variables and their measures as used in the study.

<sup>1</sup><http://www.nse.com.ng/DataProducts/Indices/Pages/NSE-50.aspx>

#### **5.4 Measure of Sustainability Performance (SP)**

Unlike UK, there is no SP rating for Nigerian companies. In order to arrive at a measure of SP as stated earlier, the researcher used information on the CARs and along with the Corporate Social reports on the web sites based on the work of Fauzi et al. (2007). SP for each company was assessed on a scale of 0–2 for each rating by the researcher.

If a company did not report anything on CG and CSR activities on the CAR and website, we gave it a score of 0 rating indicating no concern.

If a company reported in the CAR the CG activities only, we gave it a score of 1 rating indicating notable concern.

If a company reported CSR activities only, we gave it a score of 2 rating indicating major concern.

#### **5.5 Measure of Corporate Performance (CP)**

According to Ahmed et al. (2012) measures of corporate performance generally falls into two categories: investors returns and accounting returns. This study used three accounting measures: Return on Equity (ROE), Earnings per share (EPS) and Price Earnings ratio (PE) to measure corporate performance. Waddock and Graves (1997) used return on equity (ROE), return on assets (ROA) and return on sales (ROS) to measure the linkage between financial and social performance. Poddi et al. (2009) used both investors and accounting returns to determine whether corporate social responsibility (CSR) affect the performance of firms. Bragdon and Marlin (1972) in their work Is pollution profitable, they used EPS to determine if the 17 companies pollution control and profitability are compatible. Finally, Ahmed et al. (2012) used ROA, EPS and PE ratio to find the nature of the relationship between CSR and corporate performance (CP).

Information on ROE and EPS were obtained from the CARs and PE ratio was calculated based on data from NSE and CARs.

#### **5.6 Control Variables**

Three variables: size, debt ratio and industry are used as control variables because they affect both SP and CP (Waddock and Graves 1997).

Size: According to Waddock and Graves (1997), size is relevant because evidence shows that smaller companies may be less socially responsible than large companies. In this study, total sales have been used to define a company's size based on the work of Crown et al. (1987) and Patten (1991) as cited in Poddi et al. (2009).

Debt ratio: Poddi et al. (2009) used debt ratio considering the important role of indebtedness to performance of companies. Studies of Myers (1977) and Jensen and Meckling (1976) as cited in Poddi et al. (2009) have shown that there is positive relationship between leverage and SP because “firms tend to increase their social information in order to reduce rising monitoring costs from high leverage”.

Industry: Research by Dierkes and Preston (1977) has shown that industry could affect social performance because of their economic activities. Dummy variables can be used to control performances that vary from one industry to another (Fauzi et al. 2007). In this study, the dummy variable 1 was assigned to oil and gas and variable 2 for non-oil and gas companies.

### 5.7 Propositions

It is imperative to state the propositions to be used in the study based on the literature as follows;

**Proposition 1:** Better corporate performance (CP) results in improved corporate sustainability performance (SP).

**Proposition 2:** Improved corporate sustainability performance (SP) leads to better corporate performance (CP).

The propositions utilised quantitative method, accounting measures of ROE, EPS and PE ratio were used and with the use of regression analysis the causal relationship between the SP and CP was established.

### 5.8 Model Specification

Following the work of Waddock and Graves (1997), Trebucq and D’Arcimoles (2002), Fauzi et al. (2007) and Yang et al. (2010) the study employs regression analysis. When CSP as dependent variable the equation is

$$SP_i = \alpha + \beta_1 CP_i + \beta_2 SIZE + \beta_3 RISK + \beta_4 IND + \epsilon \tag{1}$$

when SP is the independent variable and CP is the dependent variable is as shown below

$$PERF_i = \alpha + \beta_1 SP + \beta_2 SIZE + \beta_3 RISK + \beta_4 IND + \epsilon \tag{2}$$

where

PERF<sub>i</sub> = corporate performance of firm i (measures of accounting profits)

SP<sub>i</sub> = a proxy for corporate sustainability practices of firm i (based on dummy variable as no quantitative measure of SP in Nigeria)

$SIZE_i$  = a proxy for the size of firm  $i$

$RISK_i$  = a proxy for the “risk” of firm  $i$  (debt ratio)

$IND_i$  = industry of firm  $i$  (dummy variable)

## 5.9 Analysis

The results of the t-test are summarised in Tables 3, 4 and 5. From Table 3, we can see that the ROE of the oil and gas companies are lower when compared with against the non-oil and gas companies. Thus, we can say that non-oil and gas companies have perform better than the oil and gas companies. However, the t-test does not support this observation. This leads to accepting that the means are equal.

