



Article

Supply Chain Practices and Operational Efficiency of Quoted Food and Beverages Firms in South-South, Nigeria

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Abstract: This research investigated the correlation between supply chain procedures and operational effectiveness of publicly listed food and beverage companies in South-South Nigeria. This study used a correlational survey research methodology. The study's population included 377 food and beverage companies. The sample size of 191 was determined by the Krejcie and Morgan sampling method. This research used a primary data source. The research employed content and face validity. The instrument's reliability was evaluated using Cronbach's alpha, revealing that all measured items exhibited strong internal consistency. The Spearman rank-order correlation coefficient was used to evaluate the hypotheses, while partial correlation was utilized to assess the moderating variable. The study's research indicated that supply chain practices, via the dimensions of strategic orientation, cooperative integration, and cooperative partnership, are strongly associated with the operational efficiency of listed food and beverage companies in South-South Nigeria. This research indicated that supply chain practices, via its aspects of strategic orientation, cooperative integration, and cooperative partnership, are precursors to the operational efficiency of listed food and beverage enterprises in South-South Nigeria. The study advises that managers of food and beverage companies implement strategic orientation to continuously monitor the evolving business environment and respond promptly to changes. They should also adopt supply chain integration to enhance procedural efficiency and ensure the assessment of capabilities. Furthermore, food and beverage firms should collaborate with suppliers in areas where they lack proficiency to improve operational efficiency.

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1. Introduction

Food is vitally important for human existence world over. Not only for human, has every living thing under the planet earth needed food for their survival and healthiness. Food and beverage remain one of the most important factors that accounts for healthy lifestyle and economic prosperity of a people as it guarantees both physiological and economic soundness in any society or country (Alexander, et al, 2013). This assertion is based on the premise that every human being on the globe is sustained by food. The food and beverage industry comprises enterprises focused on converting raw materials and semi-finished products derived from primary sectors such as agriculture, animal husbandry, forestry, and fishery for human consumption (Cousins & Scoones, 2014). Njoku and Kalu-Alexanda (2015) assert that the creation of food and beverage industries in Nigeria is essential for addressing the increasing demand for food supplements.

Nigeria is among the foremost developing economies in Africa (Lewis 2017). This position is partly due to the contributions of several economic sectors that play a crucial role in meeting consumer wants and yearly enhancing the Nigerian economy (Industrial Development Corporation 2016). The food and beverage business is a significant economic sector in Nigeria, contributing considerable money and offering many job possibilities (Fedderke & Szalontai 2012). Adebajo (2011) asserts that the food and drinks industry generates substantial revenue, reflecting its contribution to the national economy. Cronin (2015) emphasizes that the food and beverage business plays a crucial role in maintaining the level of living in the nation. This underscores the significance of the food and beverage sector to the prosperity of the Nigerian economy.

Just as the human mentality change with time, so does human consumption behaviour change. Dharni and Rodrigue (2015) observe that global food and beverage consumption patterns have significantly transformed in recent years. The prevalent consumption pattern, mostly seen in developing nations, has resulted in a rise in the number of food and beverage establishments in our vicinity (Olufayo, et al, 2017). Today, the presence and operations of food and beverage firms is felt by many people in Nigeria at large and in South-South, Nigeria in particular. For instance, Horsfall and Mac-Kingsley (2018) observe that food and beverage business is flourishing in South-South, Nigeria, especially within the South-south, Nigeria metropolis. Horsfall and Mac-Kingsley's observation can be considered as an undoubted truth given the busy nature of Port Harcourt which results from huge population and amount of business operations within the area.

