
Sustainable Supply Chain Management Practices and Corporate Social Responsibility of Petroleum Marketing Firms in Nigeria

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Abstract: *The purpose of the study was to investigate the effect of sustainable supply chain practices on petroleum marketing firms in the Nigerian oil and gas industry. The study adopted the the cross-sectional survey research design. The population of this study consists of the four hundred and fifty (450) independent petroleum marketers in Rivers State. The sample size of this study was drawn from the four hundred and fifty (450) independent petroleum marketers in Rivers State. The sample size of this study was determined using the Yamane (1967) formula. This method was adopted to generate an appropriate sample size for the study from which generalization can be made on the entire population because the population is large. Thus, two hundred and twelve (212) independent marketers or their managers constituted the respondents of the study. The respondents include directors, station managers, station supervisors and depot representatives. The hypotheses were tested using the Pearson Moment Correlation Coefficient with the aid of the Statistical Tool for Social Science (SPSS version 22). The study revealed that there is a strong, positive, and significant relationship between the dimensions of sustainable supply chain management practices and the measures of corporate social responsibility. We therefore, concluded that significant relationship exists between sustainable supply chain management practices and corporate social responsibility of petroleum marketing firms in the Nigerian oil and gas industry. As a result, the study recommends that petroleum marketing firms should be encouraged to be socially responsible as the study has shown that it has a positive influence on its stakeholders. Also, they are to be socially responsible as this has been found to be attractive to its stakeholders and finally they are encouraged to engage in sustainable supply chain management practices as this would give them a complete advantage.*

Keywords: *Sustainable supply chain management, economic performance, social performance, corporate social responsibility, social responsiveness, social responsibility*

Introduction

The issue of corporate social responsibility has garnered a lot of interest both locally and internationally. However, there has been an age long question as to the classification of what a socially responsible action connotes. Earlier scholars like Bowen (1953) argue that “social responsibilities of businessmen need to be commensurate with their social power.” Again Carrol (1999) (citing Davies 1953) points out that most work of earlier scholars on corporate social responsibility stems from “the belief that several hundred largest business were vital centers for power and decision making and that the actions of these firms touched the lives of citizens at many point.” Morrison (2011) stated that “many parties are affected by the decisions of large corporation including customers, employee, business partner and local, regional national and global communities. Sustainability is a central theme in recent time across and is gaining attention among several firms.

It is a truism that the role of the Nigerian oil and gas industry is crucial to the survival, development and indeed growth of the national economy. According to, Ikechukwu, Obindah, and Iledare (2018) the sector accounts for well “over 65% of the governments earning and nearly 95% of the foreign exchange earnings accruing to the country throughout the last decade, 2009–2018.” This indicates to a large extent, the critical role the sector is playing in the Nigerian economy. Annual budget has been known to be planned and pegged around the forecasted successes of the flow into the government accounts from the sale of crude oil (Ajie, and Ameh, 2018). Another indicator as to the very significant role the sector is playing in the national economy of Nigeria. The supply chains in the oil and gas sector is a complex of relationships involving many firms operating across the three tiers of the sectors. The supply chains play significant role in each of these tiers of the sector. According to, Alaba and Agbalajobi (2014) some firms are engaged in the exploration (upstream), while others are in transportation (midstream) and some are engaged in distribution and marketing of the final product(downstream). Raul, Narkhede and Gardas (2017) listed out the activities of firms in the downstream sector to include refining, marketing, wholesaling and retailing of the final petroleum products across a chain of gas stations and convenience stores

Problem Statement

In recent times several organizations have publicly made policy statement that they would improve on their corporate social responsibility performances especially as it relates to human resources in their supply chain management practices which, includes healthier and safer working conditions, increased pay, significantly improved benefits and lesser working hours. Yet in spite of this steps taken by firms. There have been allegations that though an increasing number of companies pronounce their stand on supply chain social responsibility, via supplier codes of conduct or corporate social responsibility reports, concerns have been raised that for many firms, efforts in building a socially responsible supply chain are only for window dressing to improve their public reputation (Xia, Xingxing & Chunming, 2015).

As of today the bulk of the blame on product diversion, scarcity and inadequacies in the supply and distribution of the product across the nation is usually placed at the foot of these petroleum marketing firms. Scholars like (Peng & Poudineh, 2017; Yeeles & Akporiaye, 2016) attribute most of the sustainability concern in the industry to supply chain operations of these marketing firms. Also, Raut *et al.* (2017) pointed out that the “adverse sustainability challenges following operational failures vary among these three streams, with the downstream sector responsible for about 37% of the adverse occurrences, while the midstream and the upstream are responsible for 11% and 3% respectively.

