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LOGISTICS MANAGEMENT AND THE PERFORMANCE OF STERLING OIL EXPLORATION AND ENERGY PRODUCTION COMPANY LTD (SEEPCO).

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ABSTRACT

Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO) operations are often constrained by poor road infrastructure, high transportation costs, security risks in the Niger Delta, delays in the delivery of equipment, and bottlenecks in crude evacuation. The main objective of the study was to ascertain the influence of logistics management on the performance of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO). Cross-sectional survey research design was adopted in the study and yhe population of the study was 46 management staff of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO). The study adopts the census technique by making use of the total population of 46 as the sample size because the population is sizeable for the researcher to handle. Findings showed that the two independent variables (transport management and inventory control have a significant positive influence on the performance of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO). It was recommended that SEEPCO should Optimize Fleet Utilization by conduct regular assessments of vehicle usage, route efficiency, fleet management software to monitor vehicle location, fuel consumption, maintenance schedules, reduce idle time and prevent underutilization of transport resources.

KEYWORDS: Logistic Management, Transportation, inventory Control, performance, Operational Efficiency.

1. INTRODUCTION

Performance is a critical indicator of how effectively a company utilizes its resources to achieve strategic objectives, maintain competitiveness, and deliver value to stakeholders. In today's dynamic business environment, performance is no longer measured solely by financial outcomes, but also by operational efficiency, customer satisfaction, innovation, and sustainability. A major determinant of such performance is the effectiveness of logistics management, which serves as the backbone of supply chain operations. According to Orobia et al. (2020), Logistics management encompasses the planning, coordination, and execution of the movement and storage of goods, services, and information from the point of origin to the point of consumption. It involves key functions such as transportation, inventory control, warehousing, order fulfilment, packaging, and reverse logistics. When properly managed, logistics reduces lead times, minimizes costs, improves service quality, and enhances overall organizational efficiency. Conversely, weak logistics systems can lead to delays, stockouts, high operational costs, and reduced customer satisfaction, all of which negatively affect performance.

In many industries, especially oil and gas, manufacturing, and fast-moving consumer goods (FMCGs), logistics management is directly tied to productivity, cost control, and profitability. With globalization, increased competition, and rapidly changing customer expectations, firms are compelled to integrate technology-driven logistics solutions, data analytics, and real-time tracking systems to optimize performance. Successful organizations are the ones with specific time-table for the use of its resources and processes required by a business to provide services (Akpaetor and Akpan, 2022). Thus, effective logistics management has become not only a support function but a strategic driver of organizational performance and long-term sustainability (Ogah *et al.,* 2022).

Transportation is a critical component of logistics management and supply chain operations, as it ensures the movement of goods, services, and people from one location to another. It plays a central role in linking production sites, warehouses, and markets, thereby facilitating trade and economic growth. Effective transportation systems help organizations reduce lead time, improve order fulfilment, and achieve customer satisfaction, while inefficiencies can result in delays, higher costs, and disruptions in supply chains. According to Bowersox, Closs, and Cooper (2019), transportation accounts for nearly two-thirds of total logistics costs, making it one of the most significant factors influencing organizational performance and competitiveness.

Inventory control is a vital aspect of logistics and supply chain management, as it focuses on maintaining the right balance between stock availability and cost efficiency. It involves the monitoring, regulation, and optimization of raw materials, work-in-progress, and finished goods to ensure that customer demand is met without incurring unnecessary holding costs (Chopra and Meindl 2021). Effective inventory control minimizes risks such as stockouts, overstocking, and obsolescence, which can negatively impact organizational performance.

Performance is closely tied to how effectively logistics activities are planned, executed, and controlled across the supply chain. Logistics management encompasses key functions such as transportation, inventory control, warehousing, packaging, order fulfilment, and reverse logistics, all of which collectively determine operational efficiency and customer satisfaction. High-performing logistics systems minimize costs, shorten lead times, ensure timely deliveries, and improve service quality, thereby strengthening a firm's competitive advantage. In contrast, poor logistics management often results in delays, excess inventory, higher transportation costs, and reduced customer trust, all of which negatively impact overall performance. Effective strategic change management involves managing the people's side of an organization (Akpaetor and Madubuike 2022). As Christopher (2022) explains, effective logistics management is no longer viewed as a mere support activity but as a strategic driver of organizational performance, given its role in integrating supply chain activities and creating value for customers.