However, while some quoted food and beverages firms in South-South, Nigeria have been remarked for efficient service delivery, some of the firms have been noted for inefficiency in their delivery process. The reason for which some firms are doing well and some are not is theme of concern that requires urgent answer and this has provoked attention of many studies. Dharni and Rodrigue (2015) explored factors that impact on firm's efficient operation and identified supply chain practices as a pivot function for efficient operation. Gold et al. (2011) identify supply chain management and varied customer tastes as variables influencing the viability of the food and beverage business. Woods (2014) sees heightened rivalry in the food sector as a significant barrier impeding operational efficiency. Greenberg (2013) identifies challenges related to food safety, environmental concerns, societal norms, and organizational supply chain management practices as determinants that might enhance or hinder operational effectiveness and efficiency.

Maruf (2013) asserts that supply chain management practices significantly influence the environmental and operational performance of enterprises. Gupta and Palsule-Desai (2011) observe that the majority of corporate operations, including both manufacturing and service provision, are progressively centered on supply chain management, particularly as organizations acknowledge the significance of supply chain methods in enhancing performance. Supply chain management include the strategic planning and oversight of all operations related to sourcing, procurement, conversion, and logistics management. It prominently encompasses integration, coordination, and cooperation among channel partners, including suppliers, intermediaries, third-party service providers, and consumers (Council of Supply Chain Management Professionals, 2010). Supply chain management fundamentally unifies supply and demand management both internally and externally across many organizations (Tuominen, et al., 2011).

A supply chain is a network connecting several entities engaged both upstream and downstream in the direct or indirect production and distribution of goods or services to end consumers (Chow et al., 2010). Gold, Seuring, and Beske (2011) emphasize that sustainable supply chain management allows firms to adopt essential practices and attain

enhanced performance and resource utilization. Consequently, individual enterprises must reassess their best practices and ascertain how to adopt and execute supply chain management operations to maximize company performance (Koh, et al., 2011). Research on supply chain methods is proliferating constantly due to their importance in corporate operations.

Nonetheless, despite significant expenditures in supply chain management, recent studies indicate that businesses, especially those in the food and beverage sector, are facing challenges in achieving operational efficiency and competitive advantage (Kabossa & Sitalakshmi, 2014). The research by Njoku and Kalu (2015) indicated that, while organizations spend significantly in supply chain management, this investment has not substantially improved their efficiency. This indicates that these firms heavily spend in supply chain operations; yet, their investment does not relate to the expertise in supply chain management practices. Many food and beverage companies lack adequate understanding of supply chain management, resulting in their inability to implement effective supply chain strategies that might enhance operational efficiency. This research aims to enhance current literature by examining the significance of supply chain practices on the operational efficiency of publicly listed food and beverage companies in South-South Nigeria.

Research Hypotheses

The following null hypotheses were formulated and tested in this study

H01: There is no significant relationship between strategic orientation and on-time delivery of quoted food and beverages firms in South-South, Nigeria.

H02: There is no significant relationship between strategic orientation and cost reduction of quoted food and beverages firms in South-South, Nigeria.

H03: There is no significant relationship between strategic orientation and product quality of quoted food and beverages firms in South-South, Nigeria.

Theoretical Framework of the Study

This study was anchored on theory of resource-base and contingency.

Resource-Base Theory

The resource-based theory posits a framework for competitive advantage in strategic marketing and is linked to several researchers from the 1990s. Jay Barney is the most prominent advocate of this thesis, as articulated in his 1991 essay on Firm Resources and Sustained Competitive Advantage. The resource-based theory posits that a firm's internal resources are a primary metric for organizational processes and the attainment of competitive advantage (Lewis & Kipley, 2012). Wang (2014) contends that firms that deliberately consider the resource-based approach attain sustained competitive advantage. This notion posits that an enterprise's unusual, valuable, and inimitable resources and competencies are essential for attracting partners. Consequently, the complementarity of resources and competencies is a critical factor in corporate collaboration (Mezias & Song, 2004). This idea suggests that organizations may achieve superior operational efficiency compared to competitors via effective supply chain management methods. Wang (2014) asserts that resources cultivated inside a firm's internal environment are more significant than the industry structure.

