Green Supply Chain Management Practices and Marketing Effectiveness of Pharmaceutical Firms in Port Harcourt

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Abstract

This study investigated the relationship between green supply chain management practices and marketing effectiveness pharmaceutical firms in Port Harcourt. The objectives of the study were to ascertain the extent to which supply chain management practices relate marketing effectiveness pharmaceutical firms in Port Harcourt. The population of the study was Two hundred and seventeen (217) registered pharmacies in Port Harcourt, listed in the yellow page of Nigerian Stock Exchange Facts Book of (2014). The primary data were collected with a structured questionnaire that was designed in a 5 point Likert scale of very low extent to very high extent. Results of the test showed that supply chain management practices have significant and positive relationships with marketing effectiveness (brand awareness and corporate image) – the measures of marketing effectiveness. the Pearson Product Moment Correlation was the test statistics. The study therefore, concluded that supply chain management practices relate with marketing effectiveness pharmaceutical firms in Port Harcourt. Therefore, the study recommended management of pharmaceutical in Port Harcourt should implement adequate green supply chain practices such as green procurement and green manufacturing to enhance their marketing effectiveness. All statistical analysis was conducted using SPSS 2.0.

Keywords: Supply Chain Management Practices, Marketing Effectiveness, Brand Awareness, Corporate Image and Pharmaceutical Firms

Introduction

Firms are currently facing significant internal and external pressure to adopt and sustain environmentally friendly processes, as well as produce environmentally friendly products and services. Pharmaceutical, manufacturing, and service organizations need to assess how adopting an environmental approach affects their business performance, economic viability, and environmental performance (Elliot, 2011). The implementation of environmentally friendly practices in supply chains necessitates collaboration among manufacturers, suppliers, and customers to develop and oversee environmental solutions (Gnoni et al., 2011). Various organizations have developed green supply chain management (GSCM) practices as a practical approach to implementing an environmentally focused strategy. Gotschol et al. (2014) advocated for increased attention to green supply chain management (GSCM) in businesses as a means to promote environmental sustainability. Firms face increasing difficulty in managing simultaneous internal and external changes. GSCM, or Green Supply Chain Management, involves integrating environmentally friendly practices throughout the entire supply chain, including sourcing, product design and development, manufacturing, transportation, packaging, storage, retrieval, disposal, and post-sales services, such as end-of-product life management (Min & Kim, 2012; Choi et al., 2017).

Green supply chain techniques were first proposed by Vachon and Klassen (2006), and they include two different but related environmental actions: environmental cooperation and environmental monitoring. A company's green supply chain practices can be classified as either internalizing environmental management activities through integration with other supply chain organizations or externalizing environmental management through the use of market-based mechanisms, both of which are extensions of the framework proposed by Vachon and Klassen (2006). Environmental partnership refers to the former, whereas environmental monitoring describes the latter. In order to effectively address environmental issues of supply chain management, Hall (2001) stresses the significance of understanding the many components of supply networks and their environmental implications across all borders. Companies in the manufacturing sector have embraced GSCM methods in order to comply with government environmental requirements and meet consumer demand for ecologically friendly goods and services. To further ensure environmental sustainability, manufacturers should work with their suppliers and consumers. Air pollutants, effluent waste, solid waste, and the usage of harmful chemicals are all expected to decrease as GSCM methods become more widely implemented.

Managers will make the integration and coordination of environmental practices across the supply chain a top priority as customer demand for environmentally friendly goods and services rises (Vachon & Klassen, 2007). The authors stress the need of establishing an environmental strategy and putting in place methods for environmental cooperation and monitoring in order to gain a competitive edge. Although companies may incur greater expenses in resolving environmental pollution, which might lead to higher overall prices for some products and services, the benefits of a cleaner environment far exceed these costs, according to Elliot (2011). The growing expenses of adhering to environmental sustainability rules have prompted concerns that businesses may lose their edge in the market. Environmental laws are thought to reduce competitiveness; however Jaffe

et al. (2005) find no evidence to support this claim. Thus, the study seeks to investigate the relationship between green supply chain management practices and marketing effectiveness of pharmaceutical firms in Port Harcourt.

