

# SUPPLY CHAIN PLANNING AND BUSINESS PERFORMANCE OF NIGERIA OIL AND GAS INDUSTRY

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## **Abstract**

This paper centered on exploring the correlation between supply chain planning and business performance of Nigeria oil and gas industry. The study adopted correlation research design. Structured questionnaire were used to obtain responses from respondents. One hundred copies of questionnaire were administered to registered oil and gas companies in Nigeria and ninety eight copies were successfully completed and retrieved. Pearson's product moment correlation was used to test hypotheses and the demographics of the respondents were analyzed using frequency and simple percentages. The study found that supply chain planning has a significant positive correlation with business performance dimensions such as market share, sales growth and demand forecasting in Nigerian oil and gas industry.

**Keywords:** Supply chain planning, Business performance, Oil and gas industry, Resource base theory, Market share, Demand forecasting and Sales growth

## **1.0 Introduction**

Oil was discovered in large quantity in Oloibiri in Rivers State by shall corporation in 1956 (Amue and Ozuru, 2014). The oil and gas sector is considered to be a key industry of the Nigerian economy. As a major sector of the economy, it forms the bedrock for Nigeria economic development, growth and eradication of poverty. Based on the rapid expansion of the sector, the industry provides ninety-five percent of the Nigerian foreign exchange earnings and sixty five percent of national budget revenues. Recently, Nigeria is known as the number five largest exporter of crude oil to the United States of America (Amue and Ozuru, 2014). The industry is divided into upstream consisting of exploration and production

activities and the downstream consisting of processing, transportation, marketing and distribution of petroleum products. According to Adegoke and Bitrus\_(2006) as cited by Amue and Ozuru (2004), companies all over the world, including Nigeria, are struggling with technique and choice of adequate performance and how to identify the major factors responsible for poor performance in companies that result in incidents such as shrinking market share, slow or no growth in sales, customers dissatisfaction, fall in profitability, redundancy, and declining gross domestic product.

Supply chain planning has grown to be a fundamental supply chain management function that must be effectively managed by professionals in the field in order to create a seamless and fruitful integration of three core flows between the different stages and across the frontiers of business organizations, which include flow of information, products, and funds. Supply chain planning link members of the supply chain together through integration, collaboration and information transmission among partners (Kachru , 2009). Successful supply chain planning should aim at achieving organization's primary goals and objective by integrating internal and external supply chain through effective and efficient control mechanism and monitoring of partners commitment, corporation and trust. This function must be performed alongside other important functions such as supply chain channel design, organizing, directing, coordination and controlling. Supply chain planning covers all the functions concerned with researching the needs of the customer, getting raw materials and converting them into useful products, transporting products to the end users, combining them with services to constitute the value package and exchanging them with customers to complete the exchange process (Ebitu, 2019). This study comprises four distinct parts: the first part reviews important literature and hypotheses. The second part discusses the methodology adopted to test the study hypotheses. The third part discusses the results of the study. The fourth and final part of the study contains the conclusion and recommendations arrived at. This study is anchored on Resource - Based View Theory. Not many scholars have written on supply chain planning especially in the Nigeria oil and gas content. This study therefore, sought to discourse this Lacuna, thereby creating a knowledge gap.

This research aimed at providing answers to the following research questions:

What is the extent of the relationship between supply chain planning and market share?

What is the extent of the influence of supply chain planning on sales growth?

To what extent does supply chain planning influence demand forecasting?

In an attempt to answer the research questions above, three research hypotheses have been developed to guide the literature review. These included the following:

Ho<sub>1</sub>: There is no significant positive relationship between supply chain planning and market share.

Ho<sub>2</sub>: There is no significant positive relationship between supply chain planning and sales growth.

Ho<sub>3</sub>: There is no significant positive relationship between supply chain planning and demand forecasting.

This study centered on determining the correlation between supply chain planning and business performance of oil and gas industry in Nigeria.

