

SUPPLIER INTEGRATION AND COMPETITIVE ADVANTAGE OF OIL AND GAS COMPANIES IN SOUTH-SOUTH, NIGERIA

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Abstract

This study investigated the relationship between supplier integration and competitive advantage of the oil and gas firms in South-South Nigeria. The objectives of the study were to ascertain the extent to which operation integration relates with product attribute, consumption experience and customer satisfaction. This study was founded on the positivist philosophy, and it adopted a correlational design to investigate the relationships between the variables. The population of the study comprised fourteen (14) oil and gas firms that were operating within the south-south region of Nigeria. All the 14 firms were studied and questionnaire was administered to managers in all the 14 firms to provide data for the study. These managers were supply chain managers, procurement managers and marketing managers, drawn from the 14 oil and gas firms across the six States in South-South Nigeria. The questionnaire was designed in Likert 5-point scale (Strongly Agree = 5; Agree = 4; Undecided = 3; Disagree = 2; Strongly Disagree = 1). Spearman's Rank Order Correlation was used to test the three null hypotheses stated in the study with a critical value of 0.05. The analysis was done with the aid of the Statistical Package for Social Sciences (SPSS) version 21. Results of the analysis in this study have revealed that operation integration positively and significantly relates with product attributes, consumption experience and customer satisfaction. These findings are consistent with findings of similar studies examined, therefore, this study concluded that operation integration positively and significantly relates with competitive advantage of firms in the oil and gas industry in south-south Nigeria. In view of this, the study recommended that, firms in the oil and gas industry in south-south Nigeria should continue to integrate internal and external supply chain operations in order to improve their business activities and achieve competitive advantage.

Keywords: Supplier Integration, Competitive Advantage, Oil and Gas Companies.

Introduction

In the new global market, supply chain is seen as a crucial factor in developing a powerful and competitive business. Again, supply chain comprises of the various components (the manufacturers, suppliers, transporters, warehouses, and retailers) that are involved in the process of completing a customer request. In this, a supply chain starts and ends with the customer. In the supply chain process, natural resources and/or raw materials are taken and transformed into a finished product that is delivered to the customer. The objective of supply chain integration is to achieve accurate, timely and smooth flow of goods and services, information, money and processes, to impart maximum value to the customer at low cost and minimum time in an efficient manner. (Bowersox *et al.*, 1999). According to Christopher (1994), a supply chain is a network of institutions that have strong bonds from upstream to downstream in all processes and activities in such a cohesive manner that make a value for organization and for end customer. Information integration is strategic component of supply chain integration for smooth operations in every business organization, (Cooper 2009).

Mangan (2008) Supply chain integration is the alignment and interlinking of business processes, collaboration is a relationship between supply chains partners developed over a period of time. Supply chain integration comprises a set of firm's activities tailored to fostering its relationships with suppliers and customers; these are designed to harmonize supply chain activities with suppliers on the upstream side and enhance customer satisfaction on the downstream side through offering superior products (Petrovic-Lazarevic, 2007). The supply chain integration is a building block comprised of bricks of joint collaboration,

high level of coordination, shared vision, shared information and technical infrastructure between manufacturer and distributors.

