Innovations

Supply Chain Management Practices and Performance of Distribution Companies in Nigeria

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Abstract

The study examinedsupply chain management practices and distribution performance of distribution companies in Nigeria. The study adopted a descriptive survey design. The population of the study was 16,370 employees of distribution companies into non-durable consumables in Nigeria. The valid sample size used was 202 respondents. The instrument for data collection was structured questionnaires. Data collected from the respondents was analyzed using statistical packages for the Social Sciences (SPSS-23.0). The statistical tools for data analysis were mean and standard deviation to answer the research questions. The study found that supply chain management practices operationalized by customer relationship management, quality information sharing, and level of information sharing among others had significant positive effect ondistribution performance. The study recommends among others, that companies need toinvest substantial resources in increasing their level and quality of supply chain management practices so as to continue toincrease efficiency in distributionof goods and services.

Keywords: 1. Supply chain management practices 2. Distribution Performance.3. Non-durable consumables 4. Distribution companies

Introduction

Supply chain management (SCM) practices became most conspicuously defined and vivid in the 1960s and 1970s as companies engaged innovative tactics with a deliberate objective of generating and retaining customer fidelity (Tien et al, 2019). SCM is constantly growing as a leading frontier element of extra value that gives excellent business lead (Lockamy& McCormack, 2004). The top global companies are identifying a potent new basis that offers competitive advantage. It's refers to as supply-chain management. SCM involves all of those incorporated actions that convey product to market to turn out fulfilled customers (Zigiaris, 2000). SCM, is to give customer quality and best services by identifying the needs, requirements and desires of the consumers and organize the product to their fulfilment and at a financial gain (Onodugo, Anowor, Ifediora&Nasiru, 2019). SCM is developing process, capacity and resources to get raw materials to produce and then get it right to the customer in the desired manner and preferred way at the required time to bring about absolute satisfaction and profit.

The manner in which business services and processes have become complex, there is a consensus among scholars that creativity is very vital in this changing and competitive business environment (Kumar & Garza-Reyes, 2020). The possibility of failure is also very high, given the cumulative intricacy of managing supply chains to satisfy customers demand and supply (Wang, Zhou & Zhao, 2023) especially to get the precise product at a fair price, within the correct period and also satisfy the right buyer (Denga&SandipRakshit, 2022; Al-madi, 2017). Elmuti, (2008) and Singh, Singh and Kumari (2020) rightly observe that the added products characteristics demand and supply is getting more complex and continually expanding. It is fast becoming a challenge that every firm is facing. However, the level at which customers are satisfied, make them repeatedly willing to pay for services. This gives financial growth and success. Therefore, the more customers are satisfied, the larger their retention (Ahmed, 2021). Creative processes, resources and capability alignment to achieve quality service delivery that satisfy customer which is done at a profit is termed Supply Chain Management (SCM).

SCM practices involves customer relationship management which is the use of intrinsic resources to develop mutual business relationships and networks to ensure reduced cost of doing business and also gaining market share (Cao and Zhang, 2011; Tien et al, 2019). Information exchange is an obligation to excellence and thoughtfulness of the authentic requirements of consumers (Sener, Barut, Dag, &Yildirim, 2021). In simple terms customer relationship management practices involve relationship culture management and using those relations to make profit; using technology to also monitor compliance to agreed terms of shared interests (Tiens et al, 2019; Rindfleisch, 2020).

Quality of information sharing practice is not an isolated SCM operation but rather complementary because when successfully implemented it relies on top management coordination of the various aspects in collaboration with other components of the firm (Feng, 2010). It is dependent on management of both quantitative and qualitative components which help to enhance forecast accuracy (Ramanathan, 2012). Quality of information sharing gives the right prediction of relation outcomes, customer needs and want and development of appropriate flexible mechanism to absorb surges, normal and reduction in volume of demands (Wang et al, 2015; Ojha et al, 2019). Quality of information sharingin business operations involves demand, and supply connecting the raw resources to production and then the final most important; the consumer and customer (Anca, 2019).

Level of information sharing practices are the corporate collaborations and mutual networks to ensure seamless logistic operations freight and advancement (Chen &Paulray, 2004). This is freight operations devised process required to give seamless input to evalution of inventions measure and cost of freight (Cigolini et al, 2004). This is management of capacity to ensure safety of products to destinations and also mitigation of SC unpredictable and risk by engaging quality logistic procedures (Wang et al, 2015). Level of information sharing is basically creative selection of mode of transportation, route, and safety precautions to meet needs and demands at an affordable price against all odds. Level of information sharing is finding the equilibrium mechanism between speed and cost of service (Abdul et al, 2019) as it moves from production to consumption.