## **2. Review of Related Literature**

Based on available literature (Kachru , 2009) supply chain planning entails information gathering from buyers and suppliers in order to assist companies in planning their future activities and to satisfy customers' demand at the least cost. Supply chain planning has both strategic and tactical levels at which focal company plans its market and supply activities based on buyer and supplier information ((Kachru ,2009). Supply chain planning is contingent upon efforts made by top and middle managers of the focal company for the purpose of making sure that information flows through the entirety of the supply chain. According to Yavuz (2011), planning has to accommodate a strategic orientation in the supply chain management so as to enable organizations to enhance their competitive positions. Supply chain planning focuses on enhancing an organization's sales growth, market share, demand forecasting, suction capacity, reduction in excess inventory, reducing mismatches between production and demand (Kalu, 1998). If properly implemented, supply chain planning has the benefit of fostering trust between the focal company, its buyers and suppliers. It helps partners in the supply chain to gain indirect benefits where buyers and suppliers may feel encouraged to interact with each other hereby enhancing benefits, thereby bolstering a web of positive interaction in the chain (Mousa and Seyyed, 2011).

### **2.1 The Concept of Supply Chain Planning**

Supply chain planning is a fundamental component of supply chain management. Scholars have ascertained that supply chain planning involved all activities linking the upstream suppliers to downstream distributors and retailers to fulfill customer demand (Amue and Ozuru, 2014). Supply chain is the process whereby firms work together to actualize a common objective (Mpuon, 2013). This study defines supply chain planning as a philosophical approach used to incorporate a body of tools and techniques to the intellectual process that usually precedes the activity being planned between more than two participants and reconciling resources with objective and opportunities by selecting a given path to the future from possible alternatives. Supply chain planning is an attempt by most companies to forecast the future from available alternatives by removing inefficiencies and inconsistencies, streamlining processes, providing customers with what they want, when they want it, reducing excess inventories, and proactively managing demand (Yavuz, 2011). According to Yavuz (2011), supply chain planners and specialists require innovative critical skills for effective and efficient demand forecasting, enhancing customer service and satisfaction, product availability, increase market share and sale growth. Supply chain planning needs managerial and technical skills in order to effectively manage the interaction and trust between companies, due to the fact that every product that reaches an end user displays the successive efforts of many organizations (Kachru, 2009). Supply chain planning has the purpose of enhancing customer satisfaction and value. It helps supply chain partners to focus on developing innovative solutions aimed at creating quality and unique, individualized sources of customer value (Mousa and Sayyed, 2011). Supply chain planning is also geared towards satisfying the needs of the final or ultimate consumer.

According to Alan et al., (2016), supply chain planning specialists should integrate the internal and external environment within which firms operate. They argued that this includes such elements like technological developments, economic climate, potential regulatory changes and current regulations. The relevant analysis of internal characteristics is to embark on a kind of SWOT analysis (strengths, weaknesses, opportunities and threats). This sort of method

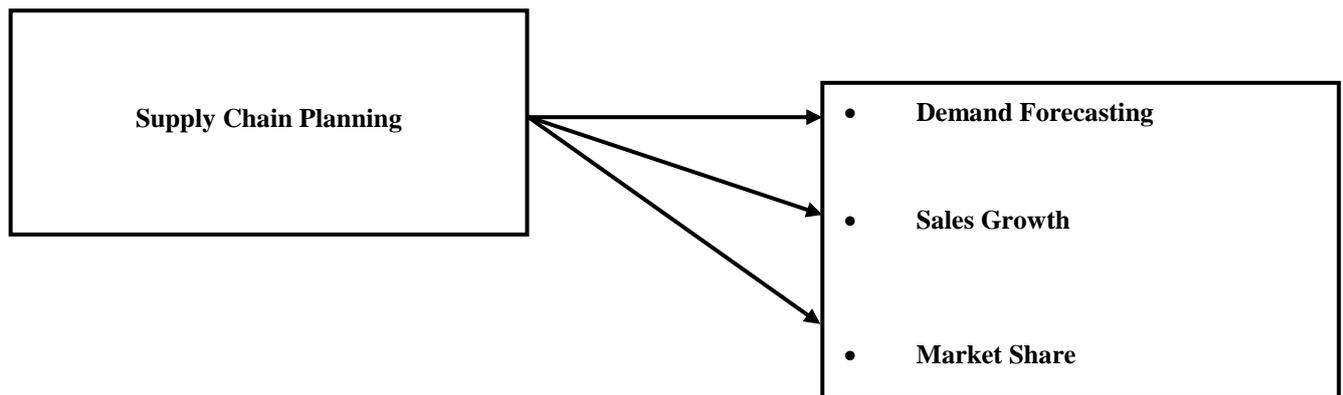
activates the opportunity for a firm to evaluate its position within the marketplace in line with its products, the service it offers to customers, the position of its competitors and the demand for its products. This sort of assessment helps firms to identify major logistics variables as well as their overall corporate strategy. It is a foremost requirement for top-level management to actively get involved in supply chain planning initiatives in order to stimulate the development and execution of supply chain planning strategies, while keeping in touch with top-level management of key independent organizations (Hubbard and Bromiley, 1994). Supply chain planning is necessary in an organization to determine the overall mission of the firm, identify key results areas, develop policies, programmes as well as establishing processes.