1.2 Statement of the Problem

Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO) has recorded remarkable growth in Nigeria's upstream oil and gas sector, with operations spanning OML 143 and OML 13 through its affiliate Natural Oilfield Services Ltd (NOSL). Despite these achievements, the company faces significant challenges in aligning logistics management with optimal performance outcomes. The oil and gas industry is highly logistics-intensive, requiring efficient transportation of crude oil, spare parts, and drilling equipment; effective inventory control of critical materials; reliable warehousing facilities; and well-coordinated order fulfilment processes for both upstream and downstream operations.

However, SEEPCO's operations are often constrained by poor road infrastructure, high transportation costs, security risks in the Niger Delta, delays in the delivery of equipment, and bottlenecks in crude evacuation. Inefficient inventory control and warehousing practices may result in stockouts of essential materials or excessive holding costs, thereby increasing downtime and operational expenses. Furthermore, challenges in reverse logistics such as the

disposal and recycling of drilling waste pose environmental and compliance risks. These issues negatively affect performance indicators including production uptime, cost efficiency, health and safety compliance, and customer satisfaction in crude oil export markets. Given the growing pressure on oil companies to deliver value in a cost-effective and sustainable manner, SEEPCO's inability to fully integrate logistics management into its performance strategies creates a gap that threatens long-term competitiveness. This highlights the need to examine how logistics management influences organizational performance in SEEPCO, with a view to identifying strategies for improving efficiency, reducing costs, and enhancing service reliability.

1.3 Objective of the Study

The main objective of the study was to ascertain the influence of logistics management on the performance of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO). The specific objective includes;

1. To examine the influence of transport management on the performance of SEEPCO.
2. To ascertain the effect of inventory control on the performance of SEEPCO.

1.4 Research Questions

1. What is the influence of transport management on the performance of SEEPCO?
2. To what extent does inventory control influence the performance of SEEPCO?

1.5 Statement of Hypotheses

Ho_1: There is no significant influence of transport management on the performance of SEEPCO,

Ho_2: Inventory control does not significantly influence on the performance of SEEPCO,

2. LITERATURE REVIEW

2.1 Conceptual Framework

The idea and qualitative characteristic of this study were discussed in this section of the study. These include the element that offer comparability, verifiability, timeliness, and ability of logistics management and the performance of SEEPCO Akwa Ibom State.