Study Variables/Conceptual Framework
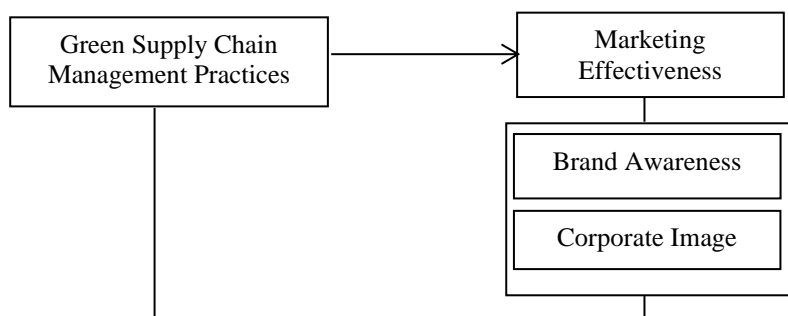
Figure 1.1:   Conceptual framework on the relationship between green supply chain management practices and marketing effectiveness of pharmaceutical firms in Port Harcourt.

Source: Jasneet, K., Ramneet S., Anjali A., Satyaveer C., & Goyal, S. (2018).

2.1   Theoretical Review/Resource Based Theory

The Resource Based Theory (RBT) has had a significant impact on management and is often mentioned by scholars in the subject. According to Namjoo and Keramati (2018), companies may gain long-term competitive advantages by allocating resources strategically. Improved business performance and a competitive edge may result from adopting eco-friendly production methods (Shan et al., 2019; Ashrafi & Mueller, 2015). In order to stay ahead of the competition, businesses are increasingly adopting environmentally responsible supply chain policies (Sharfman et al., 2009). Since a company's strategy is reliant on its internal capabilities and its capacity to sustain them, this theory is useful for analyzing the influence that a company's resources have on its green practices and marketing efficacy. RBT is the leading theory for predicting supply chain and industrial network resilience, according to Tukamuhabwa et al. (2015).

The resource-based paradigm was developed further by Helfat and Peteraf (2003) and Hart and Dowel (2010), who included dynamic capacities and natural resources. According to Vachon and Klassen (2006), Green Supply Chain Management (GSCM) can deliver quality, flexibility, and environmental performance to consumers since it is seen as a valuable resource by the Resource-Based View (RBV). By improving operational capacities, greening supply chains adds to the Resource-Based View's value, uniqueness, inimitableness, and non-substitutability (Helfat & Peteraf, 2003). Ecological thinking, as described by Vachon and Klassen (2006), may be used into

company management methods to provide novel resources that boost efficiency and benefit the environment. Green supply chain management (GSCM) is a concept proposed by Vachon and Klassen (2006) that delves into the connections between green business practices and company success. Green procurement, green production, and green distribution are all ways that companies may gain a competitive edge, as stated by Lai, Cheng, and Tang (2010). According to Sarkis's (2009) Resource-Based View (RBV) concept, Green Supply Chain Management (GSCM) is a strategic resource. A company's brand, public perception, and bottom line might all benefit from GSCM.

2.2   Concept of Green Supply Chain Management

The need for GSCM methods has grown as businesses and academics have come to realize that environmental management has far-reaching consequences beyond their own walls. According to Rao (2002), multinational firms have implemented comprehensive programs to monitor and improve their environmental practices at every stage of the supply chain. Upstream suppliers and, to a lesser degree, downstream consumers are involved in these projects. The programs cover a wide range of actions, such as ensuring correct product utilization by customers and reducing environmental risk from suppliers' operations (Snir, 2001). They also involve managing the reverse flow of materials and packaging. According to Ikegwuru and Akani (2020) "Green supply chain management (GSCM) is an up-to-date and accepted trend practice which smoothes the progress of environment sustainability globally, since it presents a holistic model in which products, distribution, consumption and disposal of products and services are implemented in a manner that is less damaging to the environment with increasing responsiveness concerning the presumption of global warming, non-biodegradable solid waste, harmful impact of pollutants'