According to Taiwo and Olufunk (2007) the objective of supply chain planning is to take decision on what and how much to produce, and deliver, when and where and also how products and information should be transferred through the supply chain. However, the activities of supply chain planning encompasses overall resources planning, such as sales arm operations management, demand and supplier management, performance measurement and management, event management and among other operational activities for capacity and material planning and shop floor scheduling system (Lambert, 2004).

In the view of Kachru (2009), the concepts of efficient consumer response (ECR), quick response (QR), vendor managed inventory (VMI), collaborating planning, replenishment and control (CPFR), and automated replenishment programmes (ARP) are all examples of supply chain concepts moving towards cross-company planning and control. These concepts are based on the exchange of more or less real-time demand information. Information such as point-of-sales (POS) data, stock levels and advanced forecasts and so on is used to estimate demand and the need for replenishment and production in order to prevent stock out situations or excessive stock. However, the key to competitiveness is to continuously get access to an increasing number of real-time transaction data throughout the supply chain. To achieve these, supply chain frequency identification (RFID), sensor technology and standard such as electronic product code global (EPC Global) was introduced (Yavuz, 2011). These technologies allow frequent use than existing technology like barcode. Integrated RFID-tags and sensor technology contains information that can be read simultaneously from distance, which considerably increase the number of points where data can be obtained throughout the supply chain compared with barcode system which to a large degree require manual reading operations of one and one item (Yavuz, 2011). Furthermore, supply chain planning can be viewed as the process that balances customer requirements with supply capabilities. Presently the planning process in most business organizations is highly fragmented; in the sense that the steps in the process take place independently and at different time intervals (Jayant, 2014). According to Jayant (2014), in a typical supply chain planning process, orders are randomly received, the availability of inventory is checked periodically, master planning and material requirements planning are done weekly or every two weeks, production scheduling is done daily or weekly, and raw material purchases are periodically made.

Supply chain planning process follows the following steps: procurement planning, production planning, demand planning and distribution planning. The process starts with demand plan that serves as input for distribution plans; the output of distribution plans serves input to production planning (Lambert, 2004). The output from production planning is used as input for procurement planning. Demand planning acquires information pertaining to market demand and

inventories, and then amalgamates it with supply capabilities and constraints to create a plan for future demand. The goal of the process is to obtain sales opportunities and to reach business targets (Scott and Kesten, 2017). When suitable processes are put in place, management can proactively match supply with demand and execute the plan with minimum disruptions. The process includes forecasting, synchronizing supply with demand, increasing flexibility, and reducing variability ( Lambert, 2004). Supply chain planning will lead to the management process between supply and demand. Compared to supply chain management, the term demand chain management emphasizes consumer pull instead of supplier push. In the view of Lambert (2004) demand chain management is a useful term to emphasize the role of customer demand in managing the supply chain. Experts tend to differentiate between the demand chains, which create demand, and the supply chain that fulfils it. A demand chain is presented as the sequence of activities through which the supplier recognizes consumers' demand (Nwanro, 2013). When the link between the demand chain and supply chain is emphasized, the terms demand — supply chain and demand — supply planning may be used. In the assertion of Nwanro (2013) supply chain planning has the following identified merits: higher services levels, reduction in excess inventory, increased sales, faster order response time, lower product costs of inventories, faster cycle time, reduced capacity requirements, reduced numbers of stocking points, improved forecast accuracy lower system expenses, lower cost of operation and profitability.