**Table 3** Return on equity

	Oil and gas	Non-oil and gas
Sample size (valid N)	6	24
Mean	30.12	30.60
Sample test		
Mean difference	-0.48417	
t-test statistic	-0.040	

Decision: Do not reject the null hypothesis

**Table 4** Earnings per share

	Oil and gas	Non-oil and gas
Sample size (valid N)	6	24
Mean	989.72	794.88
Sample test		
Mean difference	194.8429	
t-test statistic	0.180	

Decision: Do not reject the null hypothesis

**Table 5** Price earnings ratio

	Oil and gas	Non-Oil and gas
Sample size (valid N)	6	24
Mean	4.4137	16.1188
Sample test		
Mean difference	-11.6871	
t-test statistic	-0.717	

Decision: Do not reject the null hypothesis

Table 4 shows the result of EPS of oil and gas companies are higher when compared with that of the non-oil and gas companies. However, the analysis did show no statistical difference between the two groups. Thus, the null hypothesis is accepted.

Table 5 indicates the result comparing PE ratio between the oil and gas companies and the non-oil and gas companies. The result shows that PE ratio of oil and gas companies are lower when compared with that of non-oil and gas companies. However, the t-test is not significant as such we can say statistically the two groups are not different from each other. Do accept the null hypothesis.

### ***5.10 Descriptive and Regression Analysis***

Table 6 is the listing of the industries, the dummy codes and the average SP ratings. Table 7 is the descriptive statistics of all the variables used in this study. To test the propositions, regression analysis was used based on the work of Waddock and Graves (1997), McWilliams and Siegel (2001), Trebucq and D’Arcimoles (2002), Fauzi et al. (2007) and Yang et al. (2010) by using SP as dependent variable with the measures of corporate performance as independent variable, while controlling for size, debt level and industry on the first preposition. On the second preposition corporate performance measures were used as dependent variable and employing SP as independent variable while controlling the same variables also as in the work of Waddock and Graves (1997), McWilliams and Siegel (2001), Trebucq and D’Arcimoles (2002), Fauzi et al. (2007) and Yang et al. (2010).

As shown in Table 6, there are differences in the ratings among the industries with the lowest rated industry being Non-oil and gas at 1.38 and highest rated being the Oil and Gas at 1.67. From this result it is clear evidence that the oil and gas industry have more concern of SP impact, but still all the two groups fall under notable concern of SP impact to the community.

Table 7 shows the descriptive statistics of SP index, CP measures and control variables (DE and SIZE). The mean of the SP index is 1.42 and the standard deviation (SD) is 0.56 for the 30 sampled industries. For CP measures the mean and SD of ROE is 29.93 and 27.35 respectively, for EPS it is 9.71 and 26.21 respectively and for PER it is 13.51 and 55.14 respectively. While the mean and SD for the control variables DE and SIZE are 42.60 and 43.36 and 72,716 M (N) and 76,618 M (N) respectively.

Table 8 shows correlations with 2008 financial data and 2009 SP. The data used is also used for the model that test SP as the dependent variable against financial measures as independent variables. The result shows that there is significant correlation at  $\alpha = 0.05$  level for financial measure ROE only. Table 9 shows the correlations between 2010 financials as dependent variable, 2009 SP and 2009 control variables as independent. The data was also used to test preposition 2. The result shows no significant correlation between 2010 financial measures and 2009 CSP at  $\alpha = 0.05$ .

