

SUPPLY CHAIN MANAGEMENT AND PERFORMANCE OF NIGERIA BREWERIES, AND 7UP COMPANY, 9TH MILE CORNER, ENUGU STATE.

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Abstract: *The study evaluated the effect of supply chain management on performance of Nigeria breweries and 7up Company. The specific objectives are to: examine the effect of logistics outsourcing on cost reduction and evaluate the effect of inventory management on improving efficiency of Nigeria breweries and 7up Company in Enugu state. Descriptive survey design approach was adopted. A total population of 1346 selected staff of the study firms. Sample size of two hundred and ninety-five (295) using Freund and William's statistic formula at 5 percent margin of error. Two hundred and fifty-three (253) staff returned the questionnaire. Data was presented and analyzed by mean score and standard deviation using Sprint Likert Scale. The hypotheses were analyzed using Z – test statistic tool. The study revealed that Logistics outsourcing had significant positive effect on cost reduction, $Z = 5.658 < 9.368$, $p < .05$ and Inventory management skills had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies in Enugu State, $Z = 7.340 < 9.855$, $p < .05$. The study concluded that Logistics outsourcing and Inventory management had significant positive effect on cost reduction and improving efficiency of Nigeria breweries and 7UP companies in Enugu State. The study recommended among others that management should have effective planning that include participative decision making to enhance logistic outsourcing efficient and effectiveness in the organizations.*

Keywords: *Supply chain, management, performance, logistics and outsourcing*

Introduction

1.1 Background of the study

In the early part of the 20th century, the focus was on quality whilst the production method was craft production. In the 1930s and 1940s, cost was the overriding factor; mass production was the dominant production paradigm. In the 1980s, quality combined with low cost was the critical factor; lean production emphasizing supplier partnerships was the dominant production paradigm. The fundamental change between mass production and lean production is the increase in flexibility in workers and machines. In the 1990s and beyond, the critical factor was flexibility and the dominant

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production paradigm was Supply Chain Management (SCM), (Zacharia, 2001a). These show that practical field of Supply Chain Management is constantly changing, as the competitiveness of global companies increasingly depend on their capability to produce and deliver customized products and services fast and efficient all over the world. At the same time, an increasing percentage of value creation takes place outside boundaries of individual firm (Bruce *et al.*, 2004; Halldorsson *et al.*, 2007; Kotzabet *al.*, 2011). Supply chain production systems have a significant role to play in many companies because selection of appropriate production system can directly affect strategic capability of firms (Zacharia, 2001).

SCM is a management of networks of interconnected organizations involved in the provision of products and services to end customers (Harland, 1996 cited in Abubakar, 2014). SCM is a method of managing relationships, information and materials flow across company border to deliver enhanced customer service and economic value through synchronized management of the movement of physical goods and associated information from sourcing to consumption (La Londe, 1997 cited in Abubakar, 2014).

Performances of organizations have been attributed to their ability to deliberate on the customer requirement effectively and efficiently. It has also been argued that growth of the firm is a context in a particular framework of the matter being investigated. Historically Financial components have been used as yard stick to gauge institutional performances. This may include return on assets, liquidity ratios, gearing ratios, revenue growth and earnings per share (Ndung'u, 2016). Performance can be measured from financial and non-financial aspects. Standard for such measurement are different for organizations that are dependent on objective and goal, which they want to achieve. This is the traditional approach, which emphasizes on organizational effectiveness by using qualitative or intangible success factors for measuring it; for instance, a company's image, culture, technological competence learning, employee morale and so on (Langat & Auka, 2015). An efficient supply chain can help improve the speed and accuracy of product delivery, reduce lead times, and improve customer satisfaction. By monitoring performance, bottlenecks can be identified and inefficiencies in the supply chain and take steps to improve processes and eliminate waste. Based on this, the study aimed to evaluate the effective supply chain management on performance of Nigeria breweries and 7up companies.

1.2 Statement of the problem

Supply chain management (SCM), allows organizations to deliver more quickly, ensure products are available, reduce quality issues, and navigate returns with ease, ultimately improving value, both within the organization and for the customers. The primary objective of SCM is to create a competitive advantage for the organisation by delivering value to customers. At the same time, it is also about maximising efficiency and minimising costs.

However, the challenges of poor logistics outsourcing, poor inventory management, Reduction in standardization in the supplier selection process, lack of collaboration between buyers and suppliers, and the increase in labor costs are placing the industry's productivity levels under increasing pressure. The consequences of the above might be to high costs, lack of improving efficiency, and also potential damage to their brand name and reputation, as well as loss of procurement contracts and possible legal trouble arising due to failure to comply with supply chain legislation. Organizations must not only re-establish their operations to produce goods and services of increased quality that will greatly differentiate them from competitors and make them respond to the changing market dynamics through the efficient and effective management of the supply chain because the number of competitors is growing and expanding both locally and globally. Based on this, the need to study effect of supply chain management on performance of Nigeria Breweries and 7up companies.