**Figure 1:** Operationalization of Supply Chain Planning and Business Performance.

**Source:** Review of Related Literature (2019).

## 2.2 Business Performance

The main aim of engaging in business enterprise is to consistently outperform the competition and deliver sustainable products, give superior values to share holders or returns to the owners while satisfying other stakeholders. However, a medium is used in measuring how well or bad supply chain planning is doing in terms of demand forecasting, sales growth and market share compared to competitors (Nwanro , 2013). The measurement of how successful firms are working to attain these goals and objectives is of utmost concern to researchers and practitioners. It is without question that periodic performance evaluation and measurement facilitates the

running of organizations. It enables organizations to determine achievements and design future strategies to reach a stable long-term growth path and success. Performance measurement also entails the process of developing and converting strategy into well-desired behaviours and results, communicating these expectations, monitoring progress, providing feedback, motivating employees through performance-based rewards and sanctions, understand factors causing improved performance, direct the allocations of resources, provide better value to customers, boost organizational reputation which enhances customers' trust; improves on measures of organizational knowledge created by mutual sharing of information, evaluate the compensation of managers and evaluate the performance of the management of the organization.

### **2.2.1 Sales Growth**

Growth in sales is a useful metric depicted by organizations to measure marketing activities and firms performance. Organizations competitiveness are measured by the ability of the sales team to equip themselves with skills and techniques that enable them to generate revenue and increase sales (Didia and Nwokah, 2015). Sales growth is determined by yearly increase of the past sales records. The necessity for setting sales growth targets is triggered by the understanding that profits are best acquired through provision of competing products that offer customers satisfaction, and supply chain planning has a major role to play in this regard (Solmaz and Mehdi, 2015). Top management and managers are significantly involved in setting reliable goals and objectives that enable a firm sales force to achieve its sales target (Brush et al., 2000). Oil and gas firms adopting the principles of resource - base approach will develop their human and material resources that will give them rapid expansion in sales growth and also maintain a sustainable competitive economy of scale advantage.

### **2.2.2 Market Share**

Market share constitutes the firm totality of its segmented or targeted market that the company intends to serve. According to Didia and Nwokah (2015) opined that market share as a determinant of organizational performance enables firms to achieve effectiveness in customer satisfaction and retention. One of the strategy that can be put in place for enterprise to achieve customer satisfaction and retention is to deploy marketing strategies that aimed at reinforcing customer loyalty by giving potential customers preferential treatment that offer them a sense of belonging. According to Lyndon et al. (2016) market share and growth is a sign of business success, while a shrinking market share is symptomatic of unfortunate situation occurring from ineffective decisions taken by the firm. The authors maintain that market share is a basic requirement for obtaining return on investment; hence market share growth will culminate in growth in a company's profitability. The resource-based view approach uphold the conception that oil and gas firms can gain sustainable competitive advantage in market share if only they can create superior values that are heterogeneous and imperfectly mobile.

### **2.2.3 Demand Forecasting**

Company's plans operate in an environment of uncertainty that requires managers to think ahead and look to the future in order to refute certain problems that could stop the company from achieving organizational objectives (Etuk, 2008). Forecasting demand gives management the

opportunity to coordinate and unify plans in order to completely eliminate or minimize conditions of uncertainty. Demand forecasting is an attempt to foretell or estimate future of a firm product by determining the immediate circumstances and anticipate that such events will repeat in the future. In the supply chain, there is both time dimensions and space in planning demand. The supply chain manager must take into consideration when demand volume will actually take place. The demand nature greatly differs depending on the firm operations and the activity for which the forecast is required. According to Kachru (2009) scholars agree that we have two types of demand, demand generated from a lot of customers that they end up buying only a small percentage of it and the demand that comes into play when such demand is derived from a production schedule. Forecasting is therefore expectation of future occurrence. Demand forecasting is the process of estimating the sales of a product during a specified future (Ewah, 2007). According to Kalu (1998) the estimated demand could be for the total industry or market and the benefits of adopting a holistic approach to forecasting are enormous. To achieve this important objective, a plan must be put in place (Alan et al., 2006). This plan involves identification and usage of appropriate factors and methods of forecasting (Scott and Kesten, 2017). Based on the study's theoretical underpins firms in the oil and gas industry with exceptional technical know-how can accurately forecast customers and organizations demand through planning and control mechanisms.

### **2.3 Theoretical Review**

According to Mentzer (2008) cited by Defee et al (2010), effective research is based on proven theory. In order to advance a discipline beyond the pre-paradigmatic stage and to be considered a mature discipline, it must grow and build theory (Kuhn, (1962) cited by Defee et al., (2010)). Theory is required for further scientific understanding by developing a systematized frame work which can explain and predict phenomena (Hunt (1991) cited by Defee et al., (2010)).