The importance of Green Supply Chain Management (GSCM) has grown over the years, and many businesses are now engaging in green supply chain efforts to improve their market standing and public image. Green purchasing, reverse logistics, customer cooperation on environmental initiatives, investment recovery, eco-design, internal environmental management, adoption of environmental management systems like ISO 14001, green manufacturing and packaging, environmental participation, green marketing, green suppliers, energy conservation, and environmental collaboration with suppliers and customers are all part of the green supply chain (Jasneet).

Green supply chain management has gained traction since its inception in the 1980s, after the widespread adoption of supply chain management since the 1970s. Sustainable practices and green initiatives are increasingly being included into the long-term goals of companies of all sizes and industries (Jasneet et al., 2017). Environmentally responsible procedures are integrated into every step of the supply chain, from initial concept to final disposal, under the green supply chain framework. The integration of environmental considerations into supply chain management systems is widely regarded as a major initiative at this time (Jasneet et al., 2017; Jung, 2011). Supporting sustainable societal development is one of the primary goals of green supply chain

management (Wenhao et al., 2020), which is why its primary focus is on minimizing negative impacts on both resources and the environment throughout the supply chain.

Management, according to Cheruiyot et al. (2014), must now put environmental and social concerns first because of the rapid evolution of global industry. The term "Green Supply Chain Management" has been defined in many different ways by researchers. Green procurement, green production, green distribution, and green logistics are all parts of Green Supply Chain Management, as defined by Hervani, Helms, and Sarkis (2005). Green Supply Chain, as defined by Sarkis, Zhu, and Lai (2011), is the integration of environmental concerns into the collaborative practices of Supply Chain Management.

Toke, Gupta, and Dandekar (2010) define green supply chain management (GSCM) as "the practice of integrating environmental considerations across the supply chain." Everything from conceptualization and material selection through production and distribution to disposal is part of this process. Toke et al. (2010) defined the four stages of a green supply chain as procurement, manufacturing, distribution, and inventory management. To improve the state of the environment as a whole, GSCM advocates greener industrial methods and other eco-friendly actions. Reducing or eliminating waste across the supply chain is a primary goal of Green Supply Chain Management (GSCM), which includes energy, emissions, chemical/hazardous, and solid wastes.

Green supply chain management, or GSCM, is the process of incorporating environmentally friendly practices into every step of the supply chain, from raw material procurement to finished product end-of-life management (Min & Kim, 2012; Choi, 2017). Green supply chain management (GSCM) is the process of incorporating environmentally friendly practices across the entire supply chain, from raw material procurement to finished product end-of-life management. This includes everything from initial product conception to final disposal.
In an empirical research done on Chinese manufacturers, Zhu and Sarkis (2004) found that businesses with more developed Green Supply Chain Management (GSCM) procedures reaped economic benefits, including decreased environmental compliance costs. They did, however, find that operational expenses rose, particularly for the purchase of eco-friendly products.

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2.3   Concept of Marketing Effectiveness

Organizations may attain financial stability and service excellence by using a performance monitoring system (Pandiyan et al., 2016). Firms should use a minimal set of KPIs to guarantee continuous development of their supply chain systems. This method improves a company's performance by allowing for more precise control over measurable factors. Measures of supply chain performance include both measurable and qualitative aspects of supply chain management (Chang et al., 2013). Measuring performance is keeping score of how well things are doing. Action leads to performance, whereas measurement is the process of quantification (Arif-Uz-Zaman et al., 2014).