1.3 Objectives of the study

The main objective of the study is to evaluate the effective of supply chain management on performance of Nigeria Breweries and 7up Company. The specific objectives are to:

- i. Examine the effect of logistics outsourcing on cost reduction of Nigeria Breweries and 7up Company in Enugu State.
- ii. Evaluate the effect of inventory management on improving efficiency of Nigeria Breweries and 7up Company in Enugu State.

1.4 Research Questions

The following research questions guided the study

- i. What is the effect of logistics outsourcing on cost reduction of Nigeria Breweries and 7up Company in Enugu State?
- ii. What is effect of inventory management on improving efficiency of Nigeria Breweries and 7up Company in Enugu State?

1.5 Statement of hypotheses

The following statement of hypotheses guided the study

- i. Logistics outsourcing has effect on cost reduction of Nigeria Breweries and 7UP Company in Enugu State.
- ii. Inventory management has effect on improving efficiency of Nigeria Breweries and 7UP Company in Enugu State.

2.1 Conceptual Review

2.1.1 Supply

Supply is a fundamental economic concept that describes the total amount of a specific good or service that is available to consumers. Supply can relate to the amount available at a specific price or the amount available across a range of prices if displayed on a graph. This relates closely to the demand for a good or service at a specific price; all else being equal, the supply provided by producers will rise if

the price rises because all firms look to maximize profits. One of the most important factors that affect supply is the good's price. Generally, if a good's price increases, so will the supply. There is often an inverse relationship between the price consumers are willing to pay and the price manufacturers or retailers are wanting to charge, (Kenton, 2023). Supply in economics is defined as the total amount of a given product or service a supplier offers to consumers at a given period and a given price level. It is usually determined by market movement. For instance, a higher demand may push a supplier to increase supply. Talking about supply in economics requires you to have an understanding of the concept of demand as well. Demand represents the desire or willingness of consumers to buy a certain product or service, (Nathan, 2023).

2.1.2 Chain

A chain is a type of business with multiple retail locations that one company owns and operates. Each location bears the same name and sells the same types of goods as the parent company, which gains the profits from each and takes responsibility for any financial losses. Chains can come in various sizes, and to qualify as a chain, there must be at least two locations. Smaller chains are usually in a few cities, whereas larger ones typically serve whole regions, the entire nation or multiple countries. There are various types of chain stores, such as supermarkets and superstores. Supermarket chains often serve regions but also have divisions under different names throughout the country. Superstores sell a large variety of goods, including clothes, food, pharmaceuticals and electronics, (Indeed, 2023). A chain refers to a series of retail outlets in different geographical areas owned by a single company, offering the same products and services. A chain store is one such retail outlet. It aims to dominate the relevant industry, and thus, they are spread across the country or the world.

Chain stores can range from supermarkets to restaurants to multiple stores. Chain stores are a group of similarly branded retail stores owned and operated under a single central management. It represents a network of branches located and operated in different parts of the country. In addition, the markets with which they compete are primarily local markets, (Koronapos, 2024).

2.1.3 Management

Management is a process of planning, decision making, organizing, leading, motivation and controlling the human resources, financial, physical, and information resources of an organization to reach its goals efficiently and effectively (Dill, 2021). Management (or managing) is the administration of organizations, whether they are a business, a non-profit organization, or a government body. It is the art and science of managing resources of the business. Management includes the activities of setting the strategy of an organization and coordinating the efforts of its employees (or of volunteers) to accomplish its objectives through the application of available resources, such as financial, natural, technological, and human resources (Dubrin, 2009). "Run the business" and "Change the business" are two concepts that are used in management to differentiate between the continued delivery of goods or services and adapting of goods or services to meet the changing needs of customers - see trend.

2.1.4 Supply chain management

Supply chain management is the process of overseeing the transformation of raw materials into a final product. A supply chain consists of a network of suppliers and companies that move a product from raw material to finished commodity. Managing the supply chain involves the control of goods and services through production, development and distribution. Supply chain management strives to keep up with product demand and maximize the customer's value. Supply chain management is a vital part of controlling a company's product and understanding the consumer's needs. A supply chain contains key information for a company to determine how a product is selling so adaptations can be made to benefit the customer in cost savings and product value. Companies that attend to their supply chains can improve their profits and become better at fulfilling their customers' needs. In this article, we explain what supply chains are, how they are managed and how a supply chain relates to the consumer, (Indeed, 2024).