The various ideas and concepts that drive distribution system strategy are built on uniqueness of logistics activities and transportation in particular (Tien et al, 2019). In contextual consideration and literature, performance in distribution system is measured based on accuracy of delivery, volume of delivery, and on-time delivery.

There are many evidences that show the growing appreciation of the vital role of SCM practices in firms' outstanding performance in the distribution of their goods and services in other nations. However, it is important to state that, there are few empirical studies aimed at examining the impact of SCM practices on distribution performance in Nigeria, and especially in the non-durable consumables sector. A very volatile sector with products with life span from few minutes to at most three years. This puts pressure on the

mechanism of distribution and their performance.The extent to which SCM practices are engaged by distribution firms in Nigeria simply calls for detailed investigation.

Purpose of the Study

Explicitly the paper sought to determine the:

1. Level at which customer relationship management practices impact distribution performance of distribution companies in Nigeria.
2. Extent to which quality of information sharing influences distribution performance of distribution companies in Nigeria.
3. Extent to which level of information sharing impacts distribution performance of distribution companies in Nigeria.

Research Questions

The paper answered the following research questions:
1. What is the level at which customer relationship management practices impact distribution performance of distribution companies in Nigeria?
2. What is the extent to which quality of information sharing influences distribution performance of distribution companies in Nigeria?
3. What is the extent to which level of information sharing impacts distribution performance of distribution companies in Nigeria?

Methodology

Design of the Study: The study adopted a survey research design to ascertain the extent to which supply chain management practices impact distribution performance of distribution companies in Nigeria. The study was conducted among firmslisted on the Nigerian Stock Market and who are into non-durable consumables and have distribution network capacity and capabilityas indicated by their respective websites and also recognized by Trading view (2022) sector listing of non-durable consumablessector companies. There are twelve firms. The design is appropriate for the study since information was gathered from populationconversant with the concepts relating to the purpose of the study.

Population of the Study: The number of these firms recognized by Trading view (2022) sector listing were twelve (12) which were companies dealing in non durable consumables andwith distribution capacity such as Cadbury Plc Nigeria, Champion Brewery Plc, Gold Guinea Brewery, Guinness Nigeria Plc, International Brewery, Morison industries Plc, Nigeria Breweries Plc, Nestle Plc Nigeria, PZ Cussions Nigeria Plc, UAC Plc Nigeria, Unilever Nigeria Plc, and Union Dicon Salt Plc. The population size was N= 16,370which were staff within three years sourced from the respective website of the individual companies within 2020-2022. The Cochran (1963) formula was used which gave sample size of 321 as a guide. The research targetedonly senior management and head of units within each company holding roles in operations and production, plant, purchasing, logistic and supply chain and general managers.

Instrument for Data Collection: The instrument for the data collection for the study was structured questionnaires titled "Supply chain management practices and distribution performance of distribution companies in Nigeria". The questionnaire was developed by the researchers through review of available literature on the topic. To ensure validity, the research instrument was subjected to face validation by six experts, threefrom the Department of Business AdministrationUniversity of Nigeria Enugu campus and three in the field. The reliability of the structured questionnaire instrument was determined by using Cronbach Alpha reliability test for obtaining the internal consistency of the item. 25 copies of the questionnaire were administered on the managers, supervisors and related similar status who were disposed to partake in the

research.Only 20 of the distributed copies were collected, valid and analyzed to obtain the reliability coefficient of 0.94.

Data Collection Techniques: The structured questionnaire was administered on the respondents by the researcherwith the help of six research assistants, who helped in distribution and retrieval of the instrument. Only 202 were deemed valid out of questionnaire returned, from the 321 that were distributed representing 63.0% rate of return since only senior staff with in-depth knowledge were required and purposely targeted.

Data Analysis Techniques: The data collected from the respondents was analyzed using Statistical Packages for the Social Sciences (SPSS-23.0). Statistical tools for data analysis were mean and standard deviation.

Research Question One: What is the level at which customer relationship management practices impact distribution performance of distribution companies in Nigeria?

