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Supply Chain Management and Performance of Table Water Manufacturing Firms in Enugu State, Nigeria

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Abstract
Challenges encountered in the management of the flow of products and services between the origin of products and the consumption of the final product can adversely affect an organization`s performance. This study examines the relationship between supply chain management and the performance of table water manufacturing firms in Enugu State. The study is anchored on Supply Chain Integration (SCI) theory by Stevens (1989). The population of the study was 872 with a sample size of 274 gotten through Taro Yamane formula. Data for analysis were gotten through the administration of a well-structured questionnaire to the respondents. Pearson product moment correlation coefficient was deployed to test the hypotheses for the study. The results reveal that there is significantly positive relationship between supply of raw materials and employee production output (a:0,05>Pv;0.0.18), significantly positive relationship between physical distribution and market shares output(a:0,05>Pv;0.021)and significant relationship between product quality and customer satisfaction.(a:0,05>Pv;0.004) The study thus concludes that supply chain management has significant effect on the performance of table water firms in Enugu State. The study suggests that for a competitive advantage, all functional elements within the supply chain should make effective use of relevant and timely information. Sharing information can vary from strategic to tactical and can include information about logistics activities, as well as general market and customer information.
Keywords: *Supply Chain, Management, Performance, Table water*

Introduction

The concept of business management has over the last three decades undergone deep changes and development. New methods and approaches have been advanced to displace old methods and this has given rise to a redesigned business process, strategic governance and technologically driven modes of achieving organizational objectives (Schoenherr, Mena, & Choi, 2019). Supply Chain Management is one of those new and well grown management approaches in today's business world.

A supply chain is basically a group of independent organizations connected together through the products and services they separately or jointly add value on in order to deliver to the end consumer. It deals with the management of the flow of products and services,

starting with the actual movement of raw materials, production of products and services, keeping of inventory (raw materials and finished products and services) and final consumption (Qorri, Mujkic, & Kraslawski, 2018).

The main objective of supply chain management is to provide such logistics that engages and enables production, distribution, and shipment of products and services to various destinations in good time without hindrances. This can be done by companies with a very good and tight hold over internal inventories, production, distribution, internal productions and sales. Most bottle water firms strive to match supply with demand in a timely fashion with the most efficient use of resources (Knight et al, 2022; Choudhary, Singh, Schoenherr, & Ramkumar, 2022, Acho et al, 2021).

Table water factories were established for the purpose of making profit by the providers/owners of the enterprise. To this end, small and medium scale enterprises involved in table water production adopt several management techniques to enhance quality products, efficiency, profitability, and increase in market shares, customer's satisfaction, loyalty and repeated patronage. One of such management techniques employed by these firms is Supply Chain Management.

Supply chain management plays very important role in the operations of bottle water firms in terms of sustainable water management by monitoring water sources and water volume usage in plants, incorporating water saving technologies in production lines, packaging and recycling infrastructures (Reduce, Recover & Reuse) and reducing production waste. There is a huge market share awaiting new entrant into the packaged bottled water sector with huge success in wait for those prepared from day one to provide professionalism in operations (Knight et al, 2022; Min, Zacharia & Smith, 2019).

Increase in market share is hinged on direct customer experience, name branding, quality and aesthetic of print on the product. Distribution is very vital for the success of any bottled water brand. The stronger the distribution, the more successful the new brand vis-a –vis compliance of the water quality to the standards of the National Agency for Food Drug Administration and Control (NAFDAC).

Arguably, water supply in Nigeria is not reliable which is evident with the collapse of the public water system. As a result, this has adversely affected the good health of every Nigerian. In Nigeria, the two main sources of drinking water are ground water and pipe-borne or tap water. However, these sources are not considered safe due to the presence of excessive amounts of trace elements, dissolved solids and pathogens in ground water sources, which can be harmful to human health.