A company's effectiveness is measured by the extent to which it satisfies its customers' demands, while its efficiency is gauged by how well it makes use of its resources to reach that goal. There is a wide variety of metrics that may be used in performance measurement systems (PMS) to determine the efficacy and efficiency of a given activity (Arif-Uz-Zaman et al., 2014). The primary goals of performance evaluation are to ascertain the level of satisfaction of customers and to pinpoint inefficiencies. Analysis of data is helpful for decision making since it guarantees that management choices are based on evidence. Several studies (Cadden et al., 2013; Gunasekaran et al., 2013) show that enterprises have not been able to completely maximize their performance because of their inability to properly include the demands of their partners.

Sales and profits are the main yardsticks by which businesses are judged. Comparing actual sales numbers to planned sales numbers and examining sales volume shifts in comparison to rivals are two ways to evaluate marketing effectiveness. Percent profit margin is an accurate indicator of a business's success since it measures the amount of profit kept in relation to sales revenue. Management in the corporate sector have to show innovation and grab possibilities to boost marketing efficiency on a regular basis if they want to boost performance. The success of a company's marketing efforts depends on the creation of plans, methods, and instruments tailored to the specific demands of that organization. Net income, return on assets, and return on equity are only few of the measurements that may be found in financial statements to evaluate a company's success. Investors use a firm's performance as a yardstick for their own analysis of the company and their own investment choices. Investors respond favourably to news of a company's strong performance by purchasing more shares of the company's stock (Murphy, 2003).

2.4.1 Brand Awareness

In ancient Egypt, craftsmen who made bricks would attach symbols to their wares as a means of marking them (Farquhar, 1990). Branding, as described by Aaker (1991), may be traced back to medieval Europe, when artisans and painters used distinctive identifying markings to set their creations apart. Customers may seek out these brands because of the value they ascribe to them. Branding nowadays is intrinsically related to business endeavors. Aaker (1991) posit that over the 20th century, branding became more important in the context of competitiveness. Kotler (2000) argues that the fierce rivalry of the late 20th century forced businesses to shift their focus from production and sales to marketing. Because of this change, businesses now have to do a better job than their rivals do of generating, delivering, and communicating value to their target audiences. As a consequence, there has been an increase in the number of brands and branding initiatives as businesses look for ways to gain and keep an edge. Kotler (2000) cites the American Marketing Association's definition of a brand, which is "a combination of a name, term, sign, symbol, or design used to differentiate the goods and services of one seller or group of sellers from those of others."

Signs, symbols, and artifacts may help consumers understand the service delivery process, reduce their wait times, and feel more efficient. To brand yourself effectively, it seems you need to do more than just convince your target market to choose you over the competition; you need to establish yourself as the only source of a solution to your prospects' issues. In recent years, brand

awareness has been a hot issue in talks about market research. A company's reputation is essential to its success. Perception of a brand, or how people generally think of it, is intrinsically linked to the brand's identity. The term "brand identity" is used to describe how a business presents itself to the public. Branding is the process of interacting with your intended audience in order to build loyalty and a long-term competitive advantage (Urde, 1999).

Brand awareness, as defined by Travis (2006) and quoted by Harcourt & Ozo (2018), is the extent to which a consumer is familiar with a brand and can identify it as belonging to a certain category of goods. A consumer's familiarity with a brand determines their ability to recognize that brand. Brand recall, as defined by Keller (1993), is the consumer's recollection of a brand name when shown a category of products. Brand awareness measures how well-known a brand is among its target audience. Keller (1993) and Aaker (1991) both agree that consumer recognition of a brand is crucial to its success. Brand awareness is the degree to which a product or service is remembered by its target audience. The strength of the brand's node or trail in memory plays a role in this. Reference: (Keller, 2003; 730)