Table 1 Mean and Standard Deviation responses of the respondents made up of knowledgeable and senior staff from Supply chain management, marketing, procurement, distribution, transportation/Logistics, sales officers and operations of the various distribution companies.

S/N	ITEMS	STAFF (N=202)		
		X	SD	R
1.	My firm has set customer service levels	4.316832	1.197611	TVHL
2.	My firm has service flexibility methods capable to meet customers' needs	4.618812	0.877802	TVHL
3.	My firm has a sale order-inventory interface procedure	4.069307	0.992621	TVHL
4.	My firm has ordering and order rules and information procedure	4.742574	0.950804	TVHL
5.	My firm has ICT integrated systems to interact with customers	4.049505	0.83697	TVHL
6.	My firm improves consistently in on-time delivery for customers	4.316832	1.120738	TVHL
7.	My firm delivery service flexibility mechanism meets customer needs	4.623762	0.708526	TVHL
8.	My firm has low distribution time lag, quality deviations/damages/loss rate	4.351485	1.071791	TVHL
9.	My firm deploys technology to monitor and track request and delivery processes	4.391089	0.906806	TVHL
10.	My firm has very low specification deviation figures per month	4.316832	1.061763	TVHL
	Grand Mean and Standard Deviation	**4.379703**	**0.972543**	**TVHL**

Key:*X*=**Mean**, SD=**Standard Deviation**, TVHL=To a Very High Level, THE=To a High Level, TVLL=To a Very Low Level, TLE=To a Low Level.

Table 1 above, showed that staff of the various companies who are knowledgeable about the concepts agreed strongly in almost all the item of the instrument on SCM Practices and distribution performance. This is because their mean responses were above 3.50 mean benchmark set for this study.

Research Question Two: What is the extent to which quality of information sharing influences distribution performance of distribution companies in Nigeria?

Table 2 Mean and Standard Deviation responses of the respondents made up of knowledgeable and senior staff from Supply chain management, marketing, procurement, distribution, transportation/Logistics, sales officers and operations of the various distribution companies.

S/N	ITEMS	STAFF (N=202)		
		X	SD	R
11.	My firm has mechanism to predict customers' needs and wants	4.257426	1.011356	TVHE
12.	My firm has mechanism for safety stock to cope with sudden increase in demand	4.470297	1.072431	TVHE
13.	My firm has capacity to evaluate customers response to service delivery	4.014851	1.443585	TVHE
14.	My firm has developed capacity for handling service demands, problems and complaints	3.544554	1.323996	TVHE
15.	My firm has extensive freight mechanisms to meet customers' needs and demands	3.564356	1.330643	TVHE
16.	My firm has increased span of distribution	4.410891	0.914395	TVHE
17.	My firm has increased volume of product distribution	4.227723	1.193059	TVHE
18.	My firm has been consistently progressive in delivery of products to all customers	4.262376	1.175438	TVHE
19.	My firm has flexible capability to handle various demands by customers	4.410891	0.914395	TVHE
20.	My firm deploys technology to enhance distribution service delivery	4.445545	0.933165	TVHE
	Grand Mean and Standard Deviation	**4.160891**	**1.131246**	**TVHE**

Key: X=**Mean**, SD=**Standard Deviation**, TVHE=To a Very High Extent, THE=To a High Extent, TVLE=To a Very Low Extent, TLE=To a Low Extent.

Table 2 above,shows that staff of the various companies who are knowledgeable about the concepts agreed strongly in almost all the items of the instrument on SCM Practices and distribution performance. This is because their mean responses were above 3.50 mean benchmark set for this study.

Research Question Three: What is the extent to which level of information sharing impacts distribution performance of distribution companies in Nigeria?

Table 3 Mean and Standard Deviation responses of the respondents made up of knowledgeable and senior staff from Supply chain management, marketing, procurement, distribution, transportation/Logistics, sales officers and operations of the various distribution companies.

