Environmental Costs and Its Implication on the Returns on Investment: An Evaluation of Selected Manufacturing Companies in Nigeria

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Abstract

This study examines environmental costs and its implication on the returns on investment. At various national levels are government regulations, society, pressure groups and green consumer pressure; developments reawakening corporate attention to strategic and competitive role of environmental responsibility for corporate survival. However within the developing nations, the understanding is somewhat different mainly because of weak government regulations and lack of organized pressure groups and consumer awareness to influence corporate behaviour. Data were collected from both primary and secondary sources and also analyzed using the ordinary least square technique. The study revealed that investment in social and environmental responsibilities such as Employee Health and Safely (EHS), Waste Management (WM) and Community Development (CD) are related to improved return on investment of the environmentally responsible firms. Additionally, the study also revealed that with sustainable business practice, there is a decrease in the amount paid in fines and penalties to individuals and the government for environmental offences and its compensation to the community. Conclusively, money expended in settling disputes could be applied to enhance corporate liquidity and management is better able to plan and make decisions when it is not engrossed in disputes. The act of managing and production per se is optimal when an enabling serene atmosphere is in place. The study therefore recommended that Environmental Regulatory Authority should compel manufacturing companies to disclose environmental cost in their financial statement and Environmental management accounting should be incorporated into the traditional accounting systems of manufacturing companies.

Index terms— Environmental practice, Environmental responsibilities, Social responsibilities, Waste management, Community development, Employee health and safety.

1 Introduction

he increases in global environmental awareness and the campaign for sustainable economic development is redirecting the attention of firms towards environmental sensitivity. The quest for sustainability has caused an emergence of many global institutions enunciating varying norms that guide human interaction with the environment. These standards are influencing business corporations to understand that their strategic position in society has the power to influence behaviour and alter the state of physical, social and economic environment. At various national levels are government regulations, society pressure groups and green consumer pressure; these developments are reawakening corporate attention to strategic and competitive role of environmental responsibility to corporate survival. However within the developing nations, the understanding is somewhat different mainly because of weak government regulations and lack of organized pressure groups and consumer awareness to influence corporate behaviour. Hence many corporations in developing countries such as Nigeria behave in a manner that suggests that they can achieve corporate goal even if environmental and social responsibility are trampled upon. It is this factor motivated this study into searching for companies that exhibit some elements of sustainability and how this may influence corporate performance.

Although environmental regulation, pressure group activity, and consumer awareness is week in developing countries, some corporation in these countries are becoming conscious of their international market and are making appreciable efforts as regards sustainable business practices. The result of sampled industries in Nigeria shows that few companies are becoming environmentally sustainable. However a large number of firms are still apathetic about their environmental and social responsibility. Based on this the paper examines the relationship between environmentally conscious firms which in this paper are termed environmentally responsible firms. In addition, environmental responsibility of these firms is assessed against expenditure for fines and penalties to ascertain the extent to which environmental responsibility is able to reduce conflict between the firm and its business environment. Three sustainable indictors are used as a measure of environmental responsibility, namely: Employee Health and safely (EHS), Waste Management (WM), and Community Development (CD), which were identified within the environmentally responsible firms. Expenditure for these sustainable variables are related against Return On Investment (ROI) which is used as a measure of performance. In addition, the sustainable variables are also related against the amount expended on Fines, Penalties and Compensations (FPC).

This research paper is anchored on the principle of sustainable economic development, which requires the corporation to maintain eco-efficiency and social equity while striving to achieve its economic goal. This paper contributes to existing literature by examining this issue within the context of Nigerian manufacturing industries, to ascertain whether sustainable business practice exists and the extent it affects business performance.

The objective of this paper is therefore to discover if any relationship exists between environmental practices and firm performance and does so by exploring the following questions.

Is social and environmental responsibility of business a mere costly adventure or a corporate strategy? Does the social and environmental responsibility of business have any bearing on firm performance? II.

2 Literature Review

A paradigm for a sustainable business is propounded by Elkington (1997) via his triple bottom line approach. His first theory is that capitalism must satisfy legitimate demands for economic performance. With this, Elkington (1997) echoes Adam Smith's theory of the firm-that the firms has one and only one goal-to satisfy the desires of shareholders by marketing profits. However, profit may not be attainable if the environment in which the business operates is neglected. Hence, according to Elkington (1997), firms must also be accountable for social and environmental performance. The economic, social and environmental consciousness of corporation-the tripod goal, creates a balance that makes their operations and actions sustainable. This new role must pervade all facets of business operation; it has to perform life-cycle technology, accommodate social and pressure groups, recreate corporate governance, remodel products and services, and ensure adherence to legislation. A corporation which accommodates the triple bottom line is contributing to sustainable development-the goal of the millennium. In support of this view Hart add that the achievement of sustainability would require a blending of product stewardship, green technology and pollution prevention. Hart's argument is that if production processes and technology are refashioned, the company would have advanced pollution control one step further because if a pragmatic prevention strategy is put in place, this obviates the stage of having to control and possibly clean up after an occurrence of pollutions hence saving both costs and redeeming corporate image. Implementing product stewardship means that the organization is avoiding pollution from the point of product manufacture through the total life cycle.