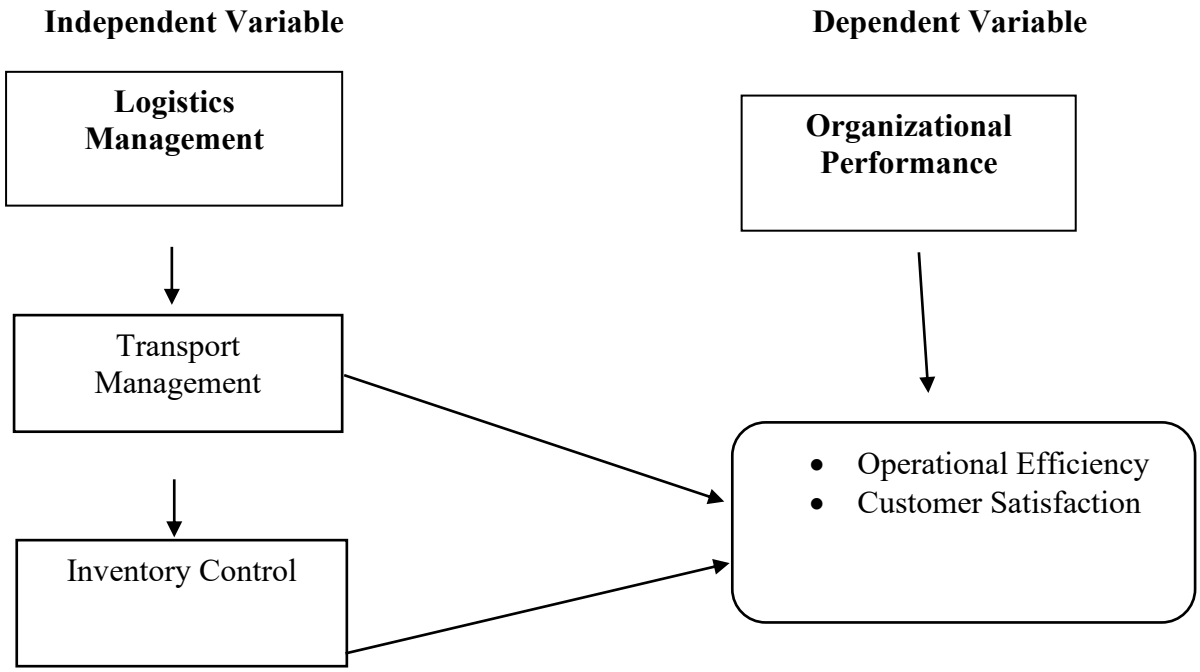

Figure 1: Model of logistics management and performance.

Source: Researcher's Conceptualization, (2026).

2.1.1 Logistics Management

Logistics management refers to the plans and actions that determine and oversee a company's product line (Ogah *et al.,* 2022). In order to meet customer expectations, it is also connected to inventory identification, procurement, planning, storage, packaging, and transportation. Inventory management activities vary by company, industry, and sector, according to Karim *et al.,* (2018). Furthermore, logistics management improves inner controls to assure high-quality catalogue while also offering worth to clients (Karim *et al.,* 2018; Sitienei and Memba, 2015). It essentially lowers logistics waste, scarcities, theft, and production expenses while maintaining sales progress, client satisfaction, competitiveness, and, ultimately, business survival. Companies can reduce risk by hedging against variations caused by main risk factors such as economic downturn, financial crises, market fluctuations, extreme weather phenomena, and change in demand with proper logistics management. It also acts as a buffer, allowing for the processing of uncertainties and variances (Brandt *et al.,* 2022). It also strikes a good balance between too little and too many logistics, ensuring that inventory levels are always at their best (Ogah *et al.,* 2022). It determines present and future inventory requirements to avoid overstocking or understocking. Lysons and Farrighton (2012) stated that effective inventory management guarantees inventory visibility at the upstream and downstream nodes of supply networks.

On the other hand, poorly managed logistics may lock up almost 70% of a company's entire current assets, impacting both its operational and overall performance (Karim *et al.,* 2018). It could also open large gaps in internal controls, exposing manufacturing organizations to financial risks, such as theft and fraud schemes (Zakaria *et al.,* 2016), production and delivery delays, numerous faulty products, and wasteful product shortages (Ogah *et al.,* 2022). It could also put these companies at risk of logisticsal losses (expirations, pollution, theft, and damage), lack of a competitive advantage, inefficient storage methods, frequent material waste, product shortages, high customer dissatisfaction, poor product quality, a lack of flexibility, and employee dissatisfaction. As a result, the study relied on the theory of limitations and strategic decision theory to correctly understand the notion of logistics management.

2.1.2 Dimension of Logistics Management

2.1.2.1 Transport Management Practice

Transport management involves the planning, controlling, and decision-making processes in logistics that facilitate the geographical movement and positioning of inventory (Gimenez & Sierra, 2013). Because of its fundamental importance and visible cost implications, transportation has traditionally received significant managerial attention, with most enterprises, large and small, employing managers responsible for transportation (Mentzer et al., 2014). Transportation typically accounts for one-third to two-thirds of overall logistics costs, thereby exerting immense influence on the performance of logistics systems (David, 2011). It plays a role throughout the production process, from manufacturing to the delivery of finished goods to consumers, and extends to reverse logistics. Effective coordination and management of all components within the transportation system are therefore essential to maximize the benefits of logistics.