The various small and medium scale enterprises in Nigeria, particularly in Enugu State, employ different production techniques and technologies to purify and package drinking water in polythene sachets and plastic bottles. These enterprises source water from springs, boreholes, and public water sources and subject it to purification processes to ensure its cleanliness and safety. In Enugu State, there is a high concentration of bottled water sellers and consumers in areas such as Garriki, Obiagu, Akwuke, Emene, Abakpa, Ogbete, Ogui, Iva-Valley, Nike, New Haven, Awkunanaw, Uwani, Achara-Layout, Maryland, Trans-Ekulu, Government Reserved Areas (GRA), and Independence Layout. These areas are known for hosting a wide range of bottled water brands that cater to the demand for safe and purified water. This competition has led to the proliferation of different brands, each with its own unique selling points and consumer base.

Objectives of the Study

The broad objective of the study is to examine the relationship between Supply Chain Management and Performance of Table Water Manufacturing firms in Enugu State. The specific objectives of the study are to:

i. Ascertain if there is a significant relationship between Supply of raw materials and the Production Output of Table Water Manufacturing firms in Enugu State.
ii. Determine if physical distribution of products has a significant relationship with Market shares of Table Water Manufacturing firms in Enugu State.
iii. Examine if there is a significant relationship between Product quality and Customer satisfaction of table water manufacturing firms in Enugu State.

Research Hypotheses

H_o: There is no significant relationship between supply of raw materials and production output of table water manufacturing firms in Enugu State.

H_o: Physical distribution of products does not have a significant relationship with market shares of table water manufacturing firms in Enugu State

H_o: There is no significant relationship between product quality and Customers satisfaction of table water manufacturing firms in Enugu State.

Conceptual Review

The term "supply chain management" entered the public domain when Keith Oliver, a consultant at Booz Allen Hamilton, used it in an interview for the Financial Times in 1982, where he discussed the concept of managing the flow of products, information, and finances from the source of supply to the end consumer. This was a significant departure from traditional business and management practices at the time, which often focused on isolated functions within a company. The term was slow to take hold and the lexicon was slow to change. It however gained currency in the mid-1990s, when a flurry of articles and books came out on the subject. In the late 1990s, it rose to prominence as a management buzzword, as companies began to recognize the importance of optimizing their supply chains to reduce costs and improve service, the term gained widespread use (Kyeremeh & Dza, 2018; Brown, 2021).

Supply Chain Management can be defined as the coordinated management of the flow of goods, services, information, and finances from the point of origin to the point of consumption in a supply chain. It encompasses the planning, execution, control, and monitoring of activities involved in the movement and storage of products, as well as the coordination and collaboration with suppliers, manufacturers, distributors, and customers (Walden, 2021, Malik & Audu, 2023).

Physical Distribution

Yanzhi (2020) posits that distribution strategy deals with the journey of products, from the completion of production all the way to the hands of customers. It aims to get the products to the right place at the right time, in the right quantity, and at the right price. An effective distribution strategy requires a distribution network that balances the distribution cost with service level. In line with this submission, physical distribution is seen as the process of delivering products from the point of production to the point of consumption. It involves various activities such as transportation, warehousing, inventory management, and order fulfillment. It also involves other activities such as packaging, labeling, and documentation. Proper packaging ensures that products are protected during transportation and handling. Appropriate labeling helps in identification and tracking of

products. Documentation includes preparing shipping documents, such as invoices, bills of lading, and customs paperwork for international shipments.

Supply of Raw Material

The Sourcing and supply management category focuses on the process of procuring components or materials needed for a product and managing the relationships with the suppliers providing those components. Decisions related to whether to produce a component in-house (make) or purchase it from an external supplier (buy) are a critical part of this category. These decisions are strategic in nature and can significantly impact the future of the company. Top managers and strategic thinkers should be involved in these decisions, as they have long-term implications for the firm. The choice between making and buying components is influenced by factors such as cost, quality, lead times, and the firm's core competencies. While the location category deals with the strategic placement of a firm's facilities, such as manufacturing plants, distribution centers, or offices (Alshahrani & Salam, 2022; Qasim & Hassan, 2022).