Perhaps the substratum of environmental theory may be entrenched in two major theories: technocentric, and ecocentric. Techno-centric theory as pioneered by O'Riordan (1997) emphasizes the need for environmentally friendly products and clean technology. The ecocentric theory by Peper (1986) and Dobson (1990), stresses the need for businesses to produce a balance report that includes reporting the impact of business activity in the environment. A useful report would include how the corporation has managed its immediate and remote environment, but many businesses lack the strategy for proper environmental management, hence Epstein (1995), outline the importance of developing a corporate environmental strategy, which would minimize environmental impact through recycling, life cycle assessment and waste reduction strategies. His premise is that modern corporations can be organized and managed in a manner less desecrating of the environment. Part of this management should include proper integration of environmental reports into internal management decisions which would aid management in planning for the social and environmental responsibility facing the corporation. To this end, Shaltegger, Muller and Hindrichsen **??**1996), propose a new form of business accountability to enhance environmental management. They recommend environmental management strategies including ecological investment. This is ideal if environmental and social responsibility of businesses is to be achieved to support sustainable economic development.

These theories are encapsulated in the United Nation's (UN) definition of sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own need'. This paper is therefore anchored on the principle of sustainable development, which seeks to achieve societal and environmental equity while in pursuit of economic gain. This is approached by evaluating the sustainable business practices of the companies studied and how such affects corporate performance; sustainability in this context refers to the ability of the firm to maintain an equitable balance between economic wealth, eco-efficiency or environmental protection, and social-equity or social development. The idea is that if a firm must achieve its long-term economic objective, it must not neglect the environmental and social responsibility aspect of the triple bottom goal of sustainable economic development.

3 III.

4 Methodology

The primary purpose of this study is to evaluate the implication of environmental costs on return on within three major industry groups as classified by the Nigerian Stock Exchange (NSE) and the Corporate Affairs Commission (CAC). These companies must have filled their annual report within the last ten years (2001-2010) was selected.

The empirical study is therefore based on two selected manufacturing firms in Nigeria. Manufacturing companies were chosen for this study because of the environmental and social effects which some of their operations have on the environment.

Data collected from both the financial statements of these firms and interview conducted to capture vital information not shown on the face of the financial statements. To qualify for inclusion in the sample selected, firms must have reported on fifty percent of the following in terms of environmental and social disclosure; green House Gas (GHG) including Carbon Capture and Storage (CCS), biodiversity through waste recycling, water treatment and quality of waste water discharged into the environment, product life cycle management, employee health and safety, business ethics charter, environmental research and development, community development, equal opportunity in employment, product innovation and packaging and employee training and development.

Firm that report up to fifty percent of the above listing is produced as "environmentally responsible" while firm reporting less than fifty percent is grouped under 'environmentally irresponsible'. For the purpose of this study, performance is measured by return on investment (ROI).

In the differential analysis, the difference between the means of the two dependent variables was sought. This is the different between the period samples ROI of environmentally responsible firm and environmentally irresponsible firm. a) Model Specification Two multiple regression tests were conducted; in the first one, the dependent variable is ROI while the independent variables are Employee Health and Safety (EHS), Waste Management (WM), and Community Development (CD). In the second multiple regression, the dependent variables is replaced with Fines, Penalties and Compensation (FPC). The amount for fines, penalties and compensation, included litigation costs. Hence the regression model is given as: The entire explanatory variables in the model 1 and 2are expected to impact positively on the dependent variable. Hence, the following apriori expectation exists, 1 2 3 > 0.ROI = f (EHS, WM, CD) FPC = f (EHS, WM, CD) ROI = 0 1 EHS 2 3 CD+ei ? 1 FPC= 0 1 EHS 2 3 CD+ei

