

DEMAND FORECASTING AND PERFORMANCE OF CORPORATE CHAIN STORES IN SOUTH-SOUTH, NIGERIA

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Abstract

This study investigated the relationship between demand forecasting and performance of corporate chain stores in South-South, Nigeria. The study was conceptualized with demand forecasting as predictor of organizational performance which is measured through inventory turnover rate, order fulfilment rates and cost savings. The study adopted a correlational research design. The population of the study comprised 70 corporate chain stores. The entire population was surveyed. 2 two copies of structured questionnaire were administered to the operations manager and procurement/logistics manager from each of the 70 corporate chain stores, bringing the total number of respondents to 140. The reliability of the instrument was ascertained using Cronbach Alpha test with all the items scoring above 0.70. Pearson's Product Moment relationship was used to test the hypotheses formulated for the study with the help of Statistical Packages for Social Sciences Version 25.0. The study found that demand forecasting has positive and statistically significant correlations with inventory turnover ratio, order fulfilment rates, and cost savings. Based on these findings, the study concluded that demand forecasting significantly relates to organizational of corporate chain stores in South-South, Nigeria; and recommends that managers of corporate chain stores in South-South, Nigeria should integrate advanced demand forecasting techniques, including using machine learning algorithms and advanced statistical methods to predict demand more accurately to improve their performance in terms of inventory turnover ratio, order fulfilment rates and cost savings.

Keywords: Corporate chain stores, cost savings, demand forecasting, inventory turnover ratio, order fulfilment rates, organizational performance

Introduction

Corporate chain stores are retail outlets that operate under a single brand and centralized management, often offering standardized goods and services across multiple locations. They provide diverse consumer goods ranging from groceries to household appliances. As noted by Eze et al. (2019), corporate chain stores through their standardized supply chains, ensure consistent availability, reducing reliance on informal markets.

Accurate demand forecasts is the main force through which corporate chain stores reduce stockouts and improve on-shelf availability outcomes that leads to higher sales, better customer retention and stronger brand trust (Yang, 2023). Demand forecasting is a core operational capability that affects performance of retail businesses, particularly for corporate chain stores where effective stock control directly influence operational efficiency and customer satisfaction (Makridakis et al., 2020). According to Akinola et al. (2024), inventory management systems incorporate demand forecasting to predict future inventory requirements based on historical data and market trends, the object of which is to boost organizational performance (Silver et al., 2017).

Organizational performance refers to how effectively an organization meets stakeholder expectations and sustains competitive advantage (Kaplan & Norton, 2020). Improving business performance requires careful techniques, this is because corporate because businesses operate

in a dynamic environment characterized by fluctuating demand, supply chain constraints, and regulatory requirements. Several scholars in the fields of supply chain and logistics management have identified demand forecasting as an inventory technique that retail organizations use to predict future sales based on historical data, market conditions and consumer behavior (Silver et al., 2017). Thus, accurate forecasting helps businesses maintain optimal stock levels, reducing instances of stockouts or overstocking, and improving order fulfillment rates and inventory turnover (Slack et al., 2020).

Despite the benefits of demand forecasting in boosting performance, many corporate chain stores in South-South Nigeria still struggle with supply chain challenges like inventory turnover, high holding costs, frequent stockouts, overstocking, significant back-order records, and low order fulfillment rates. These challenges are effects of demand uncertainty and inaccurate demand forecasting. Thus, problems of this kind exist for many reasons, one of which may be due to insufficiency of empirical studies to demystify managers within corporate chain stores in South-South on the significance of demand forecasting to organizational performance. To fill up the identified gap, this study probed the relationship between demand forecasting and organizational performance of corporate chain stores in South-South Nigeria.