2.1.4.1 Logistics outsourcing

Fynes and Foss (2005) cited in Kimechwa (2015), inform that outsourcing is the sub-hiring of activities, services or product parts that are not core to the company business, usually aiming at cost reduction, quality improvement and delivery struggle especially if both organizations in supply relationship brings to an end the existing relationships. Lysons and Gillingham (2003) cited in Kimechwa (2015), states that outsourcing is the strategic use of resources to perform activities traditionally handled by internal staff and their resources. It is a management strategy by which an organization outsources major non-core functions to specialized and efficient service providers to help the organizations perform best where it is best capable. The main focus to this SCM practice in many organizations is that the company will increasingly focus on the activities which are in the value chain addition where it has a distinctive advantage.

2.1.4.2 Inventory Management

The term inventory refers to the raw materials used in production as well as the goods produced that are available for sale. A company's inventory represents one of the most important assets it has because the turnover of inventory represents one of the primary sources of revenue generation and subsequent earnings for the company's shareholders. There are three types of inventories, including raw materials, work-in-progress, and finished goods. It is categorized as a current asset on a company's balance sheet, (Kenton, 2021). Inventory is the accounting of items, component parts and raw materials that a company either uses in production or sells. As a business leader, you practice inventory management in order to ensure that you have enough stock on hand and to identify when there's a shortage. The verb "inventory" refers to the act of counting or listing items. As an accounting term, inventory is a current asset and refers to all stock in the various production stages. By keeping stock, both retailers and manufacturers can continue to sell or build items. Inventory is a major asset

on the balance sheet for most companies, however, too much inventory can become a practical liability (Abby, 2021).

2.1.5 Performance

Performance in the organization is the ability of an organization to reach its goals and optimize results. In today's workforce, organizational performance can be defined as a company's ability to achieve goals in a state of constant change. Traditionally, organizational performance was looked at from its output. And more than just output of results, the output of financial results (Miles, 2022). Nigeria appears to have a unique case of privatization. As economy has its belly flat on the ground for a long time and therefore needs privatization to serve as a necessary tool for jump-starting if so as to put it back on the path of sustainable growth pre-conditional for the membership of the present global economy (Agabi and Orokpo, 2014).

2.1.5.1 Cost reduction

Cost reduction is the process of decreasing a company's expenses to maximize profits. It involves identifying and removing expenditures that do not provide added value to customers while also optimizing processes to improve efficiency. Cost reduction is a planned positive approach to reduce expenditure (Babatunde, 2017). Cost reduction is the process used by companies to reduce their costs and increase their profits. Cost control is the process of established a standard and maintaining the performance according to standard. Therefore, cost control and reduction are important in an organization in order to regulate and reduce unwanted expenses and it also helps to bring about increase in market demand in term of competitive market.

2.1.5.2 Efficiency

Efficiency is the (often measurable) ability to avoid wasting materials, energy, efforts, money, and time in doing something or in producing a desired result (Steiner, 2018). In a more general sense, it is the ability to do things well, successfully, and without waste. In more mathematical or scientific terms, it is a measure of the extent to which input is well used for an intended task or function (output). Efficiency is defined as the ability to do something or produce something without wasting materials, time, or energy: the quality or degree of being efficient (technical), but also as the power to produce the desired result (Wilson, 2018)

2.2 Theoretical Framework

The study was guided by Strategic Choice Theory by Rond & Thietart, 2007.

The study was anchored on Strategic Choice theory because it lies in the make or buy decision top management should balance dependence versus value to achieve organizational goals. Regarding decision point 2, the sourcing strategies, strategic choice theory advises to minimize dependence in order to ensure the high freedom of choice for the dominant coalition. Then decision point 3, supplier strategies, can consider whether to collaborate or rather exploit suppliers.

2.2.1 Strategic Choice Theory

Strategic choice theory considers the interaction between organizational actions and events (De Rond & Thietart, 2007 cited in Kimechwa, 2015). The integrative approach of strategic choice theory is of

importance and beneficial for strategic management, for instance, by stressing cross-functional cooperation in organizations (Jemison, 1981 cited in Kimechwa, 2015). Theories enhance research and practice as they help make sense of complex and dynamic environments (Chicksand & Johnston, 2012 cited in Kimechwa, 2015). The strategic type of organizations, Analyzer, Defender or Prospector thereby influences how managers and organizations organize and operate in purchasing; according to strategic choice theory prospectors would strive to be proactive, innovative (Nollet *et al.*, 2005 cited in Kimechwa, 2015) and produce internally or even change their product portfolio, whereas defenders would rather source the item from an established supplier in order to ensure efficient production and establish a stable product portfolio (Shook *et al.*, 2009 cited in Kimechwa, 2015).

In the context of this study, some of the variables i.e. Strategic Partnerships with Suppliers, globalization and adoption of ICT are strategic and it focuses on involving the top management critical decision to make these strategic decisions to invest on these practices to improve the performance of their organizations and achieve a competitive advantage.