2.4.2   Corporate Image

The way a company is seen in the public's mind is called its "corporate image." Everything that people think about when they think of a company is included in its corporate image. Whether or not it consciously cultivates and maintains a certain image, every company has one. Organizations rely heavily on their corporate image to get and keep an edge in the marketplace (maiien & Orekauskas, 2006). When there is minimal room for distinction amongst rivals, a company's image might provide it an edge. Corporate image enables businesses to stand out from the crowd, increasing market share, earnings, new consumers, retained customers, countering competitor activities, and ensuring success and survival in the market, as stated by Sarstedt et al. (2012). Smith (1993) argues that businesses may reap advantages by incorporating technology into their sales and marketing strategies, product creation and distribution processes, financial partnerships, employee onboarding, and crisis response plans. A company's corporate image is its standing in the eyes of its constituents. The term "mental picture" is used to describe how stakeholders in an organization see it in their heads (Bouchet, 2014). The company's public image evolves with time. A company's performance variance is influenced by the nature of its actions and how those actions are perceived by its stakeholders.

Nguyen and Leblanc (2001) provide research that shows how having a good public face may increase your company's profits and client loyalty. Strong company image may improve communication efficiency and influence customer behavior, as stated by Keller and Aaker (1997). According to Andreassen and Lindestad (1998), a company's image has a significant impact on how consumers evaluate the quality of the service they get, which in turn affects their level of happiness and loyalty. This indicates that customers are influenced by a company's image since it provides them with information that helps them evaluate the legitimacy and quality of the business. When the general public has a good impression of a company, it's because of the company's excellent corporate image. Establishing a strong company image is the first step in building a strong business reputation.

2.6   Empirical Review of Green Supply Chain Management Practices and Marketing Effectiveness

Various methods have been suggested for GSCM implementation based on various research. Other academics typically refer to these actions as GSCM. According to Huang, Tan, and Ding (2012), firms may implement varying degrees of Green Supply Chain Management (GSCM) depending on the nature of their operations and the industry in which they operate. Dheeraj and Vishal (2012) looked at four main aspects of Green Supply Chain Management (GSCM): green buying, green production and materials management, green marketing and distribution, and green supply chain management itself. The green logistics practices of procurement, production, distribution, and re-supply were analyzed by Ninlawan et al. (2010). Amemba et al. (2013) defined green supply chain management (GSCM) as including green procurement, green manufacturing, green operations, reverse logistics, and waste management. Green supply chain management (GSCM) approaches have been the focus of several studies. For instance, Baines, Brown, Benedettini, and Ball (2012) zeroed attention on environmentally friendly manufacturing, while Lagat (2013) looked into environmentally friendly procurement. Common practices in Green Supply Chain Management (GSCM) are identified in the aforementioned research. These techniques include green buying, green production, green distribution/marketing, and green reverse logistics. The following criteria were used in this analysis. To yet, no study has been undertaken on the topic of interest, which is a food production company.

Raw material sourcing is the starting point for eco-friendlier production processes. Green buying is defined as a strategic strategy to addressing sustainability via charitable giving in the context of supply chain management (Ashby et al., 2012). The factors of recycling, CSR, reverse logistics, green buying, product stewardship, reuse, and remanufacturing were investigated. Green Supply Chain Management (GSCM) techniques were found to be most practicable when they prioritized environmentally conscious buying above other factors. The concept of "green purchasing" advocates for businesses to use their purchasing power to encourage their suppliers to provide them with eco-friendly goods. Green buying has been shown to be an efficient method for businesses to improve their procurement system within a supplier network by Svahn and Westerlund (2009). Regulation, consumers, stakeholders, corporate social responsibility (CSR), and communication are all factors that were investigated in a research by Gold et al. (2010). The study's authors stressed the relevance of environmentally conscious shopping in developing connections with vendors.

3.   Methodology

The study utilized a cross-sectional survey design. The research design serves the purpose of ensuring that the evidence obtained is relevant to the initial research questions (Yin, 2002). This study utilized a correlational investigation method to analyze the relationship between green supply chain management practices and marketing effectiveness of pharmacies in Port Harcourt. The study was conducted in a non-contrived environment. Our involvement will be minimal. A population is a group of individuals or objects that share common characteristics and are the focus of a researcher's study and statistical analysis (Gall et al., 2006). The population of this study consists of 217 registered pharmacies in Port Harcourt, as listed in the yellow pages of the Nigerian Stock Exchange Facts Book of 2014. The sample size for our study consisted of 217 registered

pharmacies in Port Harcourt, as listed in the yellow pages of the Nigerian Stock Exchange Facts Book of 2017. To ensure equal representation of the firms in our study, we will administer one copy of the questionnaire to the sampled respondents from the pharmacies in Port Harcourt.

