

INTEGRATED SUPPLY CHAIN EFFORT AND MARKETING COMPETITIVENESS OF DOWNSTREAM OIL AND GAS FIRMS IN NIGERIA

OGBONNA Chibuzo O.

Department of Marketing, faculty of Administration and Management
Rivers State University Port Harcourt

NWULU Chinyere Stella

Department of Marketing, faculty of Administration and Management
Rivers State University Port Harcourt

Abstract

This study investigated the relationship between integrated supply chain effort and marketing competitiveness of downstream oil and gas companies in Nigeria. Integrated supply chain effort was used as the explanatory variable and was proxied by supplier integration and customer integration. Marketing Competitiveness was the explained variable, and was measured with brand awareness and cost reduction. The study adopted the survey research design. The population for the study was 27 major petroleum product marketers, as listed by NNPC as of December 2022. The entire universe was surveyed. However, five copies of the research instrument was administered on each of the 27 companies, thus the total number of respondents for the study was one hundred and thirty-five (135). However, data generated from one hundred and eighteen (118) respondents was found useful. The Spearman rank order correlation was used to test the hypotheses. The findings revealed that integrated supply chain effort (supplier integration and customer integration) had significant relationship with marketing competitiveness (brand awareness and cost reduction). The study therefore conclude that integrated supply chain effort has significant relationship with marketing competitiveness; and recommends that management of downstream oil and gas firms should make integrated supply chain effort in terms of (supplier integration and customer integration) if they seek to achieve improved marketing competitiveness (brand awareness and cost reduction).

Keywords: Customer integration, integrated supply chain efforts, marketing competitiveness, supplier integration

Introduction

Supply chain has become a source of competitive advantage for organizations due to its role in creating customer value and business growth (Omoruyi & Dhurup, 2016). As a management activity, supply chain integration has the propensity to improve operational, market and financial performance of organizations (Omoruyi & Dhurup, 2016) by enhancing the firm's service quality (Khan & Wisner, 2019). Careful integration of supply chain and supply chain flexibility improve a firm's performance, create value and generate capital for a business (Omoruyi & Dhurup, 2016). Supply chain integration also inform inventory reduction, improved service delivery, shorter product development cycles and marketing success (Makhdoom et al., 2016).

Competitiveness is viewed as the comparative measure between organizations within the same market or its external environment that is closely linked to the availability of comparative advantage (Lewis, 2000, Depperu & Cerrato, 2003). This suggests that competitiveness and competitive advantage are similar concepts that can be defined at the national, industry and organizational levels (Anca, 2012, Yercan & Isikli 2006). More so, Competitiveness entails a combination of unique assets and abilities that organizations possess, and which enable them compete successfully (O'sullivan & Abela, 2007; Akpotu et al., 2013).

Marketing competitiveness therefore, is the ability of an organization to effectively compete with others in the market to attract and retain customers, drive sales, and achieve its marketing goals. It involves analyzing and understanding the competitive landscape, identifying market opportunities and threats, and developing strategies to differentiate oneself from the competitors.

Several studies have been conducted to examine supply chain integration. Achara et al. (2024) examined supply chain integration and effectiveness of fast-food moving consumer goods firms in Nigeria. Ojo and Ajayi (2023) examined supply chain integration and performance of retailers in Osogbo Metropolis, Nigeria. This shows that the concept of supply chain integration is not new to Nigeria's industrial sector. But there are issues with effective implementation of the concept in oil and gas firms in the downstream sector in Nigeria.

We also note that there is a paucity studies on supply chain integration and marketing competitiveness of downstream sector oil and gas firms. Thus, this study joined the discourse by examining the relationship between integrated supply chain effort (ISCE) and marketing competitiveness of oil and gas firms in the downstream sector.

Theoretical Background

This study is anchored on resource dependence theory (Pfeffer & Salancik, 1978) and resource based view (Barney, 1991). Sift (2019) aver that resource dependence theory (RDT) indicates how external resources of organizations affect the character of the organization and influence organizational culture. Scholars indicate that no firm is an "island" and RDT underscores the motivation for integration and collaboration between partners, which facilitates favourable outcomes (Sharif & Yeoh 2014). Resource based view on the other hand, argue that instead of looking at the competitive business environment to get a niche in the market or an edge over competitors, the organization should look within at the resources and potential it already has available.