**Table 6** Industries in the sample

Industry	Code	N	SP	Min.	Max.
Oil and gas	1	18	1.67	1	2
Non-oil and gas	2	72	1.38	0	2

**Table 7** Descriptive statistics

Variable	N	Mean	S.D
SP index	90	1.42	0.56
ROE	90	29.93	27.35
EPS	90	9.71	26.21
PE	90	13.51	55.14
D/E	90	42.60	43.36
SIZE	90	72,716 M (N)	76,618 M (N)

**Table 8** Correlation matrices: correlations with 2008 financial data and 2009 SP

	SP	ROE	EPS	PE	DE	SIZE
SP	1	0.444*	0.249	0.101	0.010	0.359
ROE		1	0.210	0.340	-0.068	0.097
EPS			1	0.016	-0.026	0.094
PE				1	0.088	0.134
DE					1	0.329
SIZE						1

\*P ≤ 0.05

**Table 9** Correlations with 2010 financial measures, 2009 CSP and 2009 control variables

	SP	ROE	EPS	PE	DE	SIZE
SP	1	0.200	0.252	-0.107	-0.198	0.351
ROE		1	0.137	-0.130	0.487**	0.058
EPS			1	-0.327	-0.29	0.170
PE				1	-0.119	-0.245
DE					1	0.083
SIZE						1

\*\*P ≤ 0.01

Table 10 presents the regression analysis results when SP was used as dependent variable and measures of corporate performance as independent variable, while controlling for debt and size. The result did show significant effect only with financial measure ROE on SP but none with the other two measures. This result is in agreement to the findings of Waddock and Graves (1997) who found positive relationship from a sample of American firms between ROE and SP. The result also shows that there is no significant relationship between SP and SIZE; SP is negatively associated with debt-to-equity ratio in all the three models. This result is also

**Table 10** Regression analysis using 2009 SP as dependent variable and 2008 financial data as independent variable

Dependent variable: Corporate sustainability performance			
Independent variable	ROE	EPS	PE
	0.007*	3.731E-8	0.0001
Control variables			
Debt/equity	-0.001	-0.001	-0.001
Size	2.571E-9	2.690E-9	2.947E-9
R Sq	0.303	0.188	0.146
Adj R Sq	0.192	0.058	0.010
F	2.723	1.449	1.071

\*P ≤ 0.05

**Table 11** Regression analysis with 2010 corporate performance as dependent variable and 2009 SP with 2009 control variables

	Dependent variable		
	ROE	EPS	PE
Independent variable: SP	15.334*	673.88	-0.821
Control variables			
Debt/equity	0.356	0.641	-0.024
Size	3.775E-9	2.689E-6	-1.646E-8
R Sq	0.383	0.073	0.110
Adj R Sq	0.284	-0.075	-0.033
F	3.873	0.494	0.771

\*P ≤ 0.05

consistent with that of Waddock and Graves (1997) that found no relationship between the SP and SIZE and SP is negatively related to debt ratio. However, this study result is not consistent with that of Trebucq and D'Arcimoles (2002) on French firms. Hence, this result do support *preposition 1* for Nigerian companies, which posits that better corporate performance results in improved SP, we can therefore conclude that an increase in corporate performance do leads to an increase in corporate sustainability performance.

As shown in Table 11, the result does show significant relationship when profitability is measured by ROE support that financial measure does depend on SP. This result is not in conformity with Waddock and Graves (1997) that did not found significant relationship when ROE is used as the measure. Hence, the Nigerian data does support *preposition 2*, which posits that improved SP results in improved corporate performance, we can therefore conclude that corporate performance measured by ROE does depend on SP.

## 6 Implications of the Results

The discoveries of this study are important because they confirm a positive relationship between the SP and CP in a different operational setting than hitherto tested. These results from a developing economy, supporting evidence from a developed economy.

The finding of this result support that sustainability practices do depend on the performance of company and the indication of that association is positive. This means the findings support the slack resources theory which, according to Waddock and Graves (1997) firms that have potential slack resources from healthy performance may perhaps have the liberty to finance SP. The findings of this analysis are in support of the good management theory. That is, the result shows that CP also depends on good SP. This suggests that doing well in social performance may be linked to good management practice by the firms.

## 7 Conclusion

This study evaluates the relationship between corporate sustainability performance and corporate performance and identifies the direction of the causal relationship for Nigerian companies. For Nigerian listed companies, two models were tested as in the works of Waddock and Graves (1997), Trebucq and D’Arcimoles (2002), Fauzi et al. (2007) and Yang et al. (2010). The result indicates positive effect of SP on corporate performance is in conformity with the works of Waddock and Graves (1997); Cochran and Wood (1984) and Poddi et al. (2009). This findings lead to accepting the two prepositions which means that the causation may run on both directions. That is, better corporate performance may lead to improved SP. Also, better SP may lead to improved corporate performance. In conclusion, this Nigerian result is consistent with that of U.S. corporations based on the work of Waddock and Graves (1997).