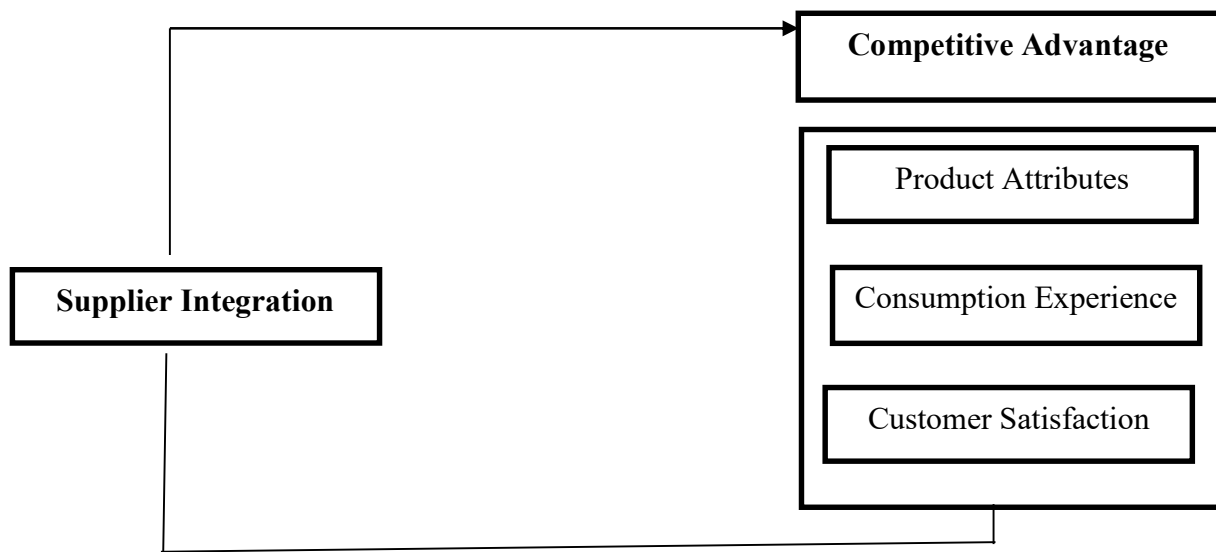


Fig. 1: Conceptual model of the relationship between supplier integration and competitive advantage of oil and gas companies in South South, Nigeria.

Sources: Yu, Y., & Huo, B. (2018) and Saneaum P.Y. (2012).

Research Hypotheses

Three null research hypotheses stated below were tested to achieve the objectives and purpose of this study.

Ho₁: There is no significant relationship between supplier integration and product attributes in the oil and gas industry in south-south, Nigeria

Ho₂: There is no significant relationship between supplier integration and consumption experience in the oil and gas industry in south-south, Nigeria

Ho₃: There is no significant relationship between supplier integration customer satisfaction in the oil and gas industry in south-south, Nigeria

Theoretical Foundation of the Study

Network Perspective Theory

Network perspective theory in the view McNichols and Brennan, (2014) is mostly concerned with the value generation through inter-organizational relations. From this view point, network perspective has similarities with resource-based view. However, while the resource-based view focuses on dyadic relationships, network perspective theory considers multi-party relationships as well (McNichols & Brennan, 2014). As the size, range and diversity of network increases, so does its effectiveness, Kegvan and Bahar (2010). However, as the supply chain networks are expanded to more range or diverse professional and geographic domains, the organizational supply chain are exposed to various forms of risks. The networks perspective has been utilized for both global supply chain studies as well as supply chain in specific industries or countries (Peck, 2013; Zhao, Huo, Flynn, & Yeung, 2013).

Concept of Supplier Integration

Supplier integration is supply chain integration upstream. It involves a relationship between the firm and the upstream suppliers (Vijayasathy, 2010). With supplier integration suppliers provide information and participation in the making decision (Petersen, 2005). Supplier integration refers to acquiring operational,

technical and financial information with the suppliers (Swink *et al.*, 2013). Manufacturers and suppliers may share information including production plans, demand forecasts and levels of inventory (Zhao, *et al.*, 2011). In the oil and gas industry, crude oil is provided to the manufacturers by the suppliers for processing in a refinery, (Pranav *et al.*, 2017). The crude oils are processed to yield a specific output. These outputs are, then, distributed to various retail centers to be sold as gasoline, engine oil, or other products.

However, the concept of supplier integration has to be analyzed more critically, since certain risks like inflexibility and dependency may occur due to the close connection between buyers and suppliers. These negative aspects of integration can cause troubles as soon as exchange-relationship needs to be terminated and a buying company wants to exit or switch to another supplier. Jaspers and Van den Ende (2006) have opined that supplier integration can take place in the four areas of ownership integration, task integration, coordination integration, and knowledge integration. Depending on the intensity of integration in the different areas, diverse configurations concerning the governance structures can be distinguished.