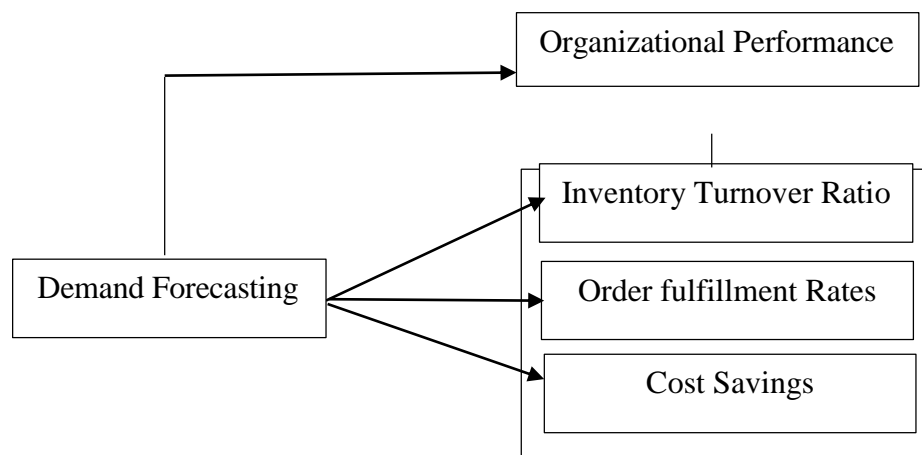


Fig. 1: Conceptual framework of correlational relationship between demand forecasting and organizational performance.

Source: Adapted from Chebet and Kithika (2019); Srour and Amy (2021).

Theoretical Foundation: Resource-Based View (RBV)

According to Makridakis et al. (2020), RBV was propounded by Penrose (1959) and later enriched Barney (1991). RBV involve understanding how unique resources and capabilities of corporate chain stores, contribute to competitive advantage and overall performance. It posits that the key to achieving and sustaining a competitive advantage lies in the organization's ability to utilize its unique resources and capabilities.

According to RBV, not all resources are equally valuable; only those that are valuable, rare, inimitable, and non-substitutable (VRIN) can provide a lasting competitive advantage. In the context of corporate chain stores in South-South, demand forecasting can be seen as a critical resource that significantly impact organizational performance. RBV approach focuses on identifying and leveraging the unique aspects of inventory management systems that provide a competitive edge.

Concept of Demand Forecasting

Demand forecasting is the process of predicting future demand for a product by analyzing historical data and other influencing factors, such as market trends and economic conditions. This systematic estimation allows businesses to make informed decisions regarding inventory levels, production plans, resource allocation, and sales goals to avoid overstocking or understocking, thereby minimizing costs and maximizing customer satisfaction and profitability (Makridakis et al., 2020).

Demand forecasting provides valuable insights into future sales trends, enabling retailers to make informed decisions regarding purchasing, production scheduling, and resource allocation. This proactive approach allows corporate chain stores to prepare for seasonal fluctuations and market changes effectively (Makridakis et al., 2020). Accurate demand forecasting enable corporate chain stores optimize inventory levels, leading to reduced holding costs and improved cash flow. Research indicates that organizations with effective demand forecasting practices can lower their inventory costs by up to 25% (Kumar & Singh, 2021). And by ensuring the availability of products that meet customer demand, effective demand forecasting enhances organizational performance.

Organizational Performance

Organizational performance is a critical construct in management research and practice, as it serves as a measure of how well an organization achieves its objectives and fulfills its mission. It is the degree to which an organization achieves its goals and objectives, as measured against its intended results and the broader context of its environment and stakeholders (Makridakis et al., 2020).

Organizational performance encompasses both outcomes (financial returns, market share, and product quality) and processes (strategies, actions, behaviors) used to achieve them. According to Yang (2023), organizational performance refers to the ability of an organization to achieve its objectives and fulfil its mission. Evaluating organizational performance involves assessing how well resources are used, how well the organization adapts to its environment, and its overall impact on the market and its people.

In the context of corporate chain stores in South-South, organizational performance can be analyzed through measurable outcomes such as inventory turnover, customer satisfaction, cost savings, and order fulfillment. In this study, organizational performance is measured using inventory turnover ratio, order fulfillment rate and cost savings.

Inventory turnover indicates how efficiently an organization manages its inventory by measuring how many times inventory is sold and replaced over a specific period. A higher turnover rate generally signifies effective inventory management practices that align with customer demand. Order fulfillment encompasses the processes involved in receiving, processing, and delivering customer orders. It measures an organization's ability to fulfill customer orders accurately and on time; while cost savings in inventory management arise from reduced holding costs, minimized stockouts, and optimized ordering processes. Cost savings refer to the reduction in expenses or spending, typically achieved by improving efficiency, eliminating waste, negotiating better deals, or streamlining processes. For corporate chain stores, cost savings can be directly tied to effective inventory management practices.