2.1.2.2 Inventory Management Practice

Company inventory typically comprises raw materials, work-in-progress items, supplies used in operations, and finished goods (McInerney, 2015). The objective of inventory management is to satisfy customer requirements while minimizing total operational costs. According to (Ellinger et al. 2012) define inventory management as the strategic approach to managing product flow within a supply chain in order to achieve the desired service level at an acceptable cost. In essence, inventory management involves controlling stock levels and aligning the flow of goods and services with demand. Effective inventory management is

critical in today's competitive environment, as it influences business success or failure. Scholars argue that knowledge of inventory management is vital for managers and academics alike, as it enables cost reduction, improved product quality, enhanced service delivery, competitive advantage, and operational flexibility often through the adoption of pull systems (Swami & Shah, 2013).

2.1.3 Concept of Organizational Performance

Organizational performance refers to how effectively an organization achieves its market-oriented and financial objectives (Kim & Choi, 2024). When defining performance, two critical aspects must be considered: the time frame and the reference point. It is important to distinguish between past and future performance because superior past performance does not guarantee future success (Yoo & Kim, 2022). Organizational performance is often classified into two dimensions, operational performance and organizational (strategic) performance a distinction commonly applied in supply chain and logistics management studies (Bair & Palpacuer, 2015). Lu et al. (2015) identified operational performance measures such as lead times, on-time deliveries, work-in-process inventories, finished goods inventories, and value additions. Corporate or strategic performance indicators, by contrast, include profit growth, market share, and sales performance (Richey et al., 2011).

Performance reflects how efficiently a company utilizes its resources to create value, maintain competitiveness, and sustain long-term growth. In dynamic industries such as oil and gas, performance is influenced by multiple internal and external factors, including economic conditions, technological advancement, consumer demand, and management practices (Muhammad, 2020). Organizations that continuously improve performance through innovation, flexibility, and strategic resource allocation are better positioned to achieve sustained competitiveness (Mba et al., 2023). According to Imagha *et al.* (2024), organizational performance can also be seen as the measurable outcome of internal processes, reflected in metrics such as reliability, production cycle time, and inventory turnover. These measures influence broader business indicators, including market share and customer satisfaction. Bassey et al. (2023) observed that organizational agility significantly enhances performance by enabling firms to deliver superior value at reduced cost, thereby improving profitability and customer loyalty (Kowo and Akinbola, 2019). Strategic response are decisions and actions that firms apply or resort to in the face of business competition or turbulent business landscape. When an organization fail to respond to competition, it unavoidably opens up itself for competitive attack from rival firms (Akpaetor and Madubuike

2023). The word performance is derived from job performance or actual performance, which refers to an individual's actual accomplishment at work (Ekanem *et al.* 2026). Performance is a fundamental measure of an organization‟s ability to achieve its strategic objectives effectively and efficiently (Ekanem & Efi, 2025). Organization performance has been the most important consideration for every organization, be it profit or non-profit organization (Uforo et al. 2022)

2.1.4 Measures of Organizational Performance

1. **Operational Efficiency**

Operational efficiency refers to the relationship between the outputs a business produces and the inputs required to generate those outputs. Enhancing operational efficiency means increasing output from the same or fewer inputs by streamlining business processes to respond effectively to changing market demands while controlling costs (Hillier, 2012).

Operational efficiency is a fundamental requirement for business success in competitive markets. It underpins strategic goals such as customer satisfaction and shareholder value (Habib et al., 2022). Efficient operations enable organizations to lower production costs, optimize resource utilization, and improve profitability (Dalwai & Salehi, 2021).

Empirical studies indicate that organizations with superior operational efficiency are more likely to achieve higher profitability and competitiveness (Derouiche et al., 2020; Lee et al., 2019). Conversely, inefficient resource use leads to increased costs and reduced performance (Habib et al., 2022). Ekanem et al. (2022). Efficiency is performance measured in terms of inputs and outputs; hence, a higher volume produced for a given input volume indicates greater efficiency. Effectiveness is measured by how well intended goals are accomplished.