S/N	ITEMS	STAFF (N=202)		
		X	SD	R
21.	My firm has information management mechanism with other businesses	4.257426	1.011356	TVHE
22.	My firm uses technology to track and share performance metric on shared interest	4.490099	0.996231	TVHE
23.	My firm engages in open dialogue about our joint goals with others	4.039604	1.417156	TVHE
24.	My firm has data for flexible transportation scheduling and routing	4.133663	0.824714	TVHE
25.	My firm has creative mechanism to minimize the cost of transportation and operations to meet demand	3.529703	1.342972	TVHE
26.	My firm improves consistently in time of delivery for customers	4.074257	1.080626	TVHE
27.	My firm delivery service flexibility mechanism meets customer needs	4.470297	0.901928	TVHE
28.	My firm delivery unfailingly meets customers delivery requirements always	4.217822	0.87432	TVHE
29.	My firm constantly engages every available collaborative partnership to meet customer demands	4.148515	1.465012	TVHE
30.	My firm's customer patronize our services because of our constant efforts to improve efficiency	4.405941	0.599971	TVHE
	Grand Mean and Standard Deviation	**4.176733**	**1.051429**	**TVHE**

Key:*X*=**Mean**, SD=**Standard Deviation**, TVHE=To a Very High Extent, THE=To a High Extent, TVLE=To a Very Low Extent, TLE=To a Low Extent.

Table 3 above, shows that staff of the various companies who are knowledgeable about the concepts agreed strongly to almost all the items of the instrument on SCM Practices and distribution performance. This is because their mean responses were above 3.50 mean benchmark set for this study.

Discussion of Findings

The findings of the study in research question 1 revealed that, building a process based on customers' needs as a topmost priority is most essential to positively affect performance. This is the integration of firms and customers' needs and ability in a collaborative manner driven by Information Communication Technology processes. This amalgamation is such that developments are monitored and tracked and request are delivered on-time, accurately and in a flexible manner. These operational factors are capable of customer satisfaction. When customer relation management practices are engaged to a very high extent, it is established to result to higher distribution performance with low distribution time lag, quality deviations/damages/loss rate in Nigeria distribution industry.

The findings of the study in research question 2 revealed that, the ability to ensure quality of information sharing enable firms to provide the right volume of delivery needed. This is because without the right quality of information exchange, getting the accurate volume of delivery is impossible. Quality of information sharing increases predictive capacity and projection needed for logistic and distribution planning and implementation. The ability to get the right volume appropriately in a sustained manner results in customer reliance of the firm's delivery mechanism. Cost is saved when the correct volume is available and customers too are satisfied patronizing services delivered according to their expectations which defines distribution performance.

The findings of the study in research question 3 revealed that, the level of information sharing ensures access to information within hierarchy and level of collaborative efforts. This involves using technology and human relations so as to provide flexibility in transportation scheduling and routing as goods and services are delivered. This is to safeguard that customers are unfailingly served as agreed. The consistency in on-time delivery as expected defines quality of performance of distribution firm.

Conclusion

The study concluded that supply chain management practices are engaged to a very high extent by distribution firms and it has significant positive effect on distributionperformance. Supply chain management practices enable a company to integrate the concept of quality delivery in terms of accurate delivery, particular volume of delivery and on-time delivery which gives customer satisfaction and desire to repeat service encounter. Customers' relation management practices allow companies to carefully recognize exactly what customers need and accurately serves them. Quality information sharing gives companies strategic information on volume to delivery at specific locations and inventory to hold so as to meet demand.The level of information sharing gives very important information that will enable goods and serves to be delivered on-time to customers against all odds. Supply chain management practices are engaged at a very high level by distribution companies in the distribution and delivery of non-durable consumables in Nigeria.

Recommendation

Based on the findings of the study, the following recommendations were made:

1. Management should continue to ensure efficient customer relation management practices since it is very essential for achieving accuracy in delivery in the distribution industry and especially in the non-durable consumables sector.

2. For apt availability, deliverability and more sustainable accuracy in volume of delivery at any point in time, the management has a greater responsibility to ensure that the quality of information sharing must be accurate, standard, strategic, true, and detailed with a certain emphasis on safety and secrecy of information from competitors.

3. Businesses should invest significant resources in channels through which information is transmitted through the various levels of information sharing for effective on-time delivery.

4. On-time delivery seems to be a panacea to customer satisfaction and inspiration for a repetition of service encounter, which guarantees sustained patronage. If it is possible, firms should respond, document and publish their solutions to customer complaints on their websites so as forestall ambiguity in their response to customers' requests and complaints.

References

1. Abdul, F.A., Aun, I.I., Oladipo, G.T and Olata, O.O. (2019). Impact of logistics management on organizational performance (A case study of Dangote Flour Mills Plc, Nigeria). Journal of Sustainable Development in Africa. 21(1); 36-49.