Concept of Integrated Supply Chain Efforts (ISCE)

ISCE leads to the coupling of nodes in a supply chain to facilitate efficient flow of resources that enhance operational effectiveness (Ateke & Didia, 2017). Chalmeta and Grangel (2003; as cited in Poi & Okwandu 2021) describe ISCE as the coordination of resources, decisions, suppliers, customers, business processes and employees in a supply chain to enhance firms' capability to work unruffled in a consistent and mutually beneficial process.

Zhao et al. (2008) and Bsaikrishna (2016), aver that supply chain integration is the extent to which a firm strategically cooperates with its supply chain partners and controls its intra and inter-organization processes to achieve efficient supply chain flows, including product, financial, information, value and risk flows. Supply chain integration confer benefits on firms (Annan et al., 2016; El-Tamimi, 2015). Power (2005, as cited in Ateke & Didia, 2017) suggests that companies engage in supply chain integration because it offers ease of access to knowledge and enables real-time response to changing market conditions.

Integrated supply chain effort is as several dimensions. Annan et al. (2016) and El-Tamimi (2015) identify internal integration, customer integration, and supplier integration as dimensions for supply chain integration as dimensions of integrated supply chain effort. This study adopted supplier integration and customer integration to proxy integrated supply chain efforts.

Marketing Competitiveness

Adamkiewicz-Drwiłło (2002) aver that competitiveness of organizations come through the salience of its value proposition as well as the manipulation of the range, quality and price of that value proposition and securing the best possible sales channels and strategies. Other scholars view competitiveness as a comparable measure between organizations within the same market or its external environment that is closely linked to the availability of comparative advantage (Lewis, 2000, Depperu & Cerrato, 2003).

Lall (2001) view competitiveness as the aptitude of an organization to become better in its operations over similar companies in sales, profitability, quality, and efficiency. Competitiveness has been a recurring subject in business discourses because it guarantees survival and growth in an increasingly complex and turbulent operating environment (Ateke & Nwiepe, 2017).

Competitiveness is multidimensional. Jain et al. (2020) suggests that market share, productivity, innovation, differentiation, cost reduction and brand equity are adequate measures of competitiveness; while Cameron (1980, as cited in Ateke & Nwiepe, 2017) identify profitability, productivity, cost minimization, increased market share, sales growth, customer satisfaction as proxies of competitiveness. In this study, we adopt brand awareness and cost reduction as measures of marketing competitiveness

Brand awareness

The brand awareness is changing the way modern marketing environment focus on comprehensive knowledge about brands. Indeed, brand and branding has become a major marketing priority for most companies (Latif et al., 2014). According to Romaniuk et al. (2017), brand awareness “is the capacity of a customer to recognize or recall that a given brand belongs to a particular category of products.” Thus, the degree of brand awareness can strengthen brand positioning in the customer’s consideration set and accordingly, affect customer brand selection and decision-making (Phung et al., 2019; Wijaya et al., 2020; Setiadi et al., 2018).

Cost reduction

Cost reduction entails a creating favourable standard cost while retaining the value of products. It systematically improves profit margin by eliminating wasteful expenses without jeopardizing revenue generation. It is also known as profit improvement or cost efficiency. According to Olayinka (2019) cost reduction is a kind of reduction that is of a permanent nature because it directly influences the unit cost of manufactured products without impairing the intended quality.

Integrated Supply Chain Effort and Marketing Competitiveness

Emmanuel et al. (2021) examined supplier integration and competitiveness of oil and gas exploratory and production companies in Nigeria. The findings revealed that supplier integration has a positive and significant relationship with competitiveness in the oil and gas exploration and production companies in the Nigeria. Similarly, Chibichii et al. (2021) probed the influence of supplier integration on performance of food and beverage companies in Kenya. The result shows that supplier integration accounts for 34.8% variation in organizational performance in food and beverage manufacturing companies in Kenya. There was a significant influence of supplier integration on performance of food and beverage manufacturing companies in Kenya.

Also, Aslam et al. (2023) conducted a study on customer integration in the supply chain and the role of market orientation in supply chain strategy. The results showed that customer integration has significant and positive relationship with market orientation. In the of Hamilton-Ibama et al. (2021) on customer integration and organizational success of multinational firms in Rivers State, it revealed that a significant relationship exists between customer integration and organizational success of multinational firms in Rivers State.