Contingency Theory

The contingency theory posits that circumstances are essential in choosing the optimal response (Donaldson, 2001). Therefore, a singular approach may not be suitable for all circumstances, contrary to the implications of other management theories. Every firm has distinct conditions, necessitating that management customize decision-making to effectively meet contextual challenges. No universal frameworks exist that can be universally applied to all organizations, nor are there guaranteed methodologies that provide outcomes for every entity (Donaldson, 2001). All businesses must strive to adapt

specifically to their situations and establish an appropriate alignment with the evolving conditions.

When applied to the procurement function, these theories highlight that corporate settings are distinctly varied in several aspects. No universal models exist that can guarantee operational success for every business that implements them (Donaldson, 2001). What succeeds in one setting or organization may result in failure when used in another. These are critical factors regarding operational efficiency in supply chain management strategies inside enterprises. Supply chains must adopt, manage, and implement the appropriate strategy to align with the organization's particular circumstances, therefore enhancing operational efficiency and achieving optimum performance.

2. Materials and Methods

Research design pertains to the organization of an inquiry intended to examine variables and their interrelations (Awang, 2010). It functions as a significant reference for the researcher in his endeavor to collect data for his investigation. Slater, Olson, and Sorensen (2012) define a research design as a framework, structure, or strategy for study, aimed at addressing research objectives and managing variations. According to Okwandu (2004), a study design refers to the delineation of techniques and processes for obtaining the necessary information to address issues. This research used a descriptive survey design. This method facilitates the use of questionnaires and interviews as tools for data collection. Trochim (2006) asserts that survey research facilitates data collection via questionnaires and interviews, which aids in assessing an individual's knowledge, preferences, and opinions.

The study population comprises enterprises within the food and beverage industry operating in South-South Nigeria. It is predicted that there are 377 food and beverage enterprises in South-South Nigeria (Small and Medium Enterprises Development Agency of Nigeria, SMEDAN, 2018). The research population consists of Operations Managers, Procurement Managers, Logistics/Distribution Managers, and Marketing Managers from 377 food and beverage companies in South-South, Nigeria. A sample is a limited collection of components or people selected using a specific method from a defined population, while sampling methodology pertains to the statistical and research methods used to determine the sample size (Onyeizugbe, 2013). A sample size of 191 was determined using the Krejcie and Morgan sampling approach from 1970. The research tool used in this study was a questionnaire. It was organized into three distinct portions or divisions outlined below: Section A concentrated on the demographic characteristics of the respondents and their respective companies. Section B focused on the predictor variable (supply chain practices), including its characteristics of strategic orientation, cooperative integration, and cooperative collaboration. Section C is based on the criteria variable of operational efficiency. The metrics of operational efficiency include punctual delivery, cost minimization, and product quality.

Osuala (2005) defines the validity of a research instrument as the framework used to ensure that it accurately measures what it is intended to measure. Thus, it emphasizes the precision with which it catches its intended subject. This research instrument was submitted to the research supervisor and two additional lecturers in the Department of Marketing to validate the appropriateness of the questions for the study variables.

The reliability of an instrument denotes the consistency of a measuring device in yielding same results upon repeated usage throughout time. This research used a test-retest methodology. The questionnaire was sent to a sample of eighteen subjects not present in the initial sample. After a fortnight, the same questionnaire was re-administered to them. Their replies were evaluated and analyzed using the test-retest reliability coefficient derived from the measuring apparatus. The research used the Cronbach Alpha

reliability coefficient using Statistical Package for Social Sciences (SPSS) version 23.0. The result stood at .98 higher than the benchmark.

Reliability Statistics

Cronbach's Alpha	N of Items
.98	6

SPSS Output, 2023.

The data for this research was obtained from primary and secondary sources. The primary data source was acquired via self-administered questionnaires directed at the target respondents who comprise the study's sample components. The secondary data source was obtained from journal articles, newspapers, textbooks, theses, dissertations, corporate fact books, and similar materials pertinent to this research. This research included both descriptive and inferential statistics for data analysis. In this context, univariate descriptive statistics, including percentages and frequency distribution tables, along with bivariate inferential statistics utilizing Pearson's Product Moment Correlation, were employed to assess the relationship between the hypothesized variables, facilitated by the Statistical Package for the Social Sciences (SPSS) version 23.0.