The theoretical basis of supply chain management and logistics management is primarily based on contract theory (WikiPedia, 2019). The goal of the theory is to promote performance optimization by establishing arrangement or aligning different partner's objectives which are known as planning mechanisms that monitor knowledge of materials flows and financial assets along the supply chain (Wikipedia, 2019). The supply chain includes institutions involved in the transferring of goods, information and raw materials between organizations and end users (Hanfield and Nichols (2002) as cited by Arni et al., (2007). Although the idea of supply chain management existed for nearly twenty five years, the field still lacks a theoretical socio-economic basis that can be used to describe the perception of a specific organizational inter-dependency of interest (Arni et al, 2007).

Recently, scholars have made valuable contribution to improve our understanding of the concept of inter-organization management of different product flows or knowledge. Example of such scholars are Ballou et al. (2000), Heikkila (2002), Monczka and Morgan (1997), (Strivastwva et al. (1979), Frazier, 1999) and New and Westbrook (2004) cited by Arni et al, (2007). Most of their comments centered on description and principles from a practical point of view offering concrete advice on how to enhance the efficiency of an organization and enforce postponement through configuration of the supply chain (Arni et al., 2007).

According to Arni et al. (2007) the vast majority of the authors who have significantly advanced supply chain management configuration in which planning, coordination, organizing and analyzing are sub-functions include Mentzer et al. (2001), Cooper et al. (1997), Cigolini et al. (2004), Laimber et al. (2005) and Croxton et al. (2001). Current supply chain management structures provide strategies for developing and managing complex relationships between different stages of a chain but do not discuss the technical, legal, socio economic theoretical reasoning behind them. Example of such studies include Min and Mentzer (2004), Chen and Puulraj (2004 a,b) cited by Arni et al. (2007).

Some of the theories behind supply chain management and logistics analysis including key functional areas like supply chain planning, supply chain coordination, control, supply chain leadership include: 1. Resource-Based view theory, 2. Resource-dependence theory, 3. Rational Exchange theory, 4. Agency theory, 5. Network theory, and 6. Transaction cost economic theory to mention but a few. The anchored theory for this study is the Resource-Based view theory which will be discussed in details.

### **2.3.1 Resource-Based View Theory**

The resource-based view is an interdisciplinary approach which makes a significant shift in thinking (Fahy and Smithee (1999) cited by Wikipedia (2019)). The theory is interdisciplinary in that it has been built within the disciplines of economics, ethics, law, marketing strategy, supply chain management and general business (Hunt (2013) cited by Wikipedia (2019)). Scholars assert that resource-based view theory represent a new paradigm, although it has origins in Recardian and Penrosian economic theories that firms can gain sustainable exceptional returns if they have superior resources and are shielded by some of the isolating mechanism that prevent them from spreading across the industry (Barney, 1991). According to Lewis (2012) as cited by Wikipedia (2019) while its exact impact is debated, two strategic scholars hold Edith Penrose's 1959 book "The Theory of the Company's Growth" to state several principles which would later influence the company's modern resource-based theory.

The resource-based view principles described the strategic resources that an organization can exploit to achieve sustainable competitive advantage (Barney, 1991). Although the literature includes several different ideas about the definition of the resource advantage view point, the common theme is the financial legal, human, operational, intellectual and rational use of the resources of an organization (Barney, 1991). These resources are heterogeneous and imperfectly mobile, and the key management tasks are the awareness and arrangement of resources for sustainable competitive advancement (Kenton, 2019).

A key insight from the resource-based point of view is that not all resources are equally important and do not present the potential for sustainable competitive advantage (Ovidijus, 2013). The longevity of any competitive advantage depends on how far resources can be imitated or substituted. Scholars pointed out that in practice, it can be very difficult to understand the casual relationship between the sources of profit and effective strategies. Hence, it requires a great deal of managerial effort to develop, cultivate and retain key resources, invest in organizational learning to build on resources and skills, create specific

core competencies to allow them to outperform competitors by doing things differently (Barney 2001).

The theory of resource-based view argued that sustainable competitive advantage stems from drivers of superior skills and resources (Barney, 2001). The theory focuses emphasis on internal organizational resources as a way of planning process and achieving competitive advantage (Prahalad and Hamel (N.D) cited by Wikipedia (2019)). The principles of resource-based view further acknowledge that the dominant paradigm in the strategic planning school is a prescriptive approach that focuses management attention on external concern, notable structure of the industry (Barney, 1991). During the 1980s the so-called positioning school dominated the discipline. The theory will help firms in the Nigerian Oil and gas Industry to develop and manage their tangible and intangible resources and capabilities.