2. Customer Satisfaction

Customer satisfaction refers to the psychological state of comfort, pleasure, or fulfilment that arises when individuals receive what they expect from a product or service (Olaleye et al., 2024). It is essentially the emotional response generated when perceived performance aligns with or exceeds expectations. Uzir et al. (2021) described customer satisfaction as the pleasure or disappointment a customer experiences after comparing perceived service performance with prior expectations. Similarly, Bahadır et al. (2022) defined customer satisfaction as a short-term emotional reaction to a specific service encounter. Uzir et al. (2021) further emphasized that satisfaction results from the interaction between what customers believe should happen (expectations) and what they perceive actually occurred

(performance). The essence is to maximize profit by capturing consumer surplus, but the difficulty is in comprehending customer preferences and willingness to pay (Bassey, Ekanem & Edem, 2025).

2.1.5 Logistics Management and Organizational Performance

Transport management is at the centre of logistics due to the requirement for the movement of material along a supply chain. As a result, numerous studies have been carried out locally to examine the function of transportation management in supply chain management. Mutangili (2019) conducted a study to examine the influence that electronic logistics has on the performance of logistics firms. The study used a sample of 75 individuals chosen at random from among 107 business employees and discovered that e-logistics had a positive impact on the performance of logistics enterprises. In today's competitive environment, numerous firms are vying for a piece of the global market and hoping to benefit from improved production and sourcing efficiency.

Today, a key indicator of corporate performance is the importance of logistics management services in ensuring the smooth flow of resources, goods, and information throughout a company's supply chain (Soares *et al.,* 2018). The relevance of logistics management has expanded across many industries due to nationalization and globalization trends. The aim of logistics management for businesses is to increase productivity and competitiveness of their current production and distribution systems that utilize the same resources (Mendes dos Reis *et al.,* 2020). For a corporation to maintain a competitive edge in customer service and operational efficiency, logistics management is essential (Uwa and Akpaetor 2018). Over the past ten years, practitioners and the government have paid a lot of attention to logistics management because, when it operates efficiently, it successfully delivers the right product to the right place at the right time. Understanding the importance of sustainability in logistics management is essential for competitive advantage since operational success has a positive effect on a company's financial performance.

2.1.6 Transport Management Practice and Performance

A good transport management in logistics activities could provide better logistics efficiency, reduce operation cost, and promote service quality on firms (Cawley & Snyder, 2012). Obviously, a product has more value at a retail store than it has in a firm’s warehouse, because in the retail store it is available for sale (Murray, 2013). At the store it could generate revenue, while in the warehouse it is simply sitting there waiting to be moved. This is where

transportation adds value to goods. Whether the good is moved from the manufacturer to the warehouse and then to a retail store, straight from the manufacturer to the retail store, or simply from one warehouse to the next, the product becomes more valuable to the company as it moves closer to the end user (Schmenner, 2012).

In designing a logistical system, a delicate balance has to be maintained between transportation cost and service quality. In some circumstances low-cost, slow transportation is satisfactory while in other situations, faster service is essential to achieving operating goals. Finding and managing the desired transportation mix across the supply chain network is a primary responsibility of logistics management. Transport management efficiency is therefore dependent on how much value a firm is able to gain based on how much they are able or willing to spend on transportation. Lastly it is transport management that makes firm's goods and products move with lower cost, speed and consistency and provides timely and effective delivery of firm products.

2.1.7 Inventory Management and Performance

For proper inventory management, services of middlemen or intermediaries are required which is often known as supply chain management. Supply chain in simple words means sequence of partners/members/intermediaries engaged or involved to supply and manage the flow of manufactured products to the ultimate customers. These partners/ members/intermediaries are known as channel functionaries encompassing suppliers, manufacturers, wholesalers, retailers and the ultimate customers. These members collaborate and work together by forming a network chain to ensure the goods are moved to the markets (customers) known as supply chain. Supply chain is often known as all the parties/ channel members involved in satisfying the end customers (Charles, 2012).

In lean supply chain thinking, inventory is regarded as one of the seven 'wastes' and, therefore, it is considered as something to be reduced as much as possible. Similarly, in agile supply chains, inventory is held at few echelons, if at all with goods passing through supply chains quickly so that companies can respond rapidly to exploit changes in market demand (Cardy and Munjal, 2016). There have been various supply chain taxonomies based on these concepts and most stress the need for inventory reduction within each of the classifications. For example, Volberda and Karali (2015), state that a lean supply chain 'generates high (inventory) turns and minimizes inventory throughout the chain' in an agile supply chain companies 'make in response to customer demand' and in a hybrid supply chain companies

'postpone product differentiation and minimize functional components inventory'. There is thus an emphasis on inventory reduction in each of these supply chain classifications.