## References

- Abbott, W. E., & Monsen, R. J. (1979). On the measurement of corporate social responsibility: Self-reported disclosures and a method of measuring corporate social involvement. *Academy of Management Journal*, 22(3), 501-15.
- Accenture Consulting. (2012). *Long-term growth, short-term differentiation and profits from sustainable products and services: A global survey of business executives*.
- Ahmed, S. U., Islam, M. D., & Hasan, I. (2012). Corporate social responsibility and financial performance linkage- evidence from the banking sector of Bangladesh. *Journal of Organizational Management*, 1(1), 14–21.
- Ameer, R., & Othman, R. (2012). Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal Business Ethics*, 108, 61–79.



- Anderson, J., & Frankle, A. (1980). Voluntary social report: An iso-beta portfolio analysis. *Accounting Review*, 55, 468–479.
- Aras, G., & Crowther, D. (2008). Governance and sustainability: An investigation into the relationship between corporate governance and corporate sustainability. *Management Decision*, 46(3), 433–448.
- Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal*, 28(2), 446–463.
- Bebbington, J., & Thomson, I. (1996). *Chartered association of certified accountants*. Certified Accountants Educational Trusts, London.
- Bragdon, J. H., & Marlin, J. T. (1972). Is pollution profitable? *Risk Management*, 19(2), 9–18.
- Cochran, P. L., & Wood, R. A. (1984). Corporate social responsibility and financial performance. *Academy of Management Journal*, 27, 42–56.
- Cornell, B., & Shapiro, A. C. (1987). Corporate stakeholders and corporate finance. *Financial Management*, 5–14.
- Crane, A., & Matten, D. (2007). *Business ethics* (2nd ed.). Oxford: Oxford University Press.
- Crown, S. S., Ferreri, L. B., & Parker, D. B. (1987). The impact of corporate characteristics on social responsibility disclosure. A typology and frequency-based Analysis. *Accounting Organizations and Society*, 12(2), 111–22.
- Dierkes, M., & Preston, L. (1977). Corporate social accounting reporting for the physical environment: A critical review and implementation proposal. *Accounting, Organization and Society*, 2(1), 3–22.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147–160.
- Dobson, A. (1996). Environmental sustainabilities: An analysis and typology. *Environmental Politics*, 5(3), 401–428.
- Dong-Shang, C., & Li-Chin, R. K. (2008). The effects of sustainable development on firms financial performance: An empirical approach. *Sustainable Development*, 16(6), 365–380.
- Drexhage, J., & Murphy, D. (2010). *Sustainable development: From Brundtland to Rio 2012*. New York: United Nations Headquarters.
- Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy & the Environment*, 11, 130–141.
- Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st century business. *Environmental Quality Management*, 8(1), 37–51.
- Epstein, J. (2008). *Making sustainability work* (pp. 251–252). Sheffield: Greenleaf.
- Fauzi, H., Mahoney, L. S., & Abdul Rahman, A. (2007). The link between corporate social performance and financial performance: Evidence from Indonesian companies. *Issues in Social and Environmental Accounting*, 1(1), 149–159.
- Freeman, R. E. (1994). The politics of stakeholder theory: Some future directions. *Business Ethics Quarterly*, 4(4), 409–421.
- Greening, D. W., & Gray, B. (1994). Testing a model of organizational response to social and political issues. *Academy of Management Journal*, 37(3), 467–498.
- Hedström, P., & Swedberg, R. (1998). Social mechanisms: An introductory essay. In *Social mechanisms: An analytical approach to social theory* (pp. 1–31). Cambridge: Cambridge University Press.
- Henderson, D. (2009). Misguided corporate virtue: The case against CSR, and the true role of business today. *Economic Affairs*, 29(4), 11–15.
- Holliday, C. (2001). Sustainable growth, the DuPont way. *Harvard Business Review*, 79(8), 129–132.
- International Monetary Fund. (2010). *About the IMF*. International Monetary Fund. Accessed at <http://www.imf.org/external/about.htm>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360.
- Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management*, 20(2), 404.