Firm's tangible resources to be developed and managed are as follows:

Physical assets, such as financial resources and human resources, including real estate, raw materials, machinery, plant, cash, inventory, trademarks, brands and patents (Andriessen (2004) cited by Wikipedia (2019)). Valuable intangible resources that will help to position the Nigerian oil and gas industry are Knowledge or know-how, relationship with customers, organizations reputation, accumulated experience, relationship with supplies and stakeholders, and culture (Lev (2001) cited by Wikipedia).

The resource-based view theory will give opportunity to supply chain managers, logistics managers, marketing managers, procurement managers and other functional managers in the Nigerian oil and gas industry to employ heterogeneous resources different from other industries skills, capabilities, structure and firms design strategies that enhance competitive advantage in the market thereby helping companies in the chain in forecasting customers demand accurately, achieving sales growth and gaining market share. Firms in the oil and gas industry will maintain competitive advantage by implementing a value creating strategy not simultaneously implemented by any current or potential competitors (Barney, 2001).

#### **2.4 Empirical Review of Literature**

In the study by Ely and Beheregaray (2014) it was revealed that supply chain planning had a positive relationship with business performance. The result precisely suggests that the focal company can improve trust among its buyers and supplier through the collection and utilization of buyer and supplier information for the development of a supply chain plan. On the basis of these findings, they argued that companies in the supply chain developed supply chain partnerships seeking a more integrated supply chain based on organizational trust and planning. The companies aimed at establishing formal processes such as supply chain planning, demand forecasting, method of acquiring market share and sales growth improvement which is based on objective measures. They opined that the buyer is able to cope with the supply chain according to more precise information based on trust and the perception of people that are involved in relationship, values, beliefs, legal and competitive constrains that really drive the perception of such people. According to Ely and Beheregaray (2014) it would be difficult for companies operating on a global scale to afford such perceptions to influence performance of suppliers and may also need objective indicators to drive their business. The

findings made by the study also suggested that operational performance can be improved when a buyer integrates formal processes such as planning with trust-based relationship in its supply chain.

The study by Taiwo and Olufunke (2007) reached the conclusion that there is a correlation between supply chain planning and business performance, including organizations survival, based on their respondents' responses. The study also revealed that supply chain planning provides a mechanism for coordinating operations in the desired direction in the long run and it is often used as a way of ushering in a period of change, assessment and self-identified organizations objectives and goals. The study of (Jayan, 2014) findings shows that sales and marketing implementation capabilities were identified as influential to business performance; investment in personnel skills development enables firms to better understand product and customers. Also, it helps sales persons to transcend the learning stage to the experience stage at a faster timeframe.

The study by Solmaz and Mehdi (2015) revealed that sales growth potential has a positive and significant impact on the quality of corporate financial reporting. The study by Lyndon et al. (2016) was conducted on market share and profitability relationship. The findings from the study support both theoretical and empirical evidence of prior studies that returns generated from deposit bank customers (market share) have a positive impact on the profitability of banks in Nigeria. The findings also revealed that market share, sales growth, demand forecasting have significant positive relationships with supply chain planning and profitability. The study by Didia and Nwokah (2015) that was on supply chain integration and business performance revealed that supply chain integration correlated with the dimensions of business performance such as sales growth, market share and demand forecasting in Nigerian telecommunications industry.

### **3. Methodology**

The aim of this study was to determine the correlation between supply chain planning and business performance of Nigeria oil and gas industry. Primary data were obtained with the aid of a questionnaire. The study adopted non-experimental research, specifically correctional research design as a useful mean of measuring and assessing the relationship between the variables with little or no effort to control variables that are extraneous in nature. The study population comprised ten (10) registered oil and gas companies in Nigeria, including: Exxon Mobil, Chevron, Statoil, Shell, Nigerian Agip Oil Company Limited, Total, Hardy Oil and Gas Plc, Nexen Inc and Addax Petroleum. The reason for choosing these companies is that they are well spread in upstream and downstream supply chain activities. One hundred copies of questionnaire were distributed to ten oil companies supply chain managers, marketing managers, procurement managers, distribution managers and sales officers, 98 copies were duly completed and retrieved. The study used two methods of data analysis, including descriptive and referential statistics. Pearson's product moment correction in the Statistical Package for the Social Sciences (SPSS 20) was adopted to determine the relationship between the study variables. The reliability status of the research questionnaire was confirmed through the Cronbach alpha reliability method. 30 copies of the instruments were administered to 30 respondents who did not take part in the actual study but were included in the study population. The data obtained were analyzed using Cronbach Alpha Statistical Tool. Results yielded reliability coefficients of

0.878 which implies that the instrument is reliable. Result of the reliability is presented in Table .1.