Suppliers can access confidential information of their customers, such as sales reports, to estimate demand and production, trends and customer preferences. This helps develop the ability to prepare the next lots and have them ready at the moment the buyer notifies of the purchase. With this, the supplier company tries to gain time to organize the shipments and to select sources of supply that offer the best quality of products at a lower price and to support the days of transport without being negatively affected. Supplier integration (SI) contributes to firm performance in the form of market share increases, growth in sales and, and improvements in profitability, among others (He *et al.*, 2017).

Supplier integration is a common practice among firms and their suppliers that promote efficient transfer of knowledge and assets needed in generating shared benefits (Denese & Romano 2011. Drodge *et al.*, 2012, Danese 2013, Leushaer *et al.*, 2013). Supplier integration entails closer collaboration and coordination with important suppliers in a bid to attain shared gains such as inventory reduction and reduced supply lead-time (Thun 2010). Supplier integration involves longterm relationship with suppliers; that allows partners develop strategies that boost mutual problem identification and real-time process solutions (Flynn *et al.*, 2010). Novais *et al.* (2019) contend that firms need greater accuracy on real-time information to take advantage of supplier networks and boost their aptitude to enhance customer satisfaction in the current uncertain and complex business setting. Supplier's integration evolves through information sharing and collaborating amongst companies and their suppliers (Ragatz *et al.*, 2002).

Suppliers are either group of individuals or firms control activities, resources or both. Activities occur when supplier combine, develop, exchange, or create resources by using other resources (Pihkala *et al.*, 1999). Essentially, supply chain resources and activities relate to different fields of operation in multiple ways. Thus, bringing the dynamism of the business networks (Pihkala *et al.*, 1999).

Competitive Advantage

A company can outperform rivals only if it can establish a difference that it can preserve (Porter, 1996). The essence of strategy is choosing to perform activities differently than rivals do. Strategic competition can be thought of as the process of perceiving new positions that woo customers from established positions or draw new customers into the market. Strategic positions can be based on customers' needs, customers' accessibility, or the varieties of a company's products or services. A firm's probability of success depends whether its business strengths not only match the key success requirements for operating in the target market, but also exceed those of its competitors (Dash & Das, 2018). In any multi-product manufacturing scenario, profitability on a long-term basis is a function of product mix. Moreover, existing demand and/or capacity do not always coincide with or guarantee maximum profitability.

Jap, (2018) the competitive advantages analyze the economics of company activity, mainly focusing on its ability to generate a much greater return on invested capital and to link the company's strategy with the main financial markets over an extended period of time. The competitive advantage exists when the enterprise owns and develops a combination of specific characteristics that allow it to overtake its

competitors and be more competitive. An effective competitive strategy must be in order to carry out these activities and to ensure that the company has an advantage compared to competitors.

According to Filipova (2016), an expression of an enterprise's competitiveness is its adaptability, expressing the adequacy of its responses to the impact of the environment and complying the amendments to the dynamics of the environment. Competitive advantages are extremely time-consuming features of the entity or factors of the external environment that provide the enterprise with superiority over competitors in the particular market over the period considered. The competitive advantage is the characteristics or properties owned by the product or brand, which give them some superiority over the immediate closest competitors. Kotler (1996) mentions that a competitive advantage is an advantage over competitors, earned on the basis of offering greater value or lower prices or through more benefits justifying higher prices. (Kotler, 1996). In the context of the time perspective, competitive advantages can be considered as real and potential. (Dimitrova, 2014).

Urbancová (2013) explained competitive advantage as the ability of companies to satisfy customer needs more effectively than their competitors by focusing on understanding them and creating innovative value that enhances their needs and expectations more economically. This emphasizes that organization which understands customers, adapts resource to new needs, creates right value by innovation to satisfy them can create competitive advantage, and then benefits from higher prices, customer loyalty and higher capacity utilization in any given competitive market. In specific terms, the two perspectives clearly posit that organizations cannot gain competitive advantage where they fail to effectively manage their operating environment by using market information accurately and creating innovation in the best possible manner (Romero & Martínez-Román, 2012).