2.2 Theoretical Review

2.2.1 Theory of Constraints (TOC) by Goldratt (1984)

This study adopts the Theory of Constraints (TOC), originally proposed by (Goldratt, 1984). The theory emphasizes a continuous improvement process that enables organizations to identify and focus on bottlenecks within their business processes. These bottlenecks, or constraints, determine the pace at which an organization can achieve its objectives. TOC provides a systematic approach to improvement through what Goldratt refers to as the "Five Focusing Steps." These steps include: identifying the system's constraints, deciding how to exploit the constraints, subordinating other processes to the decisions made, elevating the constraints, and returning to step one to ensure continuous improvement without allowing inertia to create new constraints.

Once the constraint has been identified, TOC introduces a management tool known as the *Thinking Process* (TP), which helps managers define what the organization should change, what it should change to, and how the transformation should be implemented (Goldratt, 1990). This framework elevates TOC from a manufacturing philosophy to a broader management philosophy, applicable across diverse sectors.

The theory also proposes new performance measures that shift focus from traditional cost-based indicators to metrics that directly improve organizational outcomes, such as throughput, inventory, and operational expenses (Goldratt & Cox, 1992). This makes TOC particularly relevant to logistics and supply chain contexts, where bottlenecks can significantly impact performance.

The relevance of TOC to this study lies in its ability to guide the assessment of logistics management practices; transportation, inventory control, warehousing, order fulfillment, and reverse logistics as potential constraints or enablers of organizational performance. By applying TOC, the study seeks to determine how effectively SEEPCO can identify and manage these logistics processes to enhance overall performance.

2.3 Empirical Review

Green (2025) led an examination on the effect of logistics performance on firm performance in an inventory network setting. The theory of the investigation was; supply network administration technique is decidedly connected with logistics performance, production

network administration system is emphatically connected with advertising performance, an inventory network administration methodology is decidedly connected with budgetary performance, logistics performance is decidedly connected with promoting performance and that logistics performance is decidedly connected with money related performance. Information from a national example of 142 plant and tasks supervisors from New York were dissected utilizing a basic condition demonstrating strategy. The outcomes show that logistics performance is emphatically affected by production network administration technique and specifically impacts advertising performance which, thus, impacts money related performance. These outcomes show a positive connection between logistics performance and firm performance inside the manufacturing sector.

Toroitich and Nondi (2024) considered impacts of logistics administration on the performance of association of transportation companies in the County of Mombasa. The goal of the investigation was to set up the impact of warehousing, stock administration and transportation administration on authoritative performance. The examination utilized a clear overview plan and focused on all the transportation lines in the town. Information was gathered from the sixteen (16) delivery lines that were operative in Mombasa. The information was accumulated utilizing organized polls and examined utilizing both elucidating and inferential measurements. The investigation built up that distribution centre administration, Inventory Management, turn around logistics and transport administration altogether impact authoritative performance.

Wathe (2024) did an examination on impact of logistics administration on execution of manufacturing firms in Kenya. The goals of the investigation were to; break down the impact of transport administration on execution of manufacturing firm in Kenya, assess the impact of stock administration on execution of manufacturing firm in Kenya, investigate the impact of request process administration on execution of manufacturing firm in Kenya, build up the impact of data stream administration on execution of manufacturing firm and to evaluate the directing impact of logistics data framework because of logistics administration on execution of manufacturing firm in Kenya. The investigation received unmistakable and logical research outline. The objective populace was all manufacturing firms in Kenya. The investigation examined 320 firms. The information was gathered utilizing surveys. The information was dissected utilizing expressive and inferential measurements. The investigation set up that vehicle administration, stock administration; arrange process administration and data stream administration essentially affected firm execution.