**Table 1: Cronbach Alpha Reliability for the instrument**

Cronbach's Alpha	Cronbach's Alpha Based on N of Items	Standardized Items
.880	.878	33

**4. Data Presentation, Analysis and Findings**

This section represents the result of data analysis using frequency, percentage and Pearson Product Moment Correlation (PPMC). The demographics of the respondents were analyzed using frequency and simple percentages while hypotheses were tested using Pearson Product Moment Correlation. Out of the 100 copies of the questionnaire administered, 98 copies representing 98% of the administered questionnaire were retrieved and found useable while 2% of the questionnaire was not retrieved. Hence, the result of data analysis was based on the 98 respondents.

**4.1 Presentation of Data**

Data on the research variables supply chain planning, market share, sales growth, and demand forecasting as obtained from the questionnaire are presented as followed.

**4.2 Demographic Variables of the Respondents**

**Table 2: Distribution of the Respondents by Gender**

Sex	No. of Respondnets	Percentage (%)
Male	58	59
Female	40	41
Total	98	100

**Source:** Field Survey (2020)

From the above Table 2, 59% of the respondents were male while 41% were female. Result in Table 2 reveals that more than half of the respondents were male (59%).

**Table 3: Distribution of the Respondents by Age**

Age (years)	No. of Respondnets	Percentage (%)
11-20 years	8	8
21-30 years	35	36
31-40 years	40	41
41 and above years	15	15
Total	98	100.0

**Source:** Field Survey (2020)

Result presented in Table 3 reveals that 8 respondents representing 8% were between ages 11-20 years, 35 respondents representing 36% were between age group 21-30 years while 40 respondents (41%) and 15 respondents representing 15% were of 51 and above years respectively. The result indicates that the majority of the respondents were between 31-40 years (41%).

**Table 4: Distribution of the Respondents by Educational Qualification**

Educational qualification	No. of Respondents	Percentage (%)
SSCE/OND	25	26
HND/B.Sc	58	59
MBA/M.Sc	15	15
Total	98	100.0

**Source:** Field Survey (2020)

Result in Table 4 reveals that 26% of the respondents were SSCE/OND holders, 59% were HND/B.Sc holders while 15% of the respondents were MBA/M.Sc holders. The result shows that the majority of the respondents were HND/B.Sc holders (59%).

### 4.3: Test of Hypotheses

#### Hypothesis One

$H_{01}$ : There is no significant positive relationship between supply chain planning and market share.

**Table 5: Pearson Product Moment Correlation Showing Relationship between Supply Chain Planning and Market Share**

			Supply chain planning	Market share
Supply chain planning	Pearson Correlation		1	.136*
	Sig. (2-tailed)			.013
	N		98	98
Market Share	Pearson Correlation		.136*	1
	Sig. (2-tailed)		.013	
	N		98	98

*\* Correlation is significant at the 0.05 level (2-tailed). Source: Researcher's Computation Using SPSS version 20.0*

Result in Table 5 shows correlation coefficient of 0.136 and P-value of 0.013 (P-value = 0.013). The correlation coefficient of 0.136 implies that there is a positive relationship between supply chain planning and market share. The result yielded P-value of 0.013 which is less than 0.05 indicates that there is a significant relationship between supply chain planning and market share. The null hypothesis is rejected. Hence, there is a significant positive relationship between supply chain planning and market share.

**Hypothesis Two**

Ho<sub>2</sub>: There is no significant positive relationship between supply chain planning and sales growth.