Product Attributes: Product attributes are important to consumers. The consumer uses attributes as the basis for evaluating a product since attributes provide benefits the consumer seeks when purchasing a product and comparing between competitive brands. The consumer also evaluates attributes more positively or negatively, which is perceived as being important in the decision-making process. The marketer uses attributes to differentiate his brand from competitive brands and as the basis for the development of new products. Attributes are also used in advertising by either stating that a product has a certain attribute or that its attributes provide certain benefits to the consumer.

Kotler (1991) explains that there are situations where three attributes can be used successfully (referred to as triple benefit positioning). An excellent example is that of Aquafresh toothpaste. Aquafresh focuses on three different attributes: anticavity protection, better breath, and whiter teeth. MacKenzie (2010) explains that consumers are believed to seek information, evaluate products and make purchases in part by their perceptions of the importance of various product attributes. Attributes play a vital role when choosing a decision rule since the outcome of a purchase decision is determined by its attributes. Consumers furthermore evaluate products on attributes that are perceived to be important to them. For example, by using a compensatory decision rule, consumers evaluate brands in terms of relevant attributes, (MacKenzie 2010).

Consumption Experience: The marketplace of today has undergone a significant change, where we have gone from selling and promoting products and services to selling and enticing customers through experiences (Joy and Sherry, 2003). Consumers are spending more time making decisions about what to consume and the number of products to choose from has increased tremendously, making it harder and more time-consuming to decide what products to buy (Ekström, 2010). Despite having such a huge spectrum of choices in regards to products and services, the customers of today have proven to be dissatisfied (Pralahad & Ramaswamy, 2004). Reimann et al. (2010) states that the consumer's basic needs have started to become content, creating a great need to fully understand what it is that affect customers throughout the process of purchase (Ajzen, 2008).

Pine and Gilmore, (1999) consumption experience is a positive feeling of inner pleasure when an individual voluntarily participates and enters the enterprise's activities whole heartedly. It is a kind of beautiful feeling

when a person reaches a certain physical, emotional and mental level. Schmitt (1999), consumption experience is defined as the internal response to certain stimulation, related to the entire human body. Schmitt (1999) also explains that experience is a very complicated thing, always retaining novelty, there are no two same experiences in the world. Another widely accepted view in experience (Csikszentmihalyi, 1993) defines consumption experience as the overall feeling of the individual entering a certain activity completely. When the individual is in the state of experience, they are completely deep in what they are doing.

Customer Satisfaction: The level of a client's happiness with the goods and services they receive from a certain business is referred to as customer satisfaction. Zia (2020) asserts that a variety of variables affect customer satisfaction: (1) Product quality: One of the key factors influencing how satisfied customers are with a company's goods or services is their quality. Customers anticipate that goods and services will fulfill their needs and fulfill their expectations and operate as promised. (2) Service quality: The quality of customer service can also have a significant impact on customer satisfaction. This includes factors such as the responsiveness of customer service representatives, the availability of support resources, and the level of empathy and understanding displayed by customer service staff. (3) Price: The price of products and services is another important driver of customer satisfaction. Customers expect to receive good value for their money, and may be dissatisfied if they feel that the price of products or services is unreasonable. (4) Convenience: The ease and convenience of doing business with an organization can also have a significant impact on customer satisfaction. This includes factors such as the availability of products and services, the ease of ordering and payment, and the speed and reliability of delivery (Zia 2020).

Empirical Review of Operations Integration and Competitive Advantage

Generally, worldwide rivalry and intensifying client expectations have directed businesses to progressively pay more attention to flexibility, dependability, and speed of delivery (Boyer & Lewis, 2002; Zhao *et al.*, 2008). Owing to this, many firms over the years have continuously engaged themselves in business process reengineering from local optimization to vertical integration strategies to improve their competitive advantage (Stonebraker & Liao, 2006). Even though firms are reengineering their processes, the actions of other firms thwart their efforts. Therefore, firms are looking for ways to expand their business capabilities and competencies by affiliating and adjusting decisions in range, processes, and structures with all the actors in their value network, rather than individually (Naslund & Williamson, 2010; Yan *et al.*, 2010).