Product Quality

Product quality is a multidimensional concept that encompasses various aspects of a product's design, manufacturing, performance, and customer satisfaction. It is a crucial aspect of any product's success and is a key factor in determining customer satisfaction, brand reputation, and long-term business success. It refers to the overall characteristics and performance of a product in meeting or exceeding the expectations of customers. Companies that prioritize and maintain high product quality are more likely to succeed in the market and build lasting customer relationships (Hoe, & Mansori, 2018; Sitanggang, Sinulingga, & Fachruddin, 2019, Achimugu et al, 2015). Ideally, product quality should reflect the following: High-quality products should consistently perform as intended and provide the features and functions promised by the manufacturer. The product should meet or exceed the user's expectations in terms of performance, reliability, and durability. The choice of materials and the manufacturing process play a significant role in product quality. Using high-quality materials and employing quality manufacturing methods can lead to a more durable and reliable product. Quality products should be consistent in their performance and appearance across different units and batches. Variability in product quality can lead to customer dissatisfaction and a tarnished reputation.

Customer Satisfaction

Customer satisfaction is a critical aspect of any business's success and is often considered a key performance indicator. It refers to the degree to which a customer's expectations and needs are met or exceeded by a product or service (Muhammad& Masood, 2015). High levels of customer satisfaction can lead to several benefits for a business, including increased customer loyalty, positive word-of-mouth marketing, and higher revenue. Measuring customer satisfaction is often done through surveys, feedback forms, or Net Promoter Scores (NPS) to gauge how likely customers are to recommend a business to others. Businesses that actively monitor and manage customer satisfaction are better equipped to make improvements and adjustments to ensure long-term success in a competitive market. Satisfied customers are more likely to become brand advocates and repeat customers, contributing to a company's growth and profitability (Muhammad& Masood, 2015). The following are considered in order to meet customer satisfaction.

The Bottle water market Share

While only a few brands have perfected their market presence, the table water market is fragmented, as the market structure doesn’t provide any company with enough influence to move the market in its desired direction. This has enabled the growth of the table water market, which reportedly gulped

about N938 billion in 2016. The market is flourishing because majority of those who patronize it in Nigeria are youths and adults, especially those in the workforce (Elaho & Ejechi, 2019). This is the case because the cost (per bottle) of the various available brands falls between economy and premium prices fixed at N50 and N100 respectively. The economy price is adopted by small and medium table water companies such as Redeemed Water, Immanuel Water, Cascade, and Aquafina.

On the other hand, the premium price is common among major companies known for having other standalone products such as Eva Premium Table Water, Bigi Table Water, and Nestle Pure Life. The table water market is segmented by size into two major categories – 50cl and 75cl. The 50cl size is largely distributed at events, so it is occasionally produced and not commercially circulated. The 75cl, on the other hand, is produced at a commercial scale for public consumption nationwide. Apart from these sizes, two major brands, Eva and Nestle Pure Life, produce the 150cl bottle size which sells for N150.

Research Methodology

Research design

A research design encompasses the methodology and procedures employed to conduct scientific research. This study adopted descriptive survey research design. The population of the study comprises of 872 respondents made up of staff of Aqua Rapha Investment Company and Solace Bottling Company Ltd in Enugu State.

Sampling Technique and Sample Size

This study used quota sampling technique which is a non-probability sampling technique in which the researchers selected some respondents (Staff) from each categories of the population with the requisite characteristic (Egbule and Okobia, 2008).The company's workers in their different category were represented in the sample. The sample size was determined by using Taro Yamane's formular

Taro Yamane's formular

$$n \frac{N}{1 + N(e)2}$$

n = sample size
N = Population
e = Level of significance

Substituting the population figure into the above formula using 5 per cent margin of error we have

Sample size =

$$n = \frac{872}{1+ 872(0.05)^2}$$

$$= \frac{872}{1+872x\ 0.0025}$$

$$\frac{872}{3.18}$$

$$= 274.2$$

$$= 274$$

Validity of the instrument

The face and content validity of the research instrument was determined by giving the instrument to my supervisor and two other lecturers in Management Sciences, Nnamdi Azikiwe University, Awka for their input to ensure that the instrument addressed the statement of the problem and objectives of the study. Their inputs were integrated into the final copy to ensure both the face and content validity of the instrument.