2.3 Empirical Review

2.3.1 Effect Logistics Outsourcing on Costs reduction

Onuoha (2022) conducted a study on the effect of outsourcing on organizational performance and employee commitment in selected banks in Owerri. The sample size of four hundred was used. Data were analyzed using frequency tables and simple percentages. Finding showed that outsourcing positively affected capacity building through constant training. The study concluded that employees manifested both affective and continuance commitment despite the emerging work trend and positively affected organizational performance. The study recommended that organizations should limit outsourcing while enhancing capacity building through constant training, build more of affective commitment, improve on leadership quality and style and improve general workplace environment to retain commitment and constantly improve on performance, set clear goals and communicate same to employees in an era that experiences change of business strategies to enhance performance.

Ihunwo and Ikegwuru (2023) conducted a study on the logistics outsourcing and organizational performance of oil and gas companies in Rivers State. The objective was to examine the relationship between logistics outsourcing and organizational performance of oil and gas firms in Rivers. The study employed descriptive research design and the target population was two hundred and ninety-five (295) oil and gas firms in Rivers State. The population of five hundred and ten, and the sample size of this study was 170 oil and gas firms were used. Descriptive statistics was adopted while, the Pearson's Product Moment Correlation technique was used analyzed the data. The finding showed that, operational outsourcing services positively and significantly correlated with organization performance, and manufacturing outsourcing positively and significantly correlated with organization performance. The study concludes that there is a significant and positive relationship between logistics outsourcing and organizational performance of oil and gas firms in Rivers State. The study

recommends that the management of oil and gas firms should use adequate logistics outsourcing strategies such as operational outsourcing services and manufacturing outsourcing to connect to organizational performance for sustainable growth in business

Lee and Ha (2023) conducted a study on the Influence of the relationship between logistics outsourcing partners on logistics performance: focusing on logistics management in crisis situations in China. The purpose sought to examine the relationships between supply chain parties and psychological factors on logistics outsourcing. The population was three hundred. The data was analyzed using SPSS and AMOS model. The finding shows that, commitment level had a positive influence on the satisfaction level but did not have a significant influence on logistics performance. The study concluded by recommending that the effects of the relationships between supply chain parties and psychological factors on logistics outsourcing.

Umuhire & Irechukwu (2023) conducted a study on logistics outsourcing services and performance of firms in the tele-communications sector: A Case of Airtel Rwanda Ltd. The objectives were to determine the effect of financial systems, network monitoring tools services, and supplier network responsiveness outsourcing on organizational performance of Airtel Rwanda Plc. The population comprises of sixty-five, and sampled size of fifty-six was used. Data was analyzed using Pearson's correlation method. The findings showed that the supply chain operating system responds rapidly to changes in product volume demanded by customers. The study concludes that Airtel Rwanda Plc in Rwanda have outsourced financial system billing. Airtel Plc had outsourced networking monitoring tools which play a pertinent role to the organizational success. The study recommends that to adopt masts/towers and fleet management in means, the government should revise competition policy, and contract duration for outsourcing activities.

2.3.2 Inventory Management and Efficiency

Ugwu, Orga and Adonai (2023) conducted a study on the Inventory management strategy and performance of Brewery Companies in South East, Nigeria. The specific objectives were to: examine the relationship between Materials Requirement planning (MRP) and Reliability of products; evaluate the relationship between just-in-time inventory strategy and stock availability and determine the relationship between Safety stock strategy and customer's retention in Nigerian brewery companies. The descriptive survey design was used. The study adopted simple random sampling technique in selecting the sample unit and the sample size for the study which was, 334 employees out of a total population of 2035 employees of the three selected brewing firms in South East Nigeria derived with the use of Taro Yamanes' formula. A total of 288 staff returned the questionnaire accurately filled, which gave 86 percent response rate. Data were presented and analyzed using mean score and standard deviation using Sprint Likert Scale. The hypotheses were analyzed using the t-test statistics tool. The findings indicated that the Materials Requirement planning (MRP) had a significant positive relationship with the Reliability of products in brewery companies in South East, Nigeria ($t = 2.929 <$

42.418, $p < .05$). Just-in-time inventory strategy had a significant positive relationship with the stock availability in brewery companies in South East, Nigeria, ($t = 2.439 < 24.152$, $p < .05$). Safety stock strategy had a significant.

Abiola (2023) conducted a study on the low growth of individual operators in the Breweries Industry in Nigeria. Using an ex-post research design and multiple regression test statistics, data from Nigerian Breweries PLC was collected. The study analyzes with the aid of SPSS the impact of budgeting on business growth of Nigeria breweries PLC, and it shows that budgeting has a strong positive relationship with the company Retained Earnings (RE) and at same time, significantly correlated human resource recruitment in form of Employee Size (ES) for their success. The study answers the question to the correlation between budgeting and business growth in areas of RE and ES. From finding the following was also recommended; that further study should be conducted to determine the contributing factors to business Profit-After-Tax (PAT), effective and efficient budgeting, flexible enough should be planned and implemented to the later to have better retained earnings at close of business year as this will lead to better re-investment by shareholders. Finally, paying good attention to talent recruitment especially during budgeting should be given priority to ensure only merited talents are brought into the business.