Adhiambo (2024) led an examination on supply network administration practices and inventory network execution of private colleges in Kenya. The destinations of the examination were to set up the production network practices that are completed by private colleges in Kenya, and to build up the effect of inventory network administration hones on supply network execution of private colleges in Kenya. The examination adjusted an enlightening plan. The examination set up that every one of the four production network administration hones have been actualized in private colleges in Kenya with lean practices and data innovation sharing executed to a huge degree, while outsourcing of non-center administrations and vital provider organizations to a direct degree. Every one of the four practices was found to have positive factual association with execution.

Kiraga (2024) did an examination on transport administration practices and logistics execution of compassionate Organizations in Kenya. The examination was guided by the accompanying exploration questions; what transport administration practices are being utilized in philanthropic associations in Kenya? Is there any connection between transport administration practices and logistics execution of philanthropic associations? The research configuration utilized was expressive plan. The investigation discovered that the company take into account the closeness of transportation suppliers to distribution centres, ports, airplane terminals; the firm considers vehicle booking and course streamlining and consistence on stacking controls and requirement (pivot stack limits) combination chances to decrease costs; the company takes into account the limit of conveyance suppliers to expand on thrifts of scale and the company takes into account the open doors for consistent backhaul and truckload moves to minimize expenses.

3 METHODOLOGY

The cross-sectional survey reasearch design is employed in this study by the researcher to create a better understanding of individual or group viewpoints concerning a specific concept or issue of interest since the focus of this study is on experience of people working in Nigeria's SEEPCO Akwa Ibom state, quantitive methods are used to investigate the topic's holistic character. A survey design is used since the data needed for this study is sourced primarily.

This study makes use 46 management staff of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO). In table 3.1

Table 3.1.

Name	No. of Employees	Percentage
Top level managers	8	17%
Middle level managers	38	83%
Total	**46**	**100%**

Source: SEEPCO in Akwa Ibom State**, (**2025).

The study adopts the census technique by making use of the total population of 46 as the sample size because the population is sizeable for the researcher to handle. The study adopted the census technique by making use of the total population of 46 as the sample size because the population is sizeable for the researcher to handle. The census technique is a research approach in which data is collected from every member of a population rather than a selected sample. It is employed when the population size is relatively small, accessible, and manageable, or when a high degree of accuracy and completeness is required. By covering the entire population, the census technique eliminates sampling error and provides comprehensive data that reflects the exact characteristics of the study group. According to Kothari (2004), census methods are most appropriate when the population is small, diverse, and when detailed information is necessary for precise analysis.

This study adopted a questionnaire with a 5-point Likert scale which includes Strongly Agreed SA (5), Agreed A (4), Undecided (3), Strongly Disagreed SD (2), and Disagreed D (1). The questionnaire is divided into Section A (which reviews the demographic variables of respondents) and Section B, which contains research questions relevant to the problem at hand. The research instrument used in the collection of data in this study is the questionnaire.

The reliability of the research instrument was established by ensuring that it produces consistent results across respondents. According to Best and Kahn (2006), reliability refers to the degree of consistency that an instrument or procedure demonstrates. This is achieved through careful wording of instructions, logical arrangement of questions, and inclusion of items directly related to logistics management and organizational performance. A pilot test is conducted, and data from the pilot study is analyzed using Cronbach's Alpha to determine the internal consistency of the constructs. Cronbach (1951) recommends a coefficient of 0.70 and above as acceptable for internal consistency, which is adopted in this study.

Table 3.2: Reliability Analysis.

Scale	Cronbach's Alpha	Number of Items
Transportation	0.771	4
Inventory Control	0.824	4

Performance	0.814	4
Total	0.841	20

Source: Survey data, (2026)

The model to be used is premised on the main objective of the study and is anchored on the sub-objectives. The following empirical model is developed to analyze the influence of logistics management on the performance of SEEPCO, using transportation, inventory control, warehousing, order fulfillment, and reverse logistics as the explanatory variables, to examine how they influence the performance of SEEPCO, which serves as the dependent variable.