Natural causes account for the rest of the adverse occurrences.” Meanwhile, scholars like (Olujobi, oyewumi, & Oyewunmi, 2018) conducted a study to investigate the antecedent and consequences of supply chain sustainability practices of the oil and gas firms operating in the upstream and midstream. However, Peng and Poudineh (2017) noted that a perusal of literature shows limited report on the inherent challenges that arises from the supply chain management practices of petroleum marketing firms. Again the few studies that exist did not actually focus on the issue of supply chain sustainability in the downstream sector (Prpich Sam & Coulon, 2019; Wan Ahmad *et al.*, 2016). Hence it becomes vital that we study the downstream sector

with respect to its performance on supply chain. Therefore, with the revelation of this gap in literature this study seeks to fill that void by investigating the supply chain sustainability practices in the petroleum marketing firms in the downstream sector of the Nigerian oil and gas sector

Purpose of the Study

To examine the nexus between supply chain sustainability and corporate social responsibility of petroleum marketing firms in the Nigerian oil and gas industry. Other sub-objectives include:

- 1) To determine the nexus between economic performance and corporate social responsibility.
- 2) To ascertain the nexus between social performance and social corporate responsibility

Study Variable and Research Framework

Study variable unveils the direction of the research work they serve as the skeletal structure upon which the entire work is built upon. This study has two major variable sustainable supply chain management which is the predictor variable with economic performance and social performance as dimensions. Corporate social responsibility is the criterion variable with economic responsibility, ethical responsibility and legal responsibility as measures. In view of our research variable this study can be expressed in a functional relationship depicted below:

- SSCMP = Sustainable Supply Chain Management Practices
- EP = Economic Performance
- SP = Social Performance
- CSR = Corporate Social Responsibility
- SR₁ = Social Responsiveness
- SR₂ = Social Responsibility

CSR = (EP+SP), where,
 EP = (SR₁+SR₂).....1
 SP = (SR₁+SR₂)..... 2



Fig.1.1 Conceptual framework of SSCM and CSR
 Source: (Khosroshani *et al.* 2018; Morrison, 2011)

Scope of the Study

The study limits itself to petroleum marketers in Port Harcourt Metropolis. In other words, the geographical scope of the study is Port Harcourt Metropolis. The reason is such that the researcher can more conveniently reach the respondents for the study.

Theoretical Foundation

This study is anchored on the corporate social responsibility theory. According to Morrison, (2011) this theory argues that as a link of wealth and power, corporate organization are meant to use their resources to address the issues of society at large. He alluded to the fact that the more resources that a corporate organization accumulates, the more it should embark on CSR. In addition to satisfying its economic and legal obligations in an ethical manner, Morrison (2011) argues that “the corporate organization should go beyond these basic responsibilities to be a “good neighbor” to society.”

Sustainable Supply Chain Practices

Hong, Zhang, and Ding (2018) described sustainable supply chain practices as “the management of human, materials, information and capital resources through the cooperation among various supply chain management firms that are committed to maintaining environmental, economic and social stability.” From this description we observe that sustainable supply chain practices involves the cooperation of firms that are committed to the ideal of a safe and healthy environment. They are concern about the adverse effect their operation has to the stability of the environment hence they are willing to collaborate to maintain a balance between their drive for profit and the stability of the environment, economy and society at large. As Adam, Zakuan, Shettimah, Saif, Ali and Almasradi (2019) noted that the term “sustainability” and “environmental” are being used interchangeably is indicative of the significance of the context of the oil and gas industry where most of the adverse effect of the operations of the petroleum marketing firms has a huge bearing on the environment before it can be translated into the economic and social dysfunctions. Hence, they argue that “integrating environmental concerns into the entire gamut of a firm's supply chain is the essence of supply chain sustainability” (Adam *et al.* 2019).

Economic performance

Tang and Zhou (2012) described economic performance as the capacity of firms to maintain a balance between profitability and sustainability. They argue that maintaining such a balance in the long run requires firm to take a holistic view towards sustainable financial flow (profit), resource flow (planet) and development flow (people) Tang and Zhou 2012). Most for profit organization have a responsibility to make profit for their shareholders and are often under pressure from governments, customers, and various stakeholder groups to effectively incorporate sustainability issues into their supply chain operations. One of the most popular indicators to measure an organizations performance has always been the financial performance an antecedent of economic performance. According to, Shen, Wang and Lo (2012) the concept of the “triple bottom line approach suggests that companies should consider social and environmental performance, not only financial performance, in their business operations.” Furthermore, they assert that “with increasing awareness of sustainability, there is evidence that some consumers are willing to pay more for sustainable textile and apparel products.”