Chukwu, Igwe & Anichebe (2023) conducted a study on materials management and profitability of manufacturing firms in Enugu metropolis: evidence from Nigeria Breweries Ama Enugu Nigeria. The study sought to ascertain what drives logistics management in materials and sales turnover, determine the relationship between materials management and level of profitability. The study had a population of 224 (two hundred and twenty-four). The entire population was used since it was not large enough to be subjected to sample size determination. Instrument used for data collection was only questionnaire. 195 copies of the questionnaire were returned. However, only 190 copies were properly filled and used representing 85 percent. Survey research design anchored on descriptive statistic was adopted. Hypotheses testing was done using ANOVA. Analysis of valiance at a significant level of five (5%) percent. Analysis was performed used the Statistical Package for Social Sciences (SPSS) version 20. The investigation revealed that effective utilization of materials management adds to the profitability level of the company. Consequently, it is recommended that efforts should be put in place a good logistics management in the plant as it has the potential to increase sales turnover. This can be achieved through a more robust corporate strategy

Olaitan (2024) conducted a study on the effect of economic recession on organisational productivity of 7up Bottling Company plc. Oluyole, Ibadan. Specifically, the study wants to determine the specific economic factors contributing to the recession's effect on 7up Bottling Company PLC, if 7up Bottling Company PLC productivity meet the industry benchmarks during the recession period. Also, to examine the operational challenges faced by 7up Bottling Company PLC during the recession, effects of economic recession on employee morale, job satisfaction, and engagement within 7up Bottling

Company PLC and lastly find out the coping strategy adopted by 7up Bottling Company PLC during the recession. According to the findings of the study, the economic recession had an impact on the supply chain of the 7up bottling industry. Recessions affected supply networks, resulting in shortages of raw materials, components, and packaging materials. This, however, resulted in manufacturing delays, higher costs, and difficulties in ensuring constant product quality and availability. During the recession, there was a lot of competition, which caused substitute items and companies to change some of their concepts. The study recommended that the Directors of 7up Bottling Company should guarantee that they give strategic counsel and oversight, including approval of significant choices such as diversification efforts, cost-cutting measures, and strategic investment.

2.4 Summary of Empirical Review

The studies done were carried outside effective supply chain management on performance of Nigeria breweries and 7up companies in Enugu state, Nigeria and did not focus to best of my knowledge on the logistics outsourcing on cost reduction, inventory management on improving efficiency of Nigeria breweries and 7UP companies. Most of the studies reviewed analysed their data through A purposeful sampling technique, Descriptive statistics and appropriate inferential statistics, Purposive Sampling technique, Pearson Moment Correlation Coefficient, Multiple sampling technique, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA) method, Simple linear regression and Pearson correlation coefficient (r) while the present study made use of Z test to test the hypotheses. Therefore, the study aimed at filling this research gap by evaluating the effective supply chain management on performance of Nigeria breweries and 7up companies in Enugu state, Nigeria.

METHODOLOGY

3.1 Research Design

The study employed descriptive survey design. The survey research is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. The survey design was adopted because it is economical or cheaper.

3.2 Source of Data

Data are classified as either primary or secondary data. The classification was based on the two possible sources: primary source and secondary source.

3.2.1 Primary Source

The primary source was questionnaire. A primary data source is the one which the data is collected directly (usually first-hand) by the researcher.

3.2.2 Sources of Secondary Data

Secondary data source is the one which the data is obtained from published materials, internet websites, reports, dailies, text books and so on from the library of the institutions understudy. Sources of secondary can be split into two parts internal and external sources.

3.3 Area of Study

The area of the study was Enugu State, Nigeria. The organizations under study include: Nigeria Breweries and 7up companies, 9th mile, Enugu state.

3.4 Population of the Study

The population of the study was one thousand, three hundred and forty-six (1346) selected staff from the selected organizations. To determine the adequate sample size, the study used Freund and William's statistic formula as quoted by (Uzoagulu 2011). Table 3.1 for details.