Reliability of instrument

The test-retest reliability was used to assess the reliability of the instrument. The essence of this was to determine the degree to which the test scores between one test administration and the other are consistent. An interval of two weeks was given before the second administration of the test was carried out. The two responses were correlated using the Spearman's Coefficient Rank Correlation (r) given the formula below;

$$r = 1 - \frac{6\sum d^2}{N(N^2 - 1)}$$

Method of Data Analysis

The data collected through the use of the questionnaire was analyzed using Pearson Product Moment Correlation Coefficient (r), to test the relationship between the dependent variable (performance in bottle water firms) proxied by increase in productivity, market share and customer satisfaction, and the independent variable (Supply chain management) proxy by customer relationship, physical distribution and quality product, in the bottle water industry with specific focus on Aqua Rapha Investment Company and Solace Table Water Company in Enugu State. The analysis of the data was carried out using the SPSS version 21, The SPSS as Statistical Software provides facilities for analyzing and displaying information using a variety of techniques.

Data Presentation and Analysis

Table 1. Analysis of Supply Chain Management

S/N		SA	A	SD	DA	UND	Total
A	**SUPPLIERS OF RAW MATERIALS**						
1	Our organisation relies on few suppliers who have proved to be very dependable over the year.	105	106	25	20	14	270
2	We consider quality as number one criterion in selecting suppliers	111	118	17	13	11	270
3	We involve our suppliers in every stage of our decision making in this organization	101	112	31	17	9	270
4	When one source fails us, we have several others to use	114	103	21	12	20	270
B	**PHYSICAL DISTRIBUTION**						
6	This organisation's goods are usually stored at appropriate depot near to customers	98	136	23	8	5	270
7	My Organization aims at transporting products to the customer at the right time	86	141	11	17	15	270
8	Our products are sent to customers using vehicles that ensure products quality is not compromised	91	147	4	15	13	270
9	My organization ensures product availability by reducing the gap between order placement and delivery time	122	99	17	19	13	270

10	My organization sell directly to customers	108	119	16	15	12	270
C	**PRODUCT QUALITY**						
11	This organization ensures that our products remain in good condition when they get to the final consumers.	130	93	13	27	7	270
12	When damages occur in our product we provide quick replacement services to our consumers	117	83	23	30	17	270
13	My organisation always evaluates the formal and informal complaints of our customers	126	98	18	13	15	270
14	My organization ensures conformance to standards set by regulatory agencies.	118	103	22	19	8	270
15	My organization ensures that our products are stored in the best conditions and facilities	131	111	8	9	11	270
16	This organization has won award relating to conformance to standards for our product	123	101	16	17	13	270
17	This organisation frequently interacts with customers to set standards for our product	99	127	23	14	7	270

Source: Field survey (2023)

Interpretation of Supply Chain Management Table

From table 1, 39 percent of the respondents strongly agree that their organization relies on few dependable suppliers, 40 percent agree, 9 percent disagree, 7 percent strongly disagree while 5 percent undecided. Therefore, bottle water manufacturing firms in Enugu State relies on few dependable suppliers of raw materials. From table 1, 41 percent of the respondents strongly agree that quality is number one criterion in selecting suppliers, 44 percent agree, 5 percent disagree, 6 percent strongly disagree while 4 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agree that quality is number one criterion in selecting suppliers. From table 1, 37 percent of the respondents strongly agree that they involve the suppliers in every stage of decision making, 42 percent agree, 6 percent disagree, 12 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agree that they involve the suppliers in every stage of decision making. As shown inn Table 1, 42 percent of the respondents strongly agree that when one source fails, they have several others to use, 38 percent agree, 4 percent disagree, 8 percent strongly disagree while 8 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agree that when one source fails, they have several others to use. Table 1 also depicts that, 36 percent of the respondents strongly agreed that goods are usually stored at appropriate depot near to customers, 50 percent agree, 5 percent disagree, 9 percent strongly disagree while 2 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that goods are usually stored at appropriate depot near to customers.

From table 1, 32 percent of the respondents strongly agree that their organization transport products to the customer at the right time 52 percent agree, 6 percent disagree, 9 percent strongly disagree while 2 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agree that their organization transport products to the customer at the right time. Table 1 revealed that, 34 percent of the respondents strongly agree that products are sent to customers using vehicles that ensure products quality is not compromised 54 percent agree, 6 percent disagree, 2 percent strongly disagree while 4 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that products are sent to customers using vehicles that ensure products quality is not compromised.