Based on the above testaments from literature, we hypothesize that:

- Ho₁: Supplier integration has no significant relationship brand awareness of downstream oil and gas firms in Nigeria.
- Ho₂: Supplier integration has no significant relationship cost reduction of downstream oil and gas firms in Nigeria.
- Ho₃: Customer integration has no significant relationship brand awareness of downstream oil and gas firms in Nigeria
- Ho₄: Customer integration has no significant relationship cost reduction of downstream oil and gas firms in Nigeria

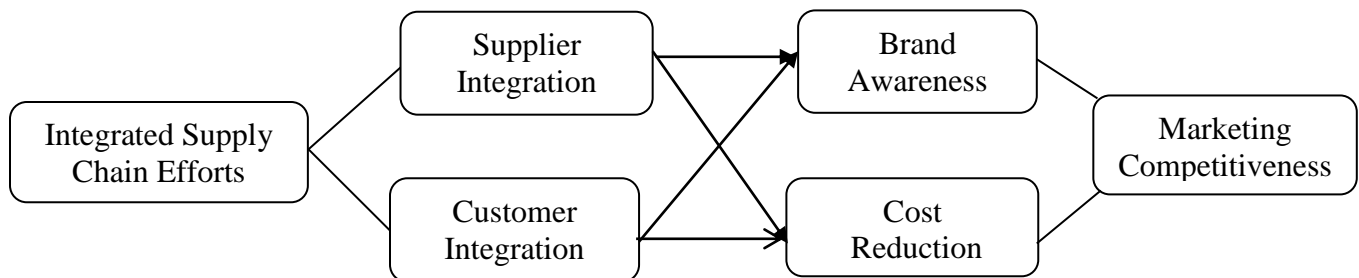


Fig 1: Conceptual framework for integrated supply chain effort and marketing competitiveness

Methodology

A correlational research design was adopted in this study. The study of the study population comprised twenty-seven (27) major marketing firms of petroleum products in Nigeria as enlisted by NNPC as at December 2022. The entire twenty-seven firms were surveyed. The researcher equitably distributed questionnaire to five management staff of each of the firms, hence a total of one hundred and thirty-five (135) respondents were used for the study. Categories of persons that constituted the respondents were procurement/supply manager, logistics manager, operations manager, customer service manager, and sales/marketing manager. 113 copies of retrieved questionnaire were used for the data analysis. The Spearman Rank Order Correlation was used to test the relationship between integrated supply chain efforts and marketing competitiveness of downstream oil and gas firm in Nigeria. The analysis was conducted with the aid of the Statistical Package for Social Sciences (SPSS) version 25.0

Analysis and Result

Table 1: Questionnaire Distribution and Retrieval

Gender	No. of questionnaire distributed	% of distribution	No. of questionnaire retrieved	% of retrieval
Male	75	55.5	66	55.9
Female	60	45.5	52	44.1
Total	135	100	118	100

Source: Field Survey Data 2024

Table 1 shows that the number of copies of the instrument distributed to the male respondents were 75(55.5%) from which only 66(55.9%) were returned and 60 (45.5%) was distributed to female participant from which only 52(44.1%) were returned useful. The return rate of the questionnaire distributed was 87.4% which is a high enough rate for the study

Table 2: Gender Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	66	55.9	55.9	55.9
Female	52	44.1	44.1	100.0
Total	118	100.0	100.0	

Source: SPSS Version 25.0 Output 2024

Table 2 displays the gender distribution of respondents that participated in the survey. 66 respondents representing 55.9% were male; while 52 representing 44.1% of respondents were female. It is interesting to note that majority of participant were male as depicted from Table 2. This shows that there were more male than their female participants in the survey.

Table 3: Correlation between Supplier Integration and Brand Awareness

			Supplier Integration	Brand Awareness
Spearman's rho	Supplier Integration	Correlation Coefficient	1.000	.546**
		Sig. (2-tailed)	.	.000
		N	118	118
	Brand Awareness	Correlation Coefficient	.546**	1.000
		Sig. (2-tailed)	.000	.
		N	118	118

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

Source: SPSS Version 25.0 Output 2024

The result in Table 3 shows a rho coefficient of .546. This indicates that a moderate positive relationship exists between supplier integration and brand awareness. This relationship is significant at $p = 0.000 < 0.01$. Based on this result, the stated null hypothesis is hereby. This implies that supplier integration has significant relationship with brand awareness of downstream oil and gas firms in Nigeria.