	Name of the Organisation	Population
1.	Nigeria Breweries 9 th Mile	713
2.	7up Companies 9 th miles	633
	Total	1346

$$n = \frac{Z^2 N(pq)}{N(e)^2 + Z^2(pq)}$$

Where n = Sample Size

N = the population

p = Probability of success/proportion

q = Probability of failure/proportion

Z = Standard error of the mean

e = Limit of tolerable error of 0.05 (or level of significance)

$$N = 1346$$

$$p = .5$$

$$q = (1 - .5) = .5$$

$$Z = 95 \text{ percent} = 1.96$$

$$e = 0.05 \text{ percent}$$

$$\begin{aligned} &= \frac{(1.96)^2 \times 1346 \times .5 \times .5}{1346(0.05)^2 + (1.96)^2 \times .5 \times .5} \\ &= \frac{3.8416 \times 1346 \times .25}{3.365 + 3.8416 \times .25} \\ &= \frac{1292.698}{3.365 + .9604} = \frac{1292.698}{4.325} = 295.47 \approx 295 \end{aligned}$$

3.5 Sample Size Determination

Bowley's (1937) proportional allocation statistic was utilized to ensure equitable representation of the organizations. Bowley's (1937) Formula:

$$N_h = \frac{n \times N_h}{N}$$

Where: n_h = number of questionnaires allocated to each of the institution

n = Total sample size

Nh = Number of proposed lecturers to be used from the selected organisations

N = Population size.

Table 3. 1: Questionnaire Allocation to Each organisation

Name of the University	Population	Calculation	Sample
1. Nigeria Breweries 9 th Mile	713	$\frac{713 \times 295}{1346} =$	156
2. 7up Companies 9 th miles	633	$\frac{633 \times 295}{1346} =$	139
Total	1346		295

Source: Author's field work 2024

3.6. Sampling Technique

The stratified random sampling with a random start was adopted so as to give every unit of the population under study equal opportunity of being selected into sample. The secondary data were collected from firms, journals, publication, textbooks and the internet. Ten questions (10) in the questionnaire were ranged.

3.7 Instrument for Data Collection

The main instrument for data collection was a structured questionnaire. Copies of the questionnaire were administered to the academic staff. Ten (10) designed questionnaire was used. The responses generated were used thereafter for data analyses.

3.8 Validity of the Instrument

The instrument was given to two experts from the industry and academia to measure face and content validity. To make sure that the research instruments applied in the work are valid, the research ensured that the instrument measure the concept they are supposed to measure.

3.9 Reliability of the Research Instrument

This was done by administering 20 copies of the prepared questionnaire to the sample of the study. Cronbah's Alpha was used in determining the extent of consistency of the reliability. Reliability.

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	10	100.0
	Excluded	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
.83	10

Scale reliabilities were calculated using Cronbach's Alpha; the result obtained was 0.830. This shows that the internal consistency of the scale is good for the purpose of this study because it is greater than 0.83 which was good.

3.10 Method of Data Analyses

Data from the questionnaire were analyzed with the aid of SPSS version 23 using simple, percentages and correlation co-efficient. Data from the questionnaire were further analyzed using simple percentages, mean and standard deviation. For the 5-point likert scale questions, the scale and decision rule stated below were used in analysing the findings.

Scale: Strongly Agree (SA) -5, Agree (A) - 4, Neutral(N) -3, Disagree (D) -2, Strongly Disagree (SD),¹

Decision Rule: If Mean > 3.0 , the respondents agree and If mean ≤ 3.0 , the respondents disagree. The decision rule is to accept the null hypothesis if the computed r is less than the tabulated r otherwise rejects the null hypothesis and Z - test was used to test the hypotheses and analyzed with the aid of SPSS.

4.0 DATA PRESENTATION, ANALYSES AND INTERPRETATION**4.1 Data presentation****4.1.1 Effect of logistics outsourcing on cost reduction of Nigeria Breweries and 7up Companies in Enugu state**

Table 4.1.1.1: Responses on the effect of logistics outsourcing on cost reduction of Nigeria breweries and 7up companies in Enugu state.

		5 SA	4 A	3 N	2 DA	1 SD	Σ FX	- X	SD	Decision
1	Outsourcing logistics reduces fuel and regular maintenance of vehicles	450 90 35.6	96 24 9.5	252 84 33.2	66 33 13.0	22 22 8.7	886 253 100%	3.50	1.323	Agree
2	Outsourcing logistics for same-day delivery services ensures that the deliveries are done promptly and efficiently	660 132 52.2	96 24 9.5	129 43 17.0	62 31 12.3	23 23 9.1	970 253 100%	3.83	1.407	Agree
3	The organizations focus on core competency using outsourcing	535 107 42.3	96 24 9.5	210 70 27.7	42 21 8.3	31 31 12.3	831 253 100%	3.61	1.411	Agree
4	Outsourcing provides direction for action and improves competitiveness	595 119 47.0	212 53 20.9	111 37 14.6	38 19 7.5	25 25 9.9	981 253 100%	3.88	1.341	Agree
5	Outsourcing Logistics enhances Customer Service Levels	745 149 58.9	164 41 16.2	78 26 10.3	40 20 7.9	17 17 6.7	1044 253 100%	4.13	1.266	Agree
Total Grand mean and standard deviation								3.79	1.349 6	

Source: Field Survey, 2024

Table 4.1.1.1, 114 respondents out of 253 representing 45.1 percent agreed that Outsourcing logistics reduces fuel and regular maintenance of vehicles with mean score 3.50 and standard deviation of 1.323. Outsourcing logistics for same-day delivery services ensures that the deliveries are done promptly and efficiently 156 respondents representing 61.7 percent agreed with mean score of 3.38 and standard deviation of 1.407. The organizations focuses on core competency using outsourcing 131 respondents representing 51.8 percent agreed with mean score of 3.61 and standard deviation of 1.411. Outsourcing provides direction for action and improves competitiveness 172 respondents representing 67.9 percent agreed with mean score of 3.88 and 1.341. Outsourcing Logistics enhances Customer Service Levels 190 respondents representing 75.1 percent agreed with a mean score of 4.13 and standard deviation 1.266.