Table 1 revealed that, 45 percent of the respondents strongly agree that product availability reduces the gap between order placement and delivery time 37 percent agree, 7 percent disagree, 6 percent strongly disagree while 5 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that product availability reduces the gap between order placement and delivery time. From table 1, 40 percent of the respondents strongly agree that their firm sell directly to customers 44 percent agree, 6 percent disagree, 6 percent strongly disagree while 4 percent undecided. Therefore, bottle water manufacturing firms in Enugu State sell directly to customers. From table 1, 48 percent of the respondents strongly agree that their products remain in good condition when they get to the final consumers, 34 percent agree, 10 percent disagree, 5 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their products remain in good condition when they get to the final consumers.

As can be seen, Table 1 shows that, 43 percent of the respondents strongly agree that they provide quick replacement services to their consumers for damaged products, 31 percent agree, 11 percent disagree, 9 percent strongly disagree while 6 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that they provide quick replacement services to their consumers for damaged products. Furthermore, table 1, 47 percent of the respondents strongly agree that they evaluate the formal and informal complaints of their customers, 36 percent agree, 4 percent disagree, 7 percent strongly disagree while 6 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that they evaluate the formal and informal complaints of their customers.

From table 1, 44 percent of the respondents strongly agree that they conformed to standards set by regulatory agencies, 38 percent agree, 7 percent disagree, 8 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that they conformed to standards set by regulatory agencies. Table 1 revealed that, 49 percent of the respondents strongly agree that their products are stored in the best conditions and facilities, 41 percent agree, 3 percent disagreed percent strongly disagree while 4 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their products are stored in the best conditions and facilities. As revealed in Table 1, 37 percent of the respondents strongly agree that their organization frequently interacts with customers to set standards for their products, 47 percent agree, 5 percent disagree, 9 percent strongly disagree while 2 percent undecided. Thus, bottle water manufacturing firms in Enugu State agreed that their organization frequently interacts with customers to set standards for their products.

Table 2. Analysis of Organizational Performance Table

A	**PRODUCTION OUTPUT**	SA	A	SD	DA	UND	Total
1	We have had to expand our facilities in recent time to meet up with demand	79	143	19	16	13	270
2	We ensure that our product satisfies the required technical specifications	91	139	33	7		270
3	My organization ensure prudent resource utilization	129	97	23	16	5	270
4	We reduce production time to the barest minimum	117	79	39	17	18	270
5	My organization meets order placement time through efficient production process	121	99	27	18	5	270
B	**MARKET SHARES**						

6	My organization reach more customers with our products	88	137	17	22	6	270
7	My organization records increase in volume of sales	113	93	31	17	16	270
8	We have tried to penetrate more market by increasing our fleet of vehicles	107	100	21	9	33	270
9	My organization promote market competitiveness	122	89	32	7	20	270
10	Compared to when we started production,this organization derives more revenue now than then.	118	105	18	13	16	270
	CUSTOMER SATISFACTION						
11	This organisation rewards customers with extra 40bags of water for every 1000bags of water bought by customers.	129	107	20	9	5	270
12	During the rainy season, this organisation gives incentives to customers that meet their targets.	110	98	12	21	29	270
13	This organisation gives discounts to customers during rainy season.	117	97	31	17	8	270
14	We make every effort to make our customers happy.	153	98	5	4	10	270
15	Our organization enjoy referrals by our customers to other prospective clients	121	86	17	24	22	270
16	This organization treats our customers with utmost transparency	116	102	28	17	7	270

Source: Field survey (2023)

Interpretation of Organizational Performance Table

Statistics on Table 2 revealed that, 29 percent of the respondents strongly agree that their organization has to expand their facilities in recent time to meet up with demand, 53 percent agree, 6 percent disagree, 7 percent strongly disagree while 5 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization has to expand their facilities in recent time to meet up with demand. It is also seen in table 2 that, 33 percent of the respondents strongly agree their product satisfies the required technical specifications, 52 percent agree, 3 percent disagree, 12 percent strongly disagree. Therefore, bottle water manufacturing firms in Enugu State agree that their product satisfies the required technical specifications. Furthermore, table 2, 48 percent of the respondents strongly agree that their organization ensure prudent resource utilization, 36 percent agree, 6 percent disagree9 percent strongly disagree while 1 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization ensure prudent resource utilization.