Social performance

Searcy (2013) described social performance as the measurement of social issue that triggers concerns in society. Klassen and Vereecke (2012) on their part defined social performance as the “product/process-related aspect of operations that affect human safety, welfare and community development.” According to, Baske, *et al.* (2013) some of the metrics for social issues include: health and safety incidents; health and safety practices; product safety; economic welfare and growth. Wood (2010) described social performance as a set of descriptive categorization of business activities that focuses on the impact and outcomes for society, stakeholder, and the firms. In other word the social performance is the organization setting polices and action plan that would allow them to monitor and gauge the effect of their operation on the stakeholder’s environment etc. Saniteerakul *et al.* (2011) citing (Szekely and Knirsch 2005) proposed the 5 areas of social indicators for measuring and managing companies’ social performance as follow:

- Human rights: with the rapid globalization of business, human rights performance in several countries is under scrutiny.
- Labor/employment issues: standard issues such as health and safety, education, training, industrial relations, wages, benefits, conditions of work/employment, accountability, image/reputation and harassment.
- Supplier relationships: contractual agreements with suppliers, supplier diversity and company policies on the screening of suppliers.
- Community initiatives: involvement in local communities, contribution to the local economy, ensuring local wealth and skills.
- Corporate philanthropy: donations, pre-tax profits and grant programs.

Corporate Social Responsibility

Bowen (2013) defined corporate social responsibility as “an obligation to pursue policies to make decision and follow lines of actions, which are compatible with the objectives and values of society.” Here the scholar highlights the salient issue that guides social responsibility the organization values has to align with what is acceptable to the society and the wellbeing of the society. Morrison (2011) described social responsibility in terms of “the belief that corporations have a social responsibility beyond pure profit. As such, he argues that corporations should employ a decision –making process to achieve more than financial success on the assumption that CSR is integral to an optimum long term strategy.” Here the emphasis of this description of CSR can be observe to imply that corporations should be concern about their responsibility to the society at large and not to their profit making alone. Also, the decisions to embark upon corporate social responsibility can become a strategic option. Khosroshani, Rasti-Barzoki and Hejazi (2019) views CSR as the social aspect of sustainability. They anchored their view from previous studies such as (Qin, Mai, Fry, and Raturi 2016; Yang, Xie, Deng, and Hong, 2013) these study considered the fairness concerns of one or more one member of the supply chains in other word the study examined the rationality of being fair that existed among supply chain members

Social Responsiveness

Saniteerakul, Sekhari, Ouzrout and Sopadang, (2018) citing (Fredrick 1978) described “social responsiveness as the capacity of a corporation to respond to the social pressure.” Meanwhile Sainiteerakul *et al.* (2018) opined that “responsiveness provides an action counterpoint to the

principle reflection of social responsibility.” In addition, Saniteerakul *et al.* (2018) stated that “social responsiveness contributes an action dimension that is needed to complement the normative and motivational concept of corporate social responsibility.” An earlier scholar Aekerman (1975) had suggested three features of a responsive organization. These include:

1. Monitoring and assessing environmental conditions
2. Attending to the myriad of demands by stakeholders and
3. Designing plans and policies to responds to the changes in the environment.

We can therefore, infer that the process of attaining social responsiveness lies in the “how to” how does managers and organizations act with respect to environmental and stakeholder’s expectations and conditions.

Social Responsibility

Tate, Ellram, and Kirchoff (2010) stated that social responsibility can be structured to include three principles. These principles are: legitimacy principles that affect the business as a whole, public responsibility principles which applies to particular organization and discretionary principle which specifically refers to the duties of individual employee as a moral agent. In analyzing the principle of legitimacy we find that society has the right to establish and enforce a balance of power among its institutions and to define their legitimate functions (Saniteerakul *et al.*, 2011). Tate *et al.* (2010) argues that the principle of social responsibility is dependent on the organizations duty to act affirmatively foe social wellbeing. Meanwhile, Saniteerakul *et al.* (2011) argue that the principle of managerial discretion is based on human choice and will. Which they believe has its focus on the options and opportunities available to individual actors within their organizational and institutional contexts. They assert that “the domain of discretionary responsibility typically has been operationalized as corporate philanthropy, or occasionally as corporate involved in public/private partnerships or collaborative social problem-solving ventures.” This argument has been put forward by Tate *et al.* (2010) when he declared that “Managers are moral actors. Within every domain of corporate social responsibility, they are obliged to exercise such discretion as is available to them, toward socially responsible outcomes.”