4.1.2 Effect of inventory management on improving efficiency of Nigeria breweries and 7up companies in Enugu state

Table 4.1.2.1: Responses on the effect of inventory management on improving efficiency of Nigeria breweries and 7up companies in Enugu state

		5 SA	4 A	3 N	2 DA	1 SD	ΣFX	- X	SD	Decision
1	Inventory management (IM) enhances money and time saving that help reach desired output.	580 116 45.8	256 64 25.3	54 18 7.1	70 35 13.8	20 20 7.9	980 253 100%			Agree
2	The IM improves financial health and cash flow as it minimizes waste of resources.	615 123 48.6	288 72 28.5	60 20 7.9	20 10 4.0	28 28 11.1	1011 253 100%			Agree
3	There is prevention of overspending on warehouse storage and it helps sustainability of the business.	740 148 58.5	284 71 28.1	54 18 7.1	12 6 2.4	10 10 4.0	1100 253 100%			Agree
4	IM helps satisfies customers with timely deliveries which promotes agility.	670 134 53.0	344 86 34.0	39 13 5.1	20 10 4.0	10 10 4.0	1083 253 100%			Agree
5	Inventory management helps in risk mitigation and minimizing of losses which enhances long term success.	465 93 36.8	368 92 36.4	39 13 5.1	74 37 14.6	18 18 7.1	964 253 100%			Agree
Total Grand mean and standard deviation								4.062	1.1852	

Source: Field Survey, 2024

Table 4.1.2.1, 580 respondents out of 253 representing 71.1 percent agreed that Inventory management (IM) enhances money and time saving that help reach desired output with mean score 3.87 and standard deviation of 1.336. The IM improves financial health and cash flow as it minimizes waste of resources 195 respondents representing 77.1 percent agreed with mean score of 4.00 and standard deviation of 1.314. There is prevention of overspending on warehouse storage and it helps

sustainability of the business 219 respondents representing 86.6 percent agreed with mean score of 4.35 and standard deviation of .995. IM helps satisfies customers with timely deliveries which promotes agility 220 respondents representing 87.0 percent agreed with mean score of 4.28 and 1.010. Inventory management helps in risk mitigation and minimizing of losses which enhances long term success. 185 respondents representing 73.2 percent agreed with a mean score of 3.81 and standard deviation 1.271.

4.2 Test of Hypotheses

4.2.1 Hypothesis one: Logistics outsourcing has effect on cost reduction of Nigeria breweries and 7UP companies

One-Sample Kolmogorov-Smirnov Test

	Outsourcing logistics reduces fuel and regular maintenance of vehicles	Outsourcing logistics for same-day delivery services ensures that the deliveries are done promptly and efficiently	The organizations focuses on core competency using outsourcing	Outsourcing provides direction for action and improves competitiveness	Outsourcing Logistics enhances Customer Service Levels
N	253	253	253	253	253
Uniform Parameters ^{a,b}					
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5
Absolute Differences	.356	.522	.423	.470	.589
Most Extreme Positive	.087	.091	.123	.099	.067
Negative	-.356	-.522	-.423	-.470	-.589
Kolmogorov-Smirnov Z	5.658	8.299	6.727	7.481	9.368
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e. $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from $5.658 < 9.368$ and on Asymp. Significance of 0.000, the responses from the respondents as displayed in the table was normally distributed. This affirmed the assertion of most of the respondents that Logistics outsourcing had significant positive effect on cost reduction of Nigeria breweries and 7UP companies in Enugu state.

Decision

Furthermore, comparing the calculated Z- value ranges $5.658 < 9.368$ against the critical Z- value of .000 (2-tailed test at 95 percent level of confidence) the null hypothesis was rejected. Thus, the alternative hypothesis was accepted which states that Logistics outsourcing had significant positive effect on cost reduction of Nigeria breweries and 7UP companies in Enugu state.