From table 2, 41 percent of the respondents strongly agree that their organization reduce production time to the barest minimum, 36 percent agree, 8 percent disagree 4 percent strongly disagree while 11 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization reduce production time to the barest minimum. From table 2, 45 percent of the respondents strongly agree that their organization meets order placement time through efficient production process, 37 percent agree, 7 percent disagree, 10 percent strongly disagree while 1 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization meets order placement time through efficient production process. It is discovered in table 2, 33 percent of the respondents strongly agree that their organization reach more customers with their products, 51 percent agree, 8 percent disagree, 6 percent strongly disagree while 2 percent undecided.

Therefore, bottle water manufacturing firms in Enugu State agreed that their organization reach more customers with their products.

Table 2 revealed that, 42 percent of the respondents strongly agreed that their organization records increase in volume of sales, 34 percent agree, 6 percent disagree, 12 percent strongly disagree while 6 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization records increase in volume of sales. From table 2, 40 percent of the respondents strongly agree that their organization have tried to penetrate more market by increasing its fleet of vehicles, 37 percent agree, 3 percent disagree, 8 percent strongly disagree while 12 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization have tried to penetrate more market by increasing its fleet of vehicles.

From table 2, 45 percent of the respondents strongly agree that their organization promote market competitiveness, 32 percent agree, 9 percent disagree, 6 percent strongly disagree while 8 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization promote market competitiveness. From table 2, 43 percent of the respondents strongly agree that their organization derives more revenue now, 39 percent agree, 5 percent disagree, 7 percent strongly disagree while 6 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization derives more revenue now. From table 2, 48 percent of the respondents strongly agree that their organization rewards customers, 40 percent agree, 3 percent disagree, 7 percent strongly disagree while 1 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization rewards customers. As can be seen table 2 revealed that, 41 percent of the respondents strongly agreed that their organization gives incentives to customers, 36 percent agree, 8 percent disagree, 4 percent strongly disagree while 11 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization gives incentives to customers.

From table 2, 43 percent of the respondents strongly agree that their organization gives discounts to customers during rainy season, 36 percent agree, 6 percent disagree, 12 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization gives discounts to customers during rainy season From table 2, 57 percent of the respondents strongly agree that their organization make every effort to make their customers happy, 36 percent agree, 2 percent disagree, 2 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization make every effort to make their customers happy. From table 2, 45 percent of the respondents strongly agree that their organization enjoy referrals by their customers to other prospective clients, 32 percent agree, 9 percent disagree, 6 percent strongly disagree while 8 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization enjoy referrals by their customers to other prospective clients. From table 2, 43 percent of the respondents strongly agree that their organization treats their customers with utmost transparency, 38 percent agree, 6 percent disagree, 10 percent strongly disagree while 3 percent undecided. Therefore, bottle water manufacturing firms in Enugu State agreed that their organization treats their customers with utmost transparency.

Test of Hypotheses

Decision rule:
Accept the alternate hypothesis when the probability value is less than the alpha value, otherwise we reject it. The hypothesis was tested at 5% level of significance.

Hypothesis I:
H_o: Supply of raw materials has no significant relationship with Increase in production output in table water manufacturing firms in Enugu State.
Hi: Supply of raw materials has a significant relationship with Increase in production output in table water manufacturing firms in Enugu State.

Question items used to test this hypothesis include: Dependable/Quality Suppliers, adequate production facilities, product resource utilization, reduction in production time and product technical knowhow.