Table 4: Correlation between Supplier Integration and Cost Reduction

			Supplier Integration	Cost Reduction
Spearman's rho	Supplier Integration	Correlation Coefficient	1.000	.803**
		Sig. (2-tailed)	.	.000
		N	118	118
	Cost of Reduction	Correlation Coefficient	.803**	1.000
		Sig. (2-tailed)	.000	.
		N	118	118

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

Source: SPSS Version 25.0 Output 2024

The result in Table 4 with rho coefficient of .803 indicates a very strong positive relationship between supplier integration and cost reduction. This relationship is significant at $p=0.000 < 0.01$ significance level. Based on this result, the null hypothesis is hereby rejected. Thus, supplier integration has significant relationship with cost reduction of downstream oil and gas firms in Nigeria.

Table 5: Correlation between Customer Integration and Brand Awareness

			Customer Integration	Brand Awareness
Spearman's rho	Customer Integration	Correlation Coefficient	1.000	.732**
		Sig. (2-tailed)	.	.000
		N	118	118
	Brand Awareness	Correlation Coefficient	.732**	1.000
		Sig. (2-tailed)	.000	.
		N	118	118

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

Source: SPSS Version 25.0 Output 2024

The result in Table 5 with rho value = .732 indicates that a strong positive relationship exists between customer integration and brand awareness. This relationship is significant at $p=0.000 < 0.01$ significance level. Based on this result, the null hypothesis was rejected, meaning that customer integration has significant relationship with brand awareness of downstream oil and gas firms in Nigeria.

Table 6: Correlation between Customer Integration and Cost Reduction

			Customer Integration	Cost of Reduction
Spearman's rho	Customer Integration	Correlation Coefficient	1.000	.894**
		Sig. (2-tailed)	.	.000
		N	118	118
	Cost of Reduction	Correlation Coefficient	.894**	1.000
		Sig. (2-tailed)	.000	.
		N	118	118

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

Source: SPSS Version 25.0 Output 2024

The result in Table 5 with rho value = .894 indicate very strong positive relationship between customer integration and cost reductions. This relationship is significant at $p=0.000 < 0.01$ significance level. Based on this result, the null hypothesis was rejected, implying that customer integration has significant relationship with cost reduction of downstream oil and gas firms in Nigeria.

Discussion of Findings

The study investigated the relationship between integrated supply chain effort (supplier integration and customer integration) and marketing competitiveness (brand awareness and cost reduction). The result of the study revealed that supplier integration has moderate significant relationship with brand awareness. This position is consistent with Molinaro et al. (2022) who reported that supplier integration affect competitiveness of oil and gas exploration and

production companies. Also, supplier integration was found to have a strong relationship with cost reduction. This position is in line with Chibichii et al. (2021) who reported that supplier integration accounts for 34.8% variation in performance in food and beverage manufacturing companies in Kenya.

Also the result revealed that customer integration has significant correlation and with brand awareness. This finding is in line with the report of Aslam et al. (2023) that customer integration has significant positive relationship market orientation. The result further showed that customer integration has very strong relationship with cost reduction. This finding is in line with the report of Hamilton-Ibama et al. (2021) that a significant relationship exists between customer integration and success of multinational firms in Rivers State.

Conclusion and Recommendation

This study investigated the nexus between integrated supply chain efforts and marketing competitiveness of oil and gas firms in Nigeria. Based on the findings, the study concluded that a significant positive relationship exists between integrated supply chain effort and marketing competitiveness of downstream oil and gas firms in Nigeria. The study therefore recommends that management of downstream oil and gas firms should always adopt supplier integration as it was found to be an effective tool to reducing cost.

Theoretical Implication of the study

The findings of this study are consistent with the provisions of resource dependency theory. Resource dependency theory underscore the motivation for collaboration between partners, which facilitates favourable outcomes such as cost reduction, marketing competitiveness etc. (Sherif & Yeoh, 2014). This position is consistent with the result of our analysis which showed that supplier integration allow oil and gas firms to reduce operating costs, create greater value, and react to market changes rapidly if the firm effectively integrate openly with suppliers.

Our findings are also consistent with the argument of resource based theory in showing that supplier integration is key to brand awareness. This position is validated by Ifekanandu et al. (2023) with their report that customer integration is a significant predictor of marketing success of agricultural producers in South-East Nigeria. In the same token, Ojo and Ajayi (2023) reported that supplier integration relates to success of retail partners who serve as their primary distribution channels.

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