4.2.2 Hypothesis Two: Inventory management has effect on improving efficiency of Nigeria breweries and 7UP companies

One-Sample Kolmogorov-Smirnov Test

	Inventory management (IM) enhances money and time saving that help reach desired output.	The IM improves financial health and cash flow as it minimizes waste of resources.	There is prevention of overspending on warehouse storage and it helps sustainability of the business.	IM helps satisfies customers with timely deliveries which promotes agility.	Inventory management helps in risk mitigation and minimizing of losses which enhances long term success.
N	253	253	253	253	253
Uniform Parameters ^{a,b}					
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5
Absolute	.461	.521	.616	.620	.481
Most Extreme Positive	.079	.111	.040	.040	.071
Differences Negative	-.461	-.521	-.616	-.620	-.481
Kolmogorov-Smirnov Z	7.340	8.283	9.792	9.855	7.654
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e. $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from $7.340 < 9.855$ and on Asymp. Significance of 0.000, the responses from the respondents as displayed in the table was normally distributed. This affirmed the assertion of most of the respondents that Inventory management had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies

Decision

Furthermore, comparing the calculated Z- value ranges $7.340 < 9.855$ against the critical Z- value of .000(2-tailed test at 95percent level of confidence) the null hypothesis was rejected. Thus, the alternative hypothesis was accepted which states that Inventory management had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies in Enugu State

4.3 Discussion of Findings

4.3.1 Logistics outsourcing has effect on cost reduction of Nigeria Breweries and 7UP Companies in Enugu state.

From the result of hypothesis one, the calculated Z- value ranges $5.658 < 9.368$ against the critical Z- value of .000 which implies that **Logistics outsourcing had significant positive effect on cost reduction of Nigeria breweries and 7UP companies in Enugu state. In the support of the result in the literature review**, Onuoha (2022) conducted a study on the effect of outsourcing on organizational performance and employee commitment in selected banks in Owerri. Finding showed that outsourcing positively affected capacity building through constant training. The study concluded

that employees manifested both affective and continuance commitment despite the emerging work trend and positively affected organizational performance. Lee and Ha (2023) conducted a study on the Influence of the relationship between logistics outsourcing partners on logistics performance: focusing on logistics management in crisis situations in China. The finding shows that, commitment level had a positive influence on the satisfaction level but did not have a significant influence on logistics performance.

4.3.2 Inventory management had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies in Enugu State.

From the result of hypothesis two, the calculated Z- value ranges $7.340 < 9.855$ against the critical Z-value of .000 which implies that **Inventory management had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies in Enugu State. In the support of the result in the literature review**, Ugwu, Orga & Adonai (2023) conducted a study on the Inventory management strategy and performance of Brewery Companies in South East, Nigeria. The findings indicated that the Materials Requirement planning (MRP) had a significant positive relationship with the Reliability of products in brewery companies in South East, Nigeria ($t = 2.929 < 42.418$, $p < .05$). Just-in-time inventory strategy had a significant positive relationship with the stock availability in brewery companies in South East, Nigeria, ($t = 2.439 < 24.152$, $p < .05$). Safety stock strategy had a significant

5.0 SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION TO KNOWLEDGE

5.1 Summary of Findings

- i. Logistics outsourcing had significant positive effect on cost reduction of Nigeria breweries and 7UP companies in Enugu State $Z = 5.658 < 9.368$, $p < .05$.
- ii. Inventory management had significant positive effect on improving efficiency of Nigeria breweries and 7UP companies in Enugu State, $Z = 7.340 < 9.855$, $p < .05$.

5.2 Conclusion

The study concluded that Logistics outsourcing and Inventory management had significant positive effect on cost reduction and improving efficiency of Nigeria breweries and 7UP companies in Enugu State. Supply chain management (SCM) has taken on a vital role in the current competitive global market and is now widely known as a crucial element in corporate performance and competitive advantage. It is an important strategic driver for increasing operational performance and maximizing the achievement of organizational objectives, such as improved productivity, increased performance, better customer service and enhanced profitability.

5.3 Recommendations

Based on the findings the following recommendations were suggested

- i. The Management of the organizations should endeavour to break down the traditional functional silos, drive more cross-functional integration and consequently more collaboration for effective success.

ii. The food and beverage firms need to find ways of enhancing and establishing relationship throughout the entire value chain. There are numerous competitive advantages and high relationships, which are more likely to attract assets dedicated to the partnership.

5.4 Contribution to Knowledge

The studies done were carried outside effective supply chain management on performance of Nigeria breweries and 7up companies in Enugu state, Nigeria and did not focus to best of my knowledge on the logistics outsourcing on cost reduction, inventory management on improving efficiency of Nigeria breweries and 7UP companies. Most of the studies reviewed analysed their data through A purposeful sampling technique, Descriptive statistics and appropriate inferential statistics, Purposive Sampling technique, Pearson Moment Correlation Coefficient, Multiple sampling technique, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA) method, Simple linear regression and Pearson correlation coefficient (r) while the present study made use of Z test to test the hypotheses. Therefore, the study aimed at filling this research gap by evaluating the effective supply chain management on performance of Nigeria breweries and 7up companies in Enugu state, Nigeria.

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