Table 3. Suppliers of Raw Materials and Production output correlation result

Descriptive Statistics

	Mean	Std. Deviation	N
Suppliers of Raw Materials	56.0000	39.38908	5
Production Output	57.0000	63.07932	5

Source**:** *SPSS Output*

Table 4. Correlations

		Suppliers of Raw Materials	Production Output
Suppliers of Raw Materials	Pearson Correlation	1	.822
	Sig. (2-tailed)		.018
	N	5	5
Production Output	Pearson Correlation	.822	1
	Sig. (2-tailed)	.018	
	N	5	5

Source :*SPSS output*

From the analysis table 4, it shows that the probability value (0.018) is less than the alpha value (0.05), the researcher therefore accepts the alternate hypothesis and conclude that there is significant relationship between suppliers of raw materials and employee production output in table water manufacturing firms in Enugu State with a correlation value of 0.822 that indicate a very strong positive relationship.

Hypothesis II
H_o: The physical distribution of products has no significant relationship on market shares of table water manufacturing firms in Enugu State

Hi: The physical distribution of products has a significant relationship on market shares of table water manufacturing firms in Enugu State.

Question items used to test this hypothesis include: Appropriate storage facilities, efficient transport system, product availability, increase in volume of sales and increase in revenue

Table 5. Physical distribution and Market shares correlation result

Descriptive Statistics

	Mean	Std. Deviation	N
Physical distribution	56.0000	38.04602	5
Market Shares	57.4000	38.74016	5

Source :*SPSS output*

Table 6. Correlations

		Physical Distribution	Market Shares
Physical distribution	Pearson Correlation	1	.933
	Sig. (2-tailed)		.070
	N	5	5
Market shares	Pearson Correlation	.933	1
	Sig. (2-tailed)	.021	
	N	5	5

Source :*SPSS output*

The analysis in table 6 shows that the probability value (0.021) is less than the alpha value (0.05), the researcher therefore accept the alternate hypothesis and conclude that there is significant relationship between physical distribution and market shares output in table water manufacturing firms in Enugu State with a correlation value of 0.933 that indicate a very strong positive relationship.

Hypothesis III.

H_o: The product quality has no significant relationship with Customers satisfaction in table water manufacturing firms in Enugu State.
Hi: The product quality has a significant relationship with Customers satisfaction in table water manufacturing firms in Enugu State.

Question items used to test this hypothesis include: Quality products& storage facilities, adherence to product standards, customers rewards & discounts, replacement of damaged products and customer feedbacks and transparency.

Table 7. Products quality and customer satisfaction correlation result

Descriptive Statistics

	Mean	Std. Deviation	N
Products quality	55.2000	35.92631	5
Customer satisfaction	57.4000	34.89699	5

Source :*SPSS output*

Table 8. Correlations

		Product Quality	Customer Satisfaction
Product quality	Pearson Correlation	1	.853
	Sig. (2-tailed)		.004
	N	5	5
Customer satistaction	Pearson Correlation	.853	1
	Sig. (2-tailed)	.004	
	N	5	5

Source :*SPSS output*

The analysis in table 8 shows that the probability value (0.004) is less than the alpha value (0.05), the researcher therefore accept the alternate hypothesis and conclude that there is strong positive significant relationship between product quality and customer satisfaction in table water manufacturing firms in Enugu State with a correlation value of 0.853 that indicate a very strong positive relationship.

Conclusion

In the final analysis, this study has examined the relationship between supply chain management and performance of table water manufacturing firms in Enugu State. The study specifically determined the relationship between suppliers of raw materials and production output, physical distribution and market shares and product quality and customer satisfaction of table water manufacturing firms in Enugu State. The study concludes that the independent variable proxied by suppliers of raw materials, physical distribution and quality product are significant determinants of the dependent variable proxied by increase in productivity, market share and customer satisfaction modelled in this study.

Recommendations

On the basis of the findings and conclusion of the study, the following recommendations were made

i. **Information Sharing:** There should be effective use of relevant and timely information by all functional elements within the supply chain. This is a key competitive and distinguishing factor. Shared information can vary from strategic to tactical in nature and from information about logistics activities to general market and customer information.
ii. **Strategic Supplier Partnership:** there should be also be a long term relationship between the organization and its suppliers which should be designed to leverage the strategic and operational capabilities of individuals participating in organizations to help them achieve significant ongoing benefits.
iii. **Customer Relationship:** there is need to develop an entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction.

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