Empirical Reviews

Economic Performance and Corporate Social Responsibility

Blasi, Caporin and Fontini (2018) conducted a study on a multidimensional analysis of the relationship between corporate social responsibility and firm’s economic performance. Their study unveiled interesting results regarding the nature of the relationship between CSR activities and economic performance. Firms in the Oil & Gas sector have been known to invest more in all areas of CSR with an almost always-positive return on financial performance and a reduction of financial risk The meta analysis of the empirical studies conducted by Horvathova (2010) showed mixed results in assessing the relationship between CSR and companies' performances. However, some scholars have shown positive relationship between economic performance and CSR (Margolis and Walsh (2003), Rettab *et al.* (2009), Lin *et al.* (2009) and Sun (2012) showed that companies involved in CSR take advantage of the positive environments they have created. Meanwhile, other scholars found a negative relationship between the two. Vance (1975), Wood and Jones (2005), Brammer and Millington (2008), Anginer *et al.* (2008), Brammer *et al.* (2005) and Nejati and Ghasemi (2012) showed that the market punishes companies' efforts to improve

their CSR activities. Yang (2016) attributes this disparity to the time of the analysis, being of the view that the negative relationship may be seen in the short run but in the long run the relationship will ultimately be positive.

In the light of the revelations from literature we therefore hypothesized that:

- Ho₁: Economic performance does not significantly relate with social responsiveness in the petroleum marketing firms in the Nigerian oil and gas industry.
- Ho₂: Economic performance does not significantly relate with social responsibility in the petroleum marketing firms in the Nigerian oil and Gas industry.

Social Performance and Corporate Social Responsibility

Scholars like (Varsei *et al.* 2014; Fahima and abbarzadeh 2016) argues that there is little consensus for the measurement of social performance as some authors use qualitative metrics. Hence social performance measures appear to vary considerably from the other performance measures, examples include safety, health, human rights, ethics, and philanthropy to mention but a few. Ashby *et al* (2012) stated that “social performance is not limited to being measured exclusively within the boundaries of individual firms, but extended to their engagement with both internal and external stakeholders including community, society, employees, buyers and suppliers.

Sohn *et al.* (2015) observed that information on firm’s CSR, expressed by Corporate Social Performance (CSP) indicators has positive effects on a firm’s attractiveness to job seekers. Meanwhile, scholars argue that stakeholder influence can drive a firms’ social performance (Gualandris *et al.*, 2015; Flammer, 2016; Servaes & Tamayo, 2013). Internal and external stakeholders in the supply chain include buyers and suppliers, shareholders, customers, government. Extant literature on social performance in terms of the relationship with suppliers shows a dependence on customers/suppliers (stakeholder integration) financial performance (Zhang & Huo, 2013). In the light of the revelation from literature we therefore hypothesized that:

- Ho₃: Social performance does not significantly relate with social responsiveness in the petroleum marketing firms in the Nigerian oil and gas industry.
- Ho₄: Social performance does not significantly relate with social responsibility in the petroleum marketing firms in the Nigerian oil and gas industry.

Methodology

The researchers adopted a cross-sectional survey research design. Data were collected through questionnaire drawn using Likert’s five-point scale, ranging from “strongly disagree” to “strongly agree”. The predictor variable sustainable supply chain management used strategic economic performance and social performance as indicators while the criterion variable; corporate social responsibility was measured using social responsiveness and social responsibility. The population of this study consists of the four hundred and fifty (450) independent petroleum marketers in Rivers State (IPMAN Journal, 2015). The sample size of this study was drawn from the four hundred and fifty (450) independent petroleum marketers in Rivers State. The sample size of this study was determined using the Taro Yamani (1967) formula. This formula was deployed to generate an appropriate sample size for the study from which generalization can be made on the entire population because the population is large. Thus,

two hundred and twelve (212) independent marketers or their managers constituted the respondents of the study. The data were analyzed and interpreted into meaningful information with descriptive, inferential statistical and the hypotheses were tested by employing the Pearson Moment Correlation Coefficient with the aid of the Statistical Package for Social Science (SPSS version 22).

Table 1: Summary of Reliability Analysis

S/N	Variables	Number of items	Cronbach's Alpha Coefficient
1	Economic Performance	4	0.877
2	Social Performance	4	0.923
3	Social Responsiveness	4	0.898
4	Social Responsibility	4	0.912

Source: SPSS output 2020.