Empirical Review

Alhassan et al. (2022) examined the impact of inventory management on financial performance of Nigerian manufacturing companies. The study revealed that inventory control has a significant impact on the financial performance of quoted industrial companies in Nigeria. Similarly, Akinlabi (2021) examined the effect of inventory management practices on operational performance of selected flour mills companies in Nigeria. Findings revealed that automated inventory system was found to be positively and significantly related to operational performance.

Hassan et al. (2020) examined the effect of inventory management practices on organizational performance of food and beverage companies in Kwara State, Nigeria. This study revealed that inventory management practices had significant positive effects on organizational performance of food and beverage companies in Kwara State, Nigeria. Nwamgbebu et al. (2019) investigated the impact of inventory management on the performance of public health institutions in Nigeria. The result of the analysis revealed that inventory management have positive significant impact on performance of public health institutions.

Sporta (2018) examined the effect of inventory control techniques on organizations performance of Kenya Medical Supplies agencies. The result of the analysis showed that inventory control techniques have significant and positive influence on organizational performance of Kenya Medical Supplies Agencies. More so,

Atnafu and Balda (2018) examined the impact of inventory management practices on competitiveness and organizational performance of micro and small enterprises in Ethiopia. The results from the study indicated that higher levels of inventory management practice can lead to an enhanced competitive advantage and improved organizational performance.

Based on the foregoing, the present study formulate the following hypotheses:

- H₀₁:** There is no significant relationship between demand forecasting and the inventory turnover of corporate chain stores in South-South, Nigeria.
- H₀₂:** There is no significant relationship between demand forecasting and the order fulfillment of corporate chain stores in South-South, Nigeria.
- H₀₃:** There is no significant relationship between demand forecasting and the cost savings of corporate chain Stores in South-South, Nigeria.

Methodology

This study adopted a correlational research design using a cross-sectional approach, collecting data from 108 respondents drawn from 70 major corporate chain stores in South-South Nigeria. The study adopted a census method, and respondents were operations, and procurement/logistics managers of the 70 major corporate chain stores. The reliability of the instrument was determined via Cronbach Alpha test with all the items scoring above 0.70. Pearson Product Moment Correlation was used to test the hypotheses at 95% confidence level. The Statistical Package for Social Science, version 25.0 aided the test of hypotheses.

Table 1: Reliability Coefficients of Variable Measures

S/N	Dimension/Measure	No. of Item	Cronbach Alpha
1	Demand Forecasting	4	0.83
2	Inventory Turnover Ratio	4	0.78
3	Order fulfillment Rates	4	0.80
4	Cost Savings	4	0.75

Source: Survey Data, 2025

As shown in Table 1, the results of Cronbach's alpha analysis revealed that all the variables in the study produced high Cronbach's Alpha coefficients indicating that there is inter-item consistency among the variables in the study. This means that, if this study is conducted again in similar condition, the results will be similar to the results of our study.

Data Analysis and Findings

Table 2: Descriptive Statistics of Demand of Forecasting

	N	Sum	Mean	Std. Dev.	Variance
How often does your store estimate future product demand at individual stores and across the chain to optimize inventory, reduce stockouts/overstock, align supply chain operations, and support strategic decisions?	108	430	3.98	1.304	1.701
At what frequency does your store plan for Eid, Christmas, and New Year holidays by anticipating higher demand for rice, chicken, vegetable oil, soft drinks, and gift items?	108	530	4.91	.556	.309
Indicate the regularity at which your store plans for demand shifts between rainy and dry seasons, such as stocking umbrellas, waterproof shoes, and jackets during intense rainy periods?	108	505	4.68	.577	.333
Does your store manage inventory of generators, inverters, and rechargeable fans during blackout seasons or times of unstable national grid supply? If yes indicate the level.	108	528	4.89	.460	.212
Valid N (listwise)	108				

Source: SPSS Output, 2025.