**Table 6: Pearson Product Moment Correlation Showing Relationship between Supply Chain Planning and Sales Growth**

		Supply chain planning	chain	Sales growth
Supply planning	Pearson Correlation	1		.245**
	Sig. (2-tailed)			.000
	N	98		98
Sales growth	Pearson Correlation	.245**		1
	Sig. (2-tailed)	.000		
	N	98		98

**\*\* Correlation is significant at the 0.01 level (2-tailed). Source: Researcher’s Computation Using SPSS version 20.0**

Result displayed in Table 6 reveals correlation coefficient of 0.245 and a P-value of 0.000 (P-value = 0.000). The correlation coefficient of 0.245 means that that there is a positive relationship between supply chain planning and sales growth. The result also show probability value of 0.000 which is less than 0.05(P<0.05) meaning that there is a significant positive relationship between supply chain planning and sales growth. The null hypothesis is therefore rejected. Hence, there is a significant positive relationship between supply chain planning and sales growth.

**Hypothesis Three**

Ho<sub>3</sub>: There is no significant positive relationship between supply chain planning and demand forecasting.

**Table 7: Pearson Product Moment Correlation showing relationship between supply chain planning and demand forecasting**

		Supply chain planning	Demand forecasting
Supply chain planning	Pearson Correlation	1	.449**
	Sig. (2-tailed)		.000
	N	98	98
Demand forecasting	Pearson Correlation	.449**	1
	Sig. (2-tailed)	.000	
	N	98	98

**\*\* Correlation is significant at the 0.01 level (2-tailed). Source: Researcher’s Computation Using SPSS version 20.0**

Result in Table 7 shows correlation coefficient of 0.449 and a P-value of 0.000 (P-value = 0.000). The correlation coefficient of 0.449 implies that there is a positive relationship between supply chain planning and demand forecasting. The result also shows probability value of 0.000 which is less than 0.05 ( $P < 0.05$ ) meaning that there is a significant positive relationship between supply chain planning and demand forecasting. The null hypothesis is therefore rejected. Hence, there is a significant positive relationship between supply chain planning and demand forecasting.

#### **4.4 Discussion of Findings**

The test of hypothesis one ( $H_{01}$ ) shows that supply chain planning has a positive significant relationship with market share as shown by the correlation coefficient (0.136 and the p-value of 0.013) in tables 5. This implies that increase in supply chain planning activities would bring about increase in market share

These assertions are supported by the study of (Lyndon et al., 2016) which sees market share as a determinant of return on investment and therefore an increase in market share will lead to an increase in profitability.

The result of hypothesis two ( $H_{02}$ ) in table 6 shows that there is a positive significant relationship between supply chain planning and sales growth as shown by the correlation coefficient of (0.245 and p-value of 0.000). The outcome of the results is supported by the study of (Solmaz and Mehdi, 2015) that planning systems generally begin with sales targets. The competitiveness of business organization is evaluated by the rate of sales growth.

The result of the test of hypothesis three ( $H_{03}$ ) in tables 7 shows that there is a positive significant relationship between supply chain planning and demand forecasting as shown by the correlation coefficient of (0.449 and p-value of 0.000) which is less than 0.005 ( $p < 0.05$ ).

The outcome of the result is that increase in supply chain planning will lead to a corresponding increase in demand forecasting. These propositions are supported by the study of (Scott and Kesten, 2017) efficiency is at the heart of every supply chain, and demand forecasting increases efficiency. These findings are in line with our adopted theories.

#### **5. Conclusion**

On the basis of the study findings, it is concluded that supply chain planning has a positive significant relationship with business performance. Supply chain planning will bring about efficiency in the use of organizational resources and improvement in marketing performance.

#### **Recommendations**

Taking the findings of the study into consideration, the following recommendations were made:

- a. Managers should take into consideration appraisals of company's strengths and weaknesses.
- b. The development of master plan is needful in order to achieve organizational goals and objectives. The plan should involve integration of the various departmental plans into unified system. The plan should be able to address the issue of channel conflict and channel cooperation.

## **6. Implications for Practice and Theory**

- a. Findings from this study will help practicing supply chain managers, logistics manager and purchasing/procurement managers to manage their internal and external supply chain, inbound and outbound logistics.
- b. The study will help practicing managers to manage conflicting objectives among supply chain participants.
- c. The findings from this study will help potential managers to manage the ‘Forester Effect’ now known as “the Bullwhip Effect” caused by distortion of information among supply chain members leading to demand uncertainty.
- d. The findings will enable supply chain managers, logistics managers and purchasing managers to accurately forecast demand, thereby increasing sales volume, sales growth and increase in organizational profit margin.
- e. For theory building, the study has added to scholar’s literature on supply chain planning, supply chain management and logistics management by providing a modified or expanded conceptual model based on the study’s anchored theory (Resource - Based View Theory).

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