Results

Table 1: **Relationship between Green Supply Chain Management Practices and Brand Awareness**

		Green Supply Chain	Brand Awareness
Green Supply Chain	Pearson's correlation	1	.8944
	Sig. (2-tailed)		.0000
	N	334	334
Brand Awareness	Pearson's correlation	.8944	1
	Sig. (2-tailed)	.0000	
	N	334	334

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

Table 1 displays the correlation between variables. The table indicates a significant positive correlation (r = 0.8944) between green procurement and brand awareness. This suggests that variations in green procurement are strongly associated with changes in brand awareness.

Relationship between Green Supply Chain Management Practices and corporate Image

Table 2: Relationship between Green Supply Chain Management Practices and Corporate Image

		Green Supply Chain	Corporate Image
Green supply chain	Pearson's correlation	1	.0875
	Sig. (2-tailed)		0.000
	N	334	334
Corporate Image	Pearson's correlation	.0875	1
	Sig. (2-tailed)	0.000	
	N	334	334

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

Table 2 indicates a correlation coefficient of 0.476 between green procurement and corporate image. The correlation suggests a strong positive relationship between green procurement and corporate image. This implies that as an organization increases its engagement in green procurement, its corporate image also significantly improves.

Discussion of Findings

Relationship between Green Supply Chain and Brand Awareness and Corporate Image

In order to test the first and second hypotheses, PPMC analysis was used to look at how green procurement affects marketing metrics like brand awareness and corporate image. Statistical tests of the null hypotheses were conducted and found to be false. In addition, the research

acknowledged the null hypothesis that green procurement is significantly related to brand awareness and company image. Possible effects of environmentally responsible purchasing on indicators of marketing performance are the focus of these theories. Green purchasing improves the efficiency and precision of marketing efforts, yielding dependable results for a company's reputation and brand recognition. Our research shows that using environmentally friendly methods of purchasing goods and services improves an organization's overall marketing performance. Our result is consistent with the conclusions made by Syahn and Westerlund (2009), who found that environmentally conscious purchases strengthened ties with vendors.

Third and fourth assumptions were supported by data, showing a correlation between green procurement and indicators of marketing efficacy including brand awareness and company image. Understanding the merits of green production may help pharmaceutical firms raise awareness of their brand and increase their reputation in the marketplace.

The Nigerian pharmaceutical industry's stakeholders would do well to think long and hard about the favorable correlation between green procurement and marketing efficacy, especially as it relates to building a good brand image and increasing brand recognition. This is of paramount importance in today's cutthroat business climate. Banerjee (2002) argues that a company may improve its environmental performance and profitability by cutting down on waste in its different transformation processes; our findings support this theory. Our research backs up the claim made by Lacroix and Stamatiou (2007) that "green manufacturing" encompasses a wide range of techniques for producing goods more cheaply and sustainably, including cutting down on waste and rework, using less hazardous materials, improving environmental performance, avoiding compliance and liability costs, and using less energy and other resources.

Conclusion

This study examined the relationship between green supply chain practices and marketing effectiveness in the pharmaceutical firms Port Harcourt industry. This study concludes that there green supply chain practices relate with marketing effectiveness of pharmaceuticals in Port Harcourt.

Recommendations

The study's findings led to the following recommendations.
1. The management of pharmaceutical firms in Port Harcourt should adopt green supply chain practices, including green procurement and green manufacturing, to enhance their marketing effectiveness.

2. Additionally, the study suggests that pharmaceutical firms should implement green supply chain practices, such as green procurement and green manufacturing, in order to enhance their marketing effectiveness.

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