Sweeney (2011) indicated that as firms seek to position themselves well in the market, customers become wiser and request better quality items or goods, more elevated amounts of management and lower costs. To improve customer satisfaction and consequently maximize shareholder wealth, supply chain management has to be placed in a strategic position and every strategic decision taken should be a collaborative effort of all the concerned actors in the supply chain (Fabbe-Costes & Jahre, 2008; Lambert, 2008). Getting a collaborative effort in the supply chain is by first linking all the internal cross-function within the organizations in the supply chain, then efficiently connecting all the external processes of the customers, suppliers, and all the other supply chain network associates (Hussain & Nassar, 2010).

The quest to seek for a collaborative effort to maximize value for supply chains introduces firms to the concept of Operations Integration. Even though firms pursue operation integration with the hope that they will enhance their competition, there is evidence from literature proving that there is inconsistency of such integration relationship (Flynn *et al.*, 2010; Huo, 2012; Zhao *et al.*, 2013). There is contention on the linkage between SCI and firm advantages with regards to whether it is universal or contingent on various environmental factors or corporate strategies. Certain types of supply chain integration in improving firm performance have been proposed by the universalist viewpoint to be more effective than others (Frohlich & Westbrook, 2001; Flynn *et al.*, 2010; Huo, 2012). Based on the Universalist perspective, Flynn *et al.* (2010) stated that operation integration is significantly linked to competitions on the other hand; the contingent viewpoint proposes that the level of contingent variables determines the effectiveness of the categories of SCI (Wong *et al.*, 2011).

Even though most studies conducted in the area of supply chain integration concluded that it enhances firm competition, to clearly understand the relationship between operation integration and competitive advantage, it is very important to adequately appreciate the appropriate business environmental factors. This is necessary because business environment continues to change; subjecting supply chains to different forms of risks and disruptions (Tang, 2006) and this can affect the performance of Supply Chains and the overall firm competitive advantage. Cost leadership, differentiation, and market focus are strategies recognized by strategic management as scopes of competitive strategies relevant to Supply Chain Integration (Porter, 1990; Miller, 1988). These three generic strategies (cost leadership, differentiation and focus) were identified by Porter (1980) for the implementation of a company, essentially at the level of the business unit, to achieve gains higher than the average competition in business environment.

Methodology

This study was founded on the positivist philosophy which reflects the attempts to apply models and methods derived from the natural sciences to the study of human. The study adopted a correlational design, and the population of the study comprised fourteen (14) oil and gas firms that were operating within the south-south region of Nigeria. The sample size of this study was the same as the population, since the population was not too large. The researcher adopted Cluster Sampling Technique in grouping the 14 oil and gas firm operating within the South-South region of Nigeria. The researcher then administered six (6) copies of questionnaire to supply chain Managers, Procurement Managers and Marketing Managers from each of the 14 oil and gas firms across the six States in South-South, making a total of eighty-four (84) copies of questionnaire that form the total respondents for the study. However, out of the total copies of the questionnaire administered, only sixty (60) copies were returned valid and used for the analysis. The questionnaire was designed in Likert 5-point scale (Strongly Agree = 5; Agree = 4; Undecided = 3; Disagree = 2; Strongly Disagree = 1). Spearman's Rank Order Correlation was used to test the three null hypotheses stated in the study with a critical value of 0.05. The analysis was done with the aid of the Statistical Package for Social Sciences (SPSS) version 21.

Data Analysis

Table 2: Descriptive Statistics of Supplier Integration

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Skewness</i>	<i>Kurtosis</i>
	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>	<i>Statistic</i>
My organization supplier has the ability to develop communication benefits from suppliers' competencies and attain mutual goals?	60	1	5	4.38	1.027	-2.008	.309
My organization is moving to fewer suppliers, and investing in strategically important supply chain relations?	60	1	5	4.45	.852	-1.879	.309
Suppliers can access confidential information of their customers, such as sales reports, to estimate demand and production?	60	3	5	4.55	.622	-1.068	.309
Supplier integration can take place in the areas of ownership integration and coordination integration?	60	1	5	4.42	.926	-2.133	.309
Valid N (listwise)	60						

Source: Survey Data, 2023.