IV. 1, the relationship between sustainable practices and ROI is significant at ($P<0.0001$); a high significance level indicating that the positive relationship between the independent variables and ROI may not have occurred be chance. In addition, the R 2 at 95% confirms that 95% of the variation in the yearly ROI of selected companies can be explained by the variation in the independent variables. Table VI also shows that decreasing variation in the amount of penalties and fines paid by the environmentally responsible firms could be accounted for by the sustainable business practices. A significance level of ($P<0.001$) shows that one can be confident that the relationship has not occurred by chance, and associated R 2 = 93% shows that 93% of the variation in fines and penalties is explicable by the variations in the independent variables. 2, also shows that decreasing variation in the amount of penalties and fines paid by the environmentally responsible firms could be accounted for by the sustainable business practices. A significance level of ($P<0.001$) shows that one can be confident that the relationship has not occurred by chance, and associated R 2 = 93% shows that 93% of the variation in fines and penalties is explicable by the variations in the independent variables. a) Discussion of findings Findings from the empirical study disclose a significant difference between the return on investment of the environmentally responsible firm and those of environmentally irresponsible firms. Regression results revealed that investment in social and environmental responsibilities such as employee health and safely (EHS), waste management (WM) and community development (CD) are related to improved return on investment of the environmentally responsible firms. It is also interesting to note that this performance could be attributed to a reduction in the level of fines and penalties paid by the environmentally responsible firm over the years, because empirical results show a significant relationship between the level of fines and penalties and the firm's adherence to sustainable business practice. With sustainable business practice, there was a decrease in the amount paid in fines and penalties to individuals and the government for environmental offences and its compensation to the community. Information from the interview disclosed that the level of litigation against the firm decreased phenomenally. This decrease in conflict between the firms and the environment, in which they operate, engendered the improved performance of these firms. The annual statements of these companies disclose improved sales turnover, which is an indicator that these companies are capturing larger market shares through customer goodwill. From this finding, the paper deduces that, within the Nigerian manufacturing firms, environmentally friendly practices affect corporate performance and corporate image. Hence, environmental investment is not a wasteful venture, but is part of corporate strategy, as well as, corporate responsibility to comply with regulations and support the environment while at the same time achieving the economic goal of the firm.

5 Data Analysis

V.

6 Conclusion/Recommendations

This paper studies the environmental costs and its implication on the return on investment: An evaluation of selected manufacturing firms in Nigeria. The empirical analysis in this study shows that, within the Nigerian setting, environmental cost has implication on the return on investment, thus justifying the objective of this study. In addition to this general point, it is apposite to highlight that the findings of this research show that environmental responsibility can reduce corporate conflict, which is one of the major distractions to corporate attention. This research therefore points to the practical significance of sustainable corporate practice in reducing the level of fines, penalties, compensations and litigations. This finding therefore informs managers of the need to enhance environmentally friendly practices in order to restore and guarantee a conflict three corporate atmosphere needed by managers and workers for maximum productivity. Money expended in settling disputes could be applied to enhance corporate liquidity and management is better able to plan and make decisions when it is not engrossed in disputes. The act of managing and production per se is optimal when an enabling serene atmosphere is in place. The findings are pedagogically important to unending enquiring into social, economic, and natural phenomenon to expend their knowledge, general peace and friendliness within the business community should be the starting point of strategic planning since any form of insurrection, overt, or covert, would deplete, productivity and performance. This opens up for further research, the initial question on the extent to which factors such as fines and penalties, compensations and litigations can affect performance.

The study therefore recommended that Environmental Regulatory Authority should compel manufacturing companies to disclose environmental cost in their financial statement and also environmental management accounting should be incorporated into the traditional accounting systems of manufacturing companies. [1]

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Figure 1: ? 2

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costs on returns on investment in manufacturing firm (2001-2010)					
Dependent variable: Return on investment (ROI)					
	Unstandardlized Coefficients		Standardized Coefficients		
Model	B	Std Error	Beta	t	Sig
Constant	8.289	-.722		11.341	0.000
EHS	-.775	-.222	2.472	3.492	.013
WM	-.045	-404	-.342	-.112	.915
CD	-.552	-.303	-1.438	- 1.438	.118
Source: Researcher estimation, 2011					

Figure 2: Table 1 :

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costs on returns on fines, penalties and compensation in manufacturing firm (2001-2010)					
Dependent variable: Fines, Penalties and Compensation (FPC)					
	Unstandardlized Coefficients		Standardized Coefficients		
Model	B	Error Std	Beta	t	Sig
Constant	15.926	1. 595		9.989	.000
EHS	.654	-.490	1.220	1.334	.231
WM	.252	-.892	-.463	.283	.787
CD	-1.686	-.669	-2.569	- 2.522	.045
Source: Researcher estimation, 2011	Table				

Figure 3: Table 2 :

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