- Kaptein, M., & Wempe, J. (2001). Sustainability management, balancing conflicting economic, environmental and societal corporate responsibilities. *Journal of Corporate Citizen*, 1(2), 91–106.
- Kasum, A. S., & Osemene, O. F. (2009). *Sustainable development and financial performance of Nigerian quoted companies*. Available from [http://www.kadinst.hku.hk/sdconf10/Papers\\_PDF/p199.pdf](http://www.kadinst.hku.hk/sdconf10/Papers_PDF/p199.pdf), accessed on March 1, 2012.
- Keating, M. (1993). The politics of economic development political change and local development policies in the United States, Britain, and France. *Urban Affairs Review*, 28(3), 373–396.
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117–127.
- Melville, A. (2008). *International financial reporting: A practical guide*. Harlow: Pearson Education Limited.
- Meyer, J. W., & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340–363.
- Miles, R. H. (1987). *Managing the corporate social environment: A grounded theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Myers, S. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5, 147–75.
- Nwokeji, G. U. (2007). *The Nigerian National Petroleum Corporation and the development of the Nigerian oil and gas industry: History, strategies and current directions*. Houston: The James A. Baker III Institute for Public Policy.
- Ogueri, E. I., Nwachukwu, I., & Unamma, R. (2010). Critical success factors affecting sustainability of oil and gas production in Niger Delta, Nigeria. *Sustainable Development*, 1(08), 85–97.
- Oliver, S. (1991). Strategic responses to institutional process. *Academy of Management Review*, 16(1), 145–179.
- Patten, D. M. (1991). Exposure, legitimacy, and social disclosure. *Journal of Accounting and Public Policy*, 10, 297–308.
- Perrini, F., & Tencati, A. (2006). Sustainability and stakeholder management: The need for new corporate performance evaluation and reporting systems. *Business Strategy and Environment*, 15, 296–308.
- Poddi, L., Vergalli, S., & Mattei, F. E. (2009). *Does corporate social responsibility affect the performance of firms?* <http://ssrn.com/abstract=1444333>
- Powell, P. (2005). *Accounting, analysis and planning*. Kent: Financial World.
- Preston, L. E., & O'Bannon, D. P. (1997). The corporate social financial performance relationship: A typology and analysis. *Business and Society*, 36, 419–429.
- Prior, D., Surroca, J., & Tribo, J. A. (2008). Are socially responsible managers really ethical? Exploring the relationship between earnings management and corporate social responsibility. *Corporate Governance: An International Review*, 16(3), 160.
- Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students* (5th ed.). Bengaluru: Pearson Education India.
- Sneirson, J. F. (2009). Green is good: Sustainability, profitability, and a new paradigm for corporate governance. *Iowa Law Review*, 94(3), 987.
- Solomon, J. (2007). *Corporate governance and accountability*. Chichester: Wiley.
- SustainAbility. (2010). *The global reporters*. London: SustainAbility.
- United Nations. (2010). *The millennium development goals report 2010*. New York: United Nations.
- Trebuq, S., & D'Arcimoles, C. (2002). *The corporate social performance-financial performance link: Evidence from France (March 29, 2002)*. University of Bordeaux, Department of International Accounting Working Paper No. 02–01. Available at SSRN <http://ssrn.com/abstract=306599> or <http://dx.doi.org/10.2139/ssrn.306599>
- Waddock, S. A., & Graves, S. B. (1997). The corporate social performance financial performance link. *Strategic Management Journal*, 18(4), 303–319.

- WCED, U. (1987). *Our common future. World Commission on Environment and Development*. London: Oxford University Press.
- Weidenbaum, M., & Vogt, S. (1987). Takeovers and stockholders: Winners and losers. *California Management Review*, 29(4), 57–168.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of Management Review*, 16, 691–718.
- World Bank. (2010). *World Development Report 2010: Development and climate change*. Washington, DC: ©World Bank. <https://openknowledge.worldbank.org/handle/10986/4387>. License: CC BY 3.0 IGO.
- World Trade Organization. (2010). *About the WTO – A statement by the director general*. World Trade Organization. Accessed at [http://www.wto.org/english/thewto\\_e/whatis\\_e/wto\\_dg\\_stat\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/wto_dg_stat_e.htm)
- Yang, F., Lin, C., & Chang, Y. (2010). The linkage between corporate social performance and corporate financial performance. *African Journal of Business Management*, 4(4), 406–413. Available online at <http://www.academicjournals.org/AJBM>