The result in the table 2 above shows that there are 60 copies of questions with a 100% respondent rate in all four (4) items of supplier integration. Supplier integration items were distributed, with skewness scores that range from -2.133 (SE=.309) to -1.068 (SE= .608) to .137 (SE = .608).

It also revealed that the question, “My organization supplier has the ability to develop communication benefits from suppliers” competencies and attain mutual goals” with the mean score of 4.38 and standard deviation of 1.027 followed was the item “My organization is moving to fewer suppliers, and investing in strategically important supply chain relations” with the mean score of 4.45 and standard deviation should be measured in term of product and services offered to the market” with the mean score of 4.55 and standard deviation of .622. Then the item “Suppliers can access confidential information of their customers, such as sales reports, to estimate demand and production” with the mean score of 4.42 and standard deviation of .926. All respondents in the distribution revealed that respondents’ strong agreement with the items relating to supplier integration as presented in the questionnaire.

Table 3: Descriptive Statistics of Product Attributes

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Skewness</i>	<i>Kurtosis</i>		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
The consumer uses attributes as the basis for evaluating a product since attributes provide benefits the consumer seeks?	60	3	5	4.58	.619	-1.217	.309	.463	.608
Attributes are also used in advertising by either stating that a product has a certain attribute or that its attributes provide certain benefits to the consumer?	60	1	5	4.48	.792	-2.169	.309	6.325	.608
Attributes are major stimuli that influence consumer affect, cognition, and behavior?	60	1	5	4.43	.789	-2.021	.309	5.877	.608
Valid N (listwise)	60								

Source: Survey Data (2023).

The result in the table 3 above shows that there are 60 copies of questionnaire with 100% respondents rates in all the three (3) item of product attributes. Product attributes item were distributed with skewness score that range from -2.169(SE=.309) to -1.217(SE=.309) and Kurtosis score that range from 6.325(SE=.608) to 0.463(SE=.608). It also revealed that item “The consumer uses attributes as the basis for evaluating a product since attributes provide benefits the consumer seeks” with the mean score of 4.48 and standard deviation of .792. The next item “Attributes are also used in advertising by either stating that a product has a certain attribute or that its attributes provide certain benefits to the consumer” with the mean score of 4.43 and standard deviation of .789. It is important to note that all the means revealed that respondents have strong agreement as to the question presented in the questionnaire.

Table 4: Descriptive Statistics of Consumption Experience

	<i>N</i>	<i>Mini mum</i>	<i>Maxi mum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Skewness</i>	<i>Kurtosis</i>		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Consumption experience is a positive feeling of inner pleasure?	60	3	5	4.63	.520	-.939	.309	-.318	.608
Consumption experience as the overall feeling of the individual entering a certain activity completely?	59	1	5	4.51	.817	-2.185	.311	5.834	.613
Consumption experience has proved there is much more to know about the customer?	60	1	5	4.22	1.091	-1.422	.309	1.301	.608
Valid N (listwise)	59								

Source: Survey Data (2023).

The result in the table 4 above shows that there are 60 copies of questionnaire with 100% respondents' rates in all the three (3) item of consumption experience. Consumption experience item here distributed with skewness score that range from -2.185(SE=.309) to -.939 (SE=.309) and Kurtosis score that range from 5.834(SE=.608) to -318(SE=.608). This also revealed that item "Consumption experience is a positive feeling of inner pleasure" with the mean score of 4.63 and standard deviation .520. Followed was the item "Consumption experience as the overall feeling of the individual entering a certain activity completely" with the mean score of 4.51 and standard deviation of .817. The item "Consumption experience has proved there is much more to know about the customer" with the mean score of 4.22 and standard deviation of 1.091. All the means revealed that respondents have strong agreement as to the question presented in the questionnaire.