Result and Discussion

Ho₁: There is no significant relationship between economic performance and social responsiveness

Table 2: Correlation between Economic Performance and Social Responsiveness

		Economic Performance	Social Responsiveness
Economic Performance	Pearson Correlation	1	.840**
	Sig. (2-tailed)		.000
	N	190	190
Social Responsiveness	Pearson Correlation	.840	1
	Sig. (2-tailed)	.000	
	N	190	190

**Correlation is significant at 0.01 level (2-tailed)

The result above in table 2 is indicative of a strong and positive relationship between economic performance and social responsiveness. As shown by the correlation coefficient of 0.840. The probability value is less than the critical value i.e. $0.000 < 0.05$. Thus, we reject the null hypothesis which states that there is no significant relationship between economic performance and social responsiveness.

Ho₂: There is no significant relationship between economic performance and social responsibility.

Table 3: Correlation between Economic Performance and Social Responsibility

		Economic Performance	Social Responsibility
Economic Performance	Pearson Correlation	1	.912**
	Sig.(2-tailed)		.000
	N	190	190
Social Responsibility	Pearson Correlation	.912	1
	Sig.(2-tailed)	.000	
	N	190	190

**Correlation is significant at 0.01 level (2-tailed)

The result above in table 3 is indicative of a very strong and positive relationship between economic performance and social responsibility. As shown by the correlation coefficient of 0.912. The probability value is less than the critical value i.e. $0.000 < 0.05$. Thus, we reject the null hypothesis which states that there is no significant relationship between economic performance and social responsibility.

H₀₃: There is no significant relationship between Social Performance and Social Responsiveness

Table 4: Correlation between Social Performance and Social Responsiveness

		Social Performance	Social Responsiveness
Social Performance	Pearson Correlation	1	.932**
	Sig. (2-tailed)		.000
	N	190	190
Social Responsiveness	Pearson Correlation	.932	1
	Sig.(2-tailed)	.000	
	N	190	190

**Correlation is significant at 0.01 level (2-tailed)

The result above in table 4 is indicative of a very strong and positive relationship between social performance and social responsiveness. As shown by the correlation coefficient of 0.932. The probability value is less than the critical value i.e. $0.000 < 0.05$. Thus, we reject the null hypothesis which states that there is no significant relationship between Social performance and social Responsibility.

H₀₄: There is no significant relationship between Social Performance and Social Responsibility

Table 5: Correlation between Social Performance and Social Responsibility

		Social Performance	Social Responsibility
Social Performance	Pearson Correlation	1	.874**
	Sig.(2-tailed)		.000
	N	190	190
Social Responsibility	Pearson Correlation	.874	1
	Sig.(2-tailed)	.000	
	N	190	190

**Correlation is significant at 0.01 level (2-tailed)

The result above in table 5 is indicative of a strong and positive relationship between economic performance and social responsiveness. As shown by the correlation coefficient of 0.874. The probability value is less than the critical value i.e. $0.000 < 0.05$. Thus, we reject the null hypothesis which states that there is no significant relationship between social performance and social responsibility.

Discussion of Findings

The result from the study shows that economic performance is significant and positively related to social responsiveness an antecedent of corporate social responsibility. This is consistent with the position of Sun (2012) who also found positive relationship between economic performance and CSR. Again the result revealed a positive and significant relationship between economic performance social responsibilities an antecedent of corporate social responsibility. This position is in line with Lin *et al.* (2009) whose study showed that companies involved in CSR take advantage of the positive environments they have created via social responsiveness.

Meanwhile, result from the study shows that social performance is significant and positively related to social responsiveness. This position is consistent with that of Sohn *et al.* (2015) when they found that information on firm's CSR, expressed by Corporate Social Performance (CSP) indicators has positive effects on a firm's attractiveness to job seekers and finally social performance was found to be significant and positively related to social responsiveness. The position is consistent with scholars like (Gualandris *et al.*, 2015; Flammer, 2016; Servaes and Tamayo, 2013 2013) who found that stakeholder influence (an antecedent of social responsiveness) can drive a firms' social performance.

Conclusion

Findings from the study revealed a significant strong and positive relationship exist between all the dimensions of sustainable supply chain management practices (economic performance and social performance and the measures of social corporate responsibility (social responsiveness and social responsibility. This suggest that firms that engage on sustainable supply chain management practices would gain competitive advantage as stakeholders especially customer would be willing to patronize such firms as they would see that such firms are making effort to consciously taking steps that includes healthier and safer working conditions, increased pay, significantly improved benefits and lesser working hours

Recommendations

Based on the finding and the conclusion of the study, it is therefore recommended as follows:

- 1) Petroleum marketing firms should be encouraged to be socially responsible as the study has shown that it has a positive influence on its stakeholders.
- 2) Petroleum marketing firms should be socially responsible as this has been found to be attractive to its stakeholders
- 3) Petroleum marketing firms are encouraged to engage in sustainable supply chain management practices as tis would give them a complete advantage.

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