Data Presentation and Analysis

This part presents the data gathered from the questionnaire in tabular form and provides an interpretation. One hundred ninety-one (191) copies of the questionnaire were sent to the respondents (managers) of food and beverage companies in South-South, Nigeria.

Table 4.1: Questionnaire Distribution and Retrieval

Questionnaire Distribution	Questionnaire Retrieval	Useful Questionnaire	Not Useful
191	185	180	5

Source: Field Survey, 2023.

Table 4.1 delineates the sequence of questionnaire distribution to respondents inside food and beverage enterprises in South-South, Nigeria, together with the corresponding collection rate. According to the table, of the 191 questionnaires sent to managers of food and beverage enterprises in South-South, Nigeria, 185 were returned, 180 were deemed helpful, and 5 were not useful.

Bivariate Analysis of the Hypotheses

We conducted a bivariate analysis in this section. The objective of the bivariate analysis is to determine the correlation between operational efficiency metrics (on-time delivery, product quality, and cost reduction) and elements of supply chain practices (strategic orientation, supply chain partnership, and supply chain integration), as well as the moderating variable (corporate image). This study used the Pearson Product Moment Correlation Coefficient (r) to assess the strength of the relationship between the two variables in each hypothesis.

Ho1: There is no significant relationship between strategic orientation and on-time delivery of quoted food and beverages firms in South-South, Nigeria.

Table 2: Correlation analysis between strategic orientation and on-time delivery

			strategic orientation	on-time delivery
Pearson (r)	strategic orientation	Correlation Coefficient	1.000	.738**
		Sig. (2 tailed)	.	.001
		N	79	79
	on-time delivery	Correlation Coefficient	.738**	1.000
		Sig. (2 tailed)	.001	.
		N	79	79

Source: Survey Data, 2023. Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Table 2 presents the results of the correlation study conducted between strategic orientation and the timely delivery of listed food and beverage companies in South-South, Nigeria. The findings demonstrate a substantial positive association between strategic direction and on-time delivery ($r = .738$), with the symbol ** indicating significance at the 0.01 level. Consequently, we reject the null hypothesis (H_0) and adopt the alternative hypothesis, which posits a strong, positive, and substantial association between strategic orientation and the timely delivery of quoted food and beverage enterprises in South-South, Nigeria.

Hypothesis 2

H_0 2: There is no significant relationship between strategic orientation and cost reduction of quoted food and beverages firms in South-South, Nigeria.

Table 3: Correlation analysis between strategic orientation and cost reduction

			strategic orientation	cost reduction
Pearson (r)	strategic orientation	Correlation Coefficient	1.000	.827**
		Sig. (2 tailed)	.	.001
		N	79	79
	cost reduction	Correlation Coefficient	.827**	1.000
		Sig. (2 tailed)	.001	.
		N	79	79

Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: Survey Data, 2023.

Table 3 displays the findings of the correlation analysis between strategic direction and cost reduction among publicly listed food and beverage firms in South-South Nigeria. The results indicate a strong positive correlation between strategic direction and cost reduction in publicly listed food and beverage companies in South-South, Nigeria ($r = .827$), significant at the 0.01 level, as shown by the symbol **. Consequently, the null hypothesis (H_0) is dismissed, and the alternative hypothesis is affirmed. This indicates a strong and significant positive link between strategic direction and cost reduction in food and beverage businesses in South-South Nigeria.

Hypothesis 3

Ho3: There is no significant relationship between strategic orientation and product quality of quoted food and beverages firms in South-South, Nigeria.