Table 5: Descriptive Statistics of Customer Satisfaction

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Skewness</i>	<i>Kurtosis</i>		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
The level of a client's happiness with the goods and services they receive from a certain business is referred to as customer satisfaction?	60	2	45	5.27	7.539	5.109	.309	25.800	.608
Customers anticipate that goods and services will fulfill their needs and fulfill their expectations and operate as promised?	60	2	5	4.20	.935	-.931	.309	-.110	.608
Customers expect to receive good value for their money?	60	1	5	4.18	1.033	-1.336	.309	1.087	.608
Valid N (listwise)	60								

Source: Survey Data (2023).

The result in the table 5 above shows that there are 60 copies of questionnaire with 100% respondents rates in all the three (3) items of customer satisfaction. customer satisfaction items were distributed, with Skewness score that range from 5.109(SE=.309) to -.931(SE=.309) and kurtosis score that range from 25.800(SE=.608) to -110(SE=.608). This also revealed that item "The level of a client's happiness with the goods and services they receive from a certain business is referred to as customer satisfaction" with the mean score of 5.27 and standard deviation of 7.539. Followed was the item "Customers anticipate that goods and services will fulfill their needs and fulfill their expectations and operate as promised" with the mean score of 4.20 and standard deviation of .935. Then the next item "Customers expect to receive good value for their money" with the mean score of 4.18 and standard deviation of 1.033. All the means revealed that respondents have strong agreement with the question presented in the questionnaire.

Results and Discussion

Hypothesis 1: There is no significant relationship between suppliers integration and product attributes in the oil and gas industry in south-south.

Table 6: Correlation analysis showing relationship between supplier integration and product attributes

	Supplier integration	Product attributes
Spearman's rho	supplier integration	Correlation Coefficient
		Sig. (2-tailed)
		N
	Product attributes	Correlation Coefficient
		Sig. (2-tailed)
		N

**. Correlation is significant at the 0.02 level (2-tailed).

Source: Field Survey Data, 2023, SPSS 21 Output

Decision:

Table 6 above reveals a spearman rank order coefficient of 0.915 for supplier integration on product attributes with probability value of 0.000 (**Sig< 0.05**). This indicates that supplier integration has a strong positive and significant relationship with product attributes of oil and gas industry in south-south. Therefore, we reject the null hypotheses and accept the alternate hypotheses which state that supplier integration has significant relationship with product attributes of oil and gas industry in south-south.

Hypothesis 2: There is no significant relationship between suppliers integration and consumption experience in the oil and gas industry in south-south.

Table 7: Correlation analysis showing relationship between supplier integration and consumption experience

			<i>Supplier integration</i>	<i>Consumption experience</i>
Spearman's rho	supplier integration	Correlation Coefficient	1.000	.810
		Sig. (2-tailed)	.	.000
		N	60	60
	Consumption experience	Correlation Coefficient	.810	1.000
		Sig. (2-tailed)	.000	.
		N	60	60

**. Correlation is significant at the 0.02 level (2-tailed).

Source: Field Survey Data, 2023, SPSS 21 Output

Decision:

Table 7 above reveals a spearman rank order coefficient of .810 for Supplier integration on consumption experience with probability value of 0.000 (**Sig< 0.05**). This indicates that suppliers' integration has a strong positive and significant relationship with consumption experience of oil and gas industry in south-south. Therefore, we reject the null hypotheses and accept the alternate hypotheses which state that Supplier integration has significant relationship with consumption experience of oil and gas industry in south-south.

Hypothesis 3: There is no significant relationship between supplier integration customer satisfaction in the oil and gas industry in south-south.