Table 2 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents expressed very high and high extents of acceptance to the research question with respect to demand forecasting. However, question 2 which sought to determine the extent to which corporate chain stores in South-South, Nigeria project Eid, Christmas, and New Year holidays and anticipate higher demand for rice, chicken, vegetable oil, soft drinks, and gift items, has the highest mean score of 4.91. This shows that question 2 has the strongest influence on the variables.

Table 3: Descriptive Statistics of Inventory Turnover Ratio

	N	Sum	Mean	Std. Dev.	Variance
What is the frequency of measure of the rate of selling and replenishing inventory within a period in your store?	108	492	4.56	.499	.249
How frequently is your store inventory sold quickly due to strong sales or low stock levels?	108	444	4.11	.941	.885
Does inventory move slowly due to overstocking or weak sales? If yes Indicate the extent.	108	457	4.23	.827	.684
Show how your store measures the efficiency of overall stock management?	108	502	4.65	.715	.511
Valid N (listwise)	108				

Source: SPSS Output, 2025.

Table 3 depicts high mean scores of the questionnaire items ranging from over 3.00, this means that greater number of the respondents expressed very high and high degrees of acceptance to the research question with respect to inventory turnover ratio. However, question 4 which sought to determine the extent to which corporate chain stores in South-South, Nigeria measure how efficiently its business manage it overall stock, has the highest mean score of 4.65. This shows that question 4 has the strongest influence on the variables.

Table 4: Descriptive Statistics of Order Fulfilment Rate

	N	Sum	Mean	Std. Dev.	Variance
Indicate the extent which your store tracks the percentage of orders delivered in full and on time without delays or partial shipments?	108	501	4.64	.755	.569
How often does your store record high fulfillment rates (95–100%) because of strong supply strategies and customer satisfaction?	108	451	4.18	.759	.576
What is the frequency of low fulfillment rates in your store due to shortages, poor logistics, or inefficiencies?	108	514	4.76	.819	.670
Does your store measure the efficiency of inventory, logistics, and customer service performance? If yes, show how.	108	381	3.53	1.148	1.317
Valid N (listwise)	108				

Source: SPSS Output, 2025.

Table 4 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents expressed very high and high extents of acceptance to the research question with respect to order fulfilment rate. However, question 3 which sought to determine the extent to which corporate chain stores in South-South, Nigeria record low fulfillment rate due to possible inventory shortages, poor logistics, or system inefficiencies, has the highest mean score of 4.76. This shows that question 3 has the strongest influence on the variables.

Table 5: Descriptive Statistics of Cost Savings

	N	Sum	Mean	Std. Dev.	Variance
Indicate the level at which your store regularly achieves cost savings through strategic procurement?	108	528	4.89	.460	.212
How well does your store negotiate favorable terms with suppliers to reduce material costs?	108	455	4.21	.918	.842
Does your store implement cost-saving initiatives in procurement? If yes indicate the extent.	108	494	4.57	.713	.508
Highlight the extent that your store balances cost reduction with maintaining quality and reliability?	108	464	4.30	.899	.809
Valid N (listwise)	108				

Source: SPSS Output, 2025.

Table 5 depicts high mean scores of the questionnaire items ranging over 3.00, this means that greater number of the respondents expressed very high and high extents of acceptance to the research question with respect to cost savings. However, question 1 which sought to determine the extent to which corporate chain stores in South-South, Nigeria believe that they achieve cost savings through effective procurement strategies, has the highest mean score of 4.89. This shows that question 1 has the strongest influence on the variables.

Table 6: Correlation between Demand Forecasting and Inventory Turnover Rate

		Demand Forecasting	Inventory Turnover Rate
Demand Forecasting	Pearson Correlation	1	.571**
	Sig. (2-tailed)		.000
	N	108	108
Inventory Turnover Rate	Pearson Correlation	.571**	1
	Sig. (2-tailed)	.000	
	N	108	108

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2025.