2. Ahmed, A. (2021). The importance of supply chain management practices in increasing customer satisfaction and customer retention: Evidence from Saudi Arabia. International Journal of Scientific Research and management (IJSRM), 9(3); 2136-2151.

3. Al-Madi, F. (2017). The impact of supply chain management practices on supply chain performance in the Jordanian industrial sector. European Journal of Business and Management. 9(15);150-165.

4. Anca, V., (2019). Logistics and supply chain management: An Overview. Studies in Business and Economics. 14(2); 209-215.

5. Cao, M. and Zhang, Q. (2011). Supply chain collaboration: impact on collaborative advantage and firm performance. Journal of Operations Management, 29, (3); 163-180.

6. Chen, I.J., and Paulraj, A. (2004). Towards a theory of supply chain management: the constructs and measurements. Journal of Operations Management, 22 (2);119-150.

7. Cigolini, R., Cozzi, M., and Perona, M. (2004). A new framework for supply chain management: conceptual model and empirical test. International Journal of Operations and Production Mangement, 24, (1); 7-41.

8. Cochran, W.G. (1963). Sampling techniques, 2nd ed., New York: John Wiley & Sons.

9. Denga, E. M &SandipRakshit (2022) Risks in Supply Chain Logistics - Constraints and Opportunities in North-Eastern Nigeria. International Journal of Risk and Contingency Management, (IJRCM) 11(1); 1-18.

10. Elmuti, W.M. (2008). Longitudinal Assessment of an Integrated Industrial Supply Chain. Supply Chain Management. An International Journal, 13(2); 151-159.

11. Feng, Y., Amours, S.D., and Beauregard, R. (2010). Simulation and performance evaluation of partially and fully integrated sales and operation planning. International Journal of Production Research, 48, (19); 5859-5883.

12. Kumar, V., Jabarzadeh, Y., Jeihouni, P. and Garza-Reyes, J. (2020). Learning orientation and innovation performance: the mediating role of operations strategy and supply chain integration. Supply Chain Management: An International Journal. 25(4); 457–474.

13. Lockamy, A., and McCormack, K. (2004). Linking SCOR planning practices to supply chain performance, an explorative study. International Journal of Operations and Production Management, 24(12); 1192-1218.

14. *Ojha, D., Sahin, F., Shockley, J., and Sridharan, S. V. (2019). Is there a performance tradeoff in managing order fulfillment and the bullwhip effect in supply chains? The role of information sharing and information type. International Journal of Production Economics, 208; 529-543.*

15. *Onodugo, V. A., Anowor, O. F., Ifediora, C. and AliyuNasiru (2019). Evaluation of supply chain management effects on consumer preference for cowpea quality features and price trend in Nigeria state. International Journal of Supply Chain Management, 8(3); 503-516.*

16. *Ramanathan, U. (2012). Supply chain collaboration for improved forecast accuracy of promotional sales. International Journal of Operations& Production Management, 32(6); 676-695.*

17. *Rindfleisch, A. (2020). Transaction cost theory: Past, present and future. Academy of Marketing Science Review, 10; 85-97.*

18. *Sener, A., Barut, M., Dag, A., and Yildirim, M. B. (2021). Impact of commitment, information sharing, and information usage on supplier performance: a Bayesian belief network approach. Annals of Operations Research, 303(1-2);125-158.*

19. *Singh, J. Singh, S. and Kumari, M. (2020). Role of ICT in supply chain management. Journal of Interdisciplinary Cycle Research. XII(X); 992-1007.*

20. *Tien, N.H., Anh, D.B.H. and Thue, T.D. (2019). Global supply chain and logistics management. Delhi, Academics Publications.*

21. *Tradingview, (2022). Stock market sectors, Retrieved from htpps://www.tradingview.com. accessed 22ⁿᵈ February, 2022.*

22. *Wang, M., Jie, F. and Abareshi, A. (2015). Evaluating logistics capability for mitigation of supply chain uncertainty and risk in the Australian courier firms. Asia Pacific Journal of Marketing and Logistics, 27(3); 486-498.*

23. *Wang, Q., Zhou, H. and Zhao, X. (2023), "The role of supply chain diversification in mitigating the negative effects of supply chain disruptions in COVID-19", International Journal of Operations & Production Management, Vol. ahead-of-print No. ahead-of-print.*

24. *Zigiaris, S. (2000). Supply chain management: INNOREGIO: dissemination of innovation and knowledge management techniques. EC Funded Project.January; 1-7*