Table 8: The correlation analysis showing the relationship between supplier integration and customer satisfaction

			Supplier integration	Customer satisfaction
Spearman's rho	Supplier integration	Correlation Coefficient	1.000	.852
		Sig. (2-tailed)	.	.000
		N	60	60
	Customer satisfaction	Correlation Coefficient	.852	1.000
		Sig. (2-tailed)	.000	.
		N	60	60

**. Correlation is significant at the 0.02 level (2-tailed).

Source: Field Survey Data, 2023, SPSS 21 Output

Decision:

Table 8 above reveals a spearman rank order coefficient of 0.852 for supplier integration on customer satisfaction with probability value of 0.000 (**Sig< 0.05**). This result indicates that supplier integration has a very strong positive and significant relationship with customer satisfaction of oil and gas industry in south-south. Therefore, we reject the null hypotheses and accept the alternate hypotheses which state that supplier integration has significant relationship with customer satisfaction of oil and gas industry in south-south.

Discussion of Findings

From results of the correlation analysis, it can be seen that there is a strong positive relationship between supplier integration and product attributes, it was shown that there is a strong and positive relationship between supplier integration and consumption experience; and a positive relationship between supplier integration and customer satisfaction. Therefore, the probability values (0.000) were less than the critical value (0.05), this showed that the presence of significant and positive relationships between the dimension and components of the criterion variable. Based on this, we rejected the null hypotheses that there are no significant relationships between supplier integration and components of competitive advantage in the oil and gas industry in south-south, and accept the alternate hypotheses that there are strong and significant relationships between supplier integration and components of competitive advantage in the oil and gas industry in south-south. Therefore, we accept the alternative hypotheses.

These conclusions are consistent with those of a number of other empirical investigations. The findings support the conclusions Baofeng (2012), who investigated the influence of three distinct types of supply chain integration (SCI) on three distinct aspects of company performance from the point of view of organizational capability, internal integration was found to be superior to external integration, and both internal and external integration improved company performance in direct and indirect ways, respectively. Atnafu and Hussen (2017) conducted research to explore the impact that integrated supply chains have on operational performance. The operational performance of chemical and chemical product manufacturing firms in Ethiopia were shown to benefit significantly from the application of supply chain integration concepts, according to the findings of a study on those firms. Uwamahoro (2018) investigated the effects of supply chain integration on performance, specifically looking at the following: An investigation of Rwanda's manufacturing companies led to the discovery that SCI is connected to both operational and firm performance. This was discovered as a result of the investigation.

In a similar vein, the conclusions of this study are consistent with the findings of Zhu, Krikke, and Caniels (2018), who investigated supply chain integration: The production of value through the management of inter-organizational learning, as well as the revelation that the supplier integration dimension of supply chain integration has a substantial association with organizational learning and overall performance; Amoako-Gyampah, Boakye, Famiyeh, and Adaku (2019) conducted research on the relationship between company performance, supplier integration, and operational capability. An analysis carried out in the context of an emerging economy found evidence of the existence of strong positive correlations between supplier integration and competitive operational capabilities as well as between supplier integration and firm performance; Miklos, Hosam, Janos, Jozsef, and Judit (2019) examined the impact of supply chain integration and internal control on financial performance in the Jordanian banking sector and found that the impact of supply chain internal and external integration and internal control significantly affected financial performance; Ansaha and Akipelu (2021) studied the links that supply chain integration (SCI) has with financial and operational performance by subjecting under-tier competitors to different levels of supply chain integration. Miklos, Hos According to the findings, competitive strategy does play a moderate effect in the association between SCI and operational performance. This was supported by the findings.

Conclusion

Based on its findings and the degree to which it is consistent with other studies, this study comes to the conclusion that supplier integration greatly affects the competitive advantage of companies in the south-south oil and gas sector. Therefore, supplier integration methods assist companies in concentrating on their core competencies to obtain a competitive edge and to fulfill their commitments to service customers better than their rivals in order to meet the goals and objectives set by the firm.

Recommendations

Based on the findings and conclusion of this study and given its consistency with the result of similar studies, the following recommendations are made.

- i. To achieve competitive advantage, managers of oil and gas enterprises should concentrate on supply chain integration.
- ii. Oil and gas company managers need to comprehend the significance of supplier integration in the attainment of customer expectation and satisfaction.

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