Table 6 reveals a correlation coefficient of 0.571** between demand forecasting and inventory turnover rate, indicating a moderate positive relationship between demand forecasting and inventory turnover rate. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a moderate significant relationship between demand forecasting and inventory turnover rate. This further implies that demand forecasting can be used to enhance inventory turnover of corporate chain stores in South-South, Nigeria. Therefore, we reject the null hypothesis that there is no significant relationship between demand forecasting and inventory turnover rate of corporate chain stores in South-South, Nigeria.

Table 7: Correlation between Demand Forecasting and Order Fulfillment Rates

		Demand Forecasting	Order Fulfillment Rates
Demand Forecasting	Pearson Correlation	1	.484**
	Sig. (2-tailed)		.000
	N	108	108
Order Fulfillment Rates	Pearson Correlation	.484**	1
	Sig. (2-tailed)	.000	
	N	108	108

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2025.

Table 7 reveals a correlation coefficient of 0.484** between demand forecasting and order fulfilment rates, indicating a moderate positive relationship between demand forecasting and order fulfilment rates. More so, the probability value (0.000) is less than the critical value (0.05), and this shows that there is a moderate significant relationship between demand forecasting and order fulfilment rates. This further implies that demand forecasting can be used to achieve increased order fulfilment rates of corporate chain stores in South-South, Nigeria. Hence, we reject the null hypothesis that there is no significant relationship between demand forecasting and order fulfilment rates of corporate chain stores in South-South, Nigeria.

Table 8: Correlation between Demand Forecasting and Cost Savings

		Demand Forecasting	Cost Savings
Demand Forecasting	Pearson Correlation	1	.824**
	Sig. (2-tailed)		.000
	N	108	108
Cost Savings	Pearson Correlation	.824**	1
	Sig. (2-tailed)	.000	
	N	108	108

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2025.

Table 8 reveals a correlation coefficient of 0.824** between demand forecasting and cost savings, indicating a very strong positive relationship between demand forecasting and cost savings. More so, the probability value (0.000) is less than the critical value (0.05), this shows that there is a very strong significant relationship between demand forecasting and cost savings. This further implies that demand forecasting improve cost savings of corporate chain stores in South-South, Nigeria. Thus, we reject the null hypothesis that there is no significant relationship between demand forecasting and cost savings of corporate chain stores in South-South, Nigeria.

Discussion of Findings

This study probed the relationship between demand forecasting and performance of corporate chain stores in South-south Nigeria. The results of the correlation analysis conducted, indicated that demand forecasting has positive and statistically significant correlation with indices of organizational performance (inventory turnover, order fulfilment and cost savings). These findings are cohere with the report that inventory control systems, such as demand forecasting affects organizational performance outcomes like cost reduction, production efficiency, flexibility and profitability (Mbugi & Lutego , 022).

The current findings also align with that of Alhassan et al. (2022) who's examination of the impact of inventory management on financial performance of Nigerian manufacturing companies and revealed that inventory control has a significant impact on the financial performance of quoted industrial companies in Nigeria. Similarly, the current findings support the findings of Akinlabi (2021) that automated inventory system has positive significant relationship with operational performance.

In addition, our findings confirm that of Hassan et al. (2020) that inventory management practices have significant positive effects on performance of food and beverage companies in Nigeria. Further confirmed by the outcome of this study, is the report that inventory control techniques enable organizations minimize total cost (Kehinde et al., 2020), and that inventory control techniques have significant positive influence on organizational performance (Sporta, 2018).

Conclusion and Recommendations

This study examined the relationship between demand forecasting and organizational performance of corporate chain stores in South-South, Nigeria. The study found that a positive and statistically significant relationship between demand forecasting and organizational performance of corporate chain stores in South-South, Nigeria. Thus, the study concluded that demand forecasting plays a significant role in increasing organizational performance. Therefore, the study recommends that managers of corporate chain stores in South-South, Nigeria should integrate advanced demand forecasting techniques which may involve using machine learning algorithms or advanced statistical methods to predict demand more accurately to improve organizational performance such as inventory turnover ratio, order fulfilment rates and cost savings. In addition, the study recommends that managers of corporate chain stores in South-South, Nigeria should develop demand forecasting inventory system to meet customer demands and boost product delivery quality; and also constantly evaluate current inventory practices to ensure constant demand forecasting within the specific context of corporate chain stores operations, this will boost their organizational performance.

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