Table 4.: Correlation analysis between strategic orientation and product quality

			strategic orientation	product quality
Pearson n (r)	strategic orientation	Correlation	1.000	.861**
		Coefficient	.	.001
		Sig. (2 tailed)	79	79
		N		
	product quality	Correlation	.861**	1.000
		Coefficient	.001	.
		Sig. (2 tailed)	79	79
		N		

Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: Survey Data, 2023.

Table 4. presents the findings of the correlation analysis between strategic orientation and product quality of publicly listed food and beverage firms in South-South Nigeria. The results demonstrate a strong and positive correlation between strategic orientation and product quality in publicly listed food and beverage firms in South-South Nigeria. The correlation coefficient ($r = .861$) is significant at the 0.01 level, indicated by the symbol **. Therefore, we reject the null hypothesis (Ho3) and endorse the alternative hypothesis, which asserts a strong positive and significant correlation between strategic orientation and product quality of publicly listed food and beverage companies in South-South, Nigeria.

3. Results

The following findings were discovered:

- There is a significant relationship between strategic orientation and on-time delivery of quoted food and beverages firms in South-South, Nigeria.
- There is a significant relationship between strategic orientation and cost reduction of quoted food and beverages firms in South-South, Nigeria.
- There is a significant relationship between strategic orientation and product quality of quoted food and beverages firms in South-South, Nigeria.

4. Discussion

The investigation demonstrated a robust, positive, and substantial correlation between strategic direction and operational efficiency of publicly listed food and beverage companies in South-South, Nigeria. This conclusion was derived from the results of the bivariate analysis conducted between the two variables in the first, second, and third hypotheses. The findings demonstrate a substantial positive correlation between strategic orientation and on-time delivery (.738**). The findings demonstrate that strategic orientation is substantially and positively connected with cost reduction (.827**) at the 0.01 significance level, as shown by the symbol . The results demonstrate that strategic orientation has a robust and substantial link with product quality (.861), with the symbol ** indicating significance at the 0.01 level. This conclusion is corroborated by Abiodun and

Kida (2016), who said that strategic orientation embodies “the strategic directions executed by a firm to steer its activities towards sustained superior performance.” The elements of strategic orientation include an organization's foresight in planning for the future and its ability to assess the effectiveness of its plan implementation. Strategic orientation enables an organization to evaluate its plan for future development in relation to the actual implementation of operations. The strategic direction and degree of interfunctional cooperation within a business affect its capacity to capitalize on a new product for successful outcomes (Eitrem & Oberg, 2018). Consequently, even after accounting for the features of innovation, company orientation may have a negligible influence on innovation performance. A company's strategic orientation denotes the strategic orientations adopted by the firm to foster behaviors conducive to sustained excellent performance (Jaakkola, 2012).

5. Conclusion

The study's research indicated a substantial relationship between supply chain practices and the operational efficiency of publicly listed food and beverage enterprises in South-South Nigeria. The analysis indicated that strategic orientation exhibited a positive and significant correlation with on-time delivery, cost reduction, and product quality in food and beverage firms in South-South Nigeria. Additionally, corporate integration demonstrated a positive and significant correlation with on-time delivery, cost reduction, and product quality in the same sector. The cooperative collaboration shown a favorable and substantial correlation with on-time delivery, cost savings, and product quality among listed food and beverage companies in South-South Nigeria. The research indicated that supply chain practices, via the dimensions of strategic orientation, cooperative integration, and cooperative partnership, are precursors to the operational efficiency of publicly listed food and beverage enterprises in South-South Nigeria.

Recommendations

The following recommendations were made based on the findings and conclusion of the study:

- i. Managers of food and beverage firms should adopt supply chain integration in order to boost efficiency of the procedures and ensures monitoring and assessment of capabilities.
- ii. Managers of food and beverage firms should adopt strategic orientation in order to constantly monitor changing business environment and respond quickly to these changes.
- iii. That food and beverage firms should adopt supply chain partnership as it would reduce total cost of acquisition, possession, and disposal of goods and services.

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