The model specification is as follows:

$P=\beta_0 +\beta_1 TS+\beta_2 IVC+\mu$

Where:

- P = Performance
- TS = Transportation
- IVC = Inventory Control
- β_0 = Constant
- β_1–β_3 = Coefficients
- μ = Error term

The levels of quantitative analysis include descriptive statistics. However, in this study, Simple Linear Regression is employed to ascertain the influence that exists between the variables. The decision rule used in this study is stated thus; Reject the null hypotheses if the probability value (p-value) is less than 0.05 ($p<0.05$). Alternatively, accept the null hypotheses if the probability value (p-value) is greater than 0.05 ($p>0.05$) (Mallery, 2003). This is stated symbolically as: Reject Ho if Pc < Pt. Accept Ho if Pc > Pt.

4. Data Presentation, Analysis and Discussion of Findings

This section presented the descriptive analysis, result of test of hypotheses and summary of result.

4.1 Data Presentation

Table 4.1: Copies of Questionnaire Administered and the Response Rate.

S/N		Copies of questionnaire distributed	Copies of questionnaire retrieved useable	Copies of questionnaire Not retrieved	Percentage (%) distribution
	Top level managers	8	6	2	15.0
	Middle level managers	38	34	4	85.0
	Total	**46**	**40**	**6**	**100.0**

Source: Compiled from questionnaire response, (2026).

The total copies of questionnaire that were accurately filled and returned were 40 out of the 46 that were allocated and distributed. This constitutes 87.0% of the total copies of questionnaire that was found relevant for use. Despite efforts by the researcher to ensure adequate and correct completion of the questionnaire by self-administering, 6 copies of questionnaire were returned incompletely filled, hence were discarded. The responses were then analyzed using the Statistical Package for Social Sciences (SPSS).

Table 4.2 Percentage analysis of Transport Management.

Transport Management		Extent of Agreement			
	SA	A	UN	SD	D
The company's transport fleet is sufficient to meet operational demands.	17 (43%)	12 (30%)	2 (5%)	4 (10%)	5 (12%)
Delivery routes are optimized to minimize delays and fuel consumption.	15 (38%)	19 (47%)	-	2 (5%)	4 (10%)
Vehicles are regularly maintained to prevent breakdowns.	12 (30%)	21 (53%)	2 (5%)	2 (5%)	3 (7%)
Transport management systems are integrated with other logistics operations	19 (47%)	14 (36%)	3 (7%)	4 (10%)	-

Source: Field survey (2026)

Table 4.2 The company's transport fleet is sufficient to meet operational demands, 17 (43%) strongly agreed to questions, 12 (30%) agreed, 2 (5%) were undecided, 4 (10%) strongly disagreed and 5 (12%) disagreed, thus concludes that with the level of agreement means that effective transport management to performance.

Delivery routes are optimized to minimize delays and fuel consumption, a proportion of 40 respondents, 15 (38%) strongly agreed to questions, 19(47%) agreed, none were undecided, 2

(5%) strongly disagreed and 4 (10%) disagreed, thus concludes that with the level of agreement of 85% means that effective transport management contributes to performance.

Vehicles are regularly maintained to prevent breakdowns. A proportion of 40 respondents, 12 (30%) strongly agreed to questions, 21 (53%) agreed, 2 (5%) were undecided, 2 (5%) strongly disagreed and 3 (7%) disagreed, thus concludes that with the level of agreement of 83% means that transport management contributes to organizational success.

Transport management systems are integrated with other logistics operations. A proportion of 40 respondents, 19 (47%) strongly agreed to questions, 14(36%) agreed, 3 (7%) were undecided, 4 (10%) strongly disagreed and none disagreed, thus concludes that with the level of agreement of 83% means that effective transport management contributes to performance.

From the descriptive analysis is it observed that 89% of the respondents were of the agreement while 11% were not. Showing that the transport management contributes to performance of SEEPCO.

Table 4.3: Percentage analysis of responses on Inventory Control.

Inventory Control		**Extent of Agreement**			
	SA	**A**	**UN**	**SD**	**D**
Inventory levels are regularly monitored to prevent stock outs.	19 (47%)	14 (36%)	3 (7%)	4 (10%)	-
Safety stock and reorder points are effectively implemented.	17 (43%)	12 (30%)	2 (5%)	4 (10%)	5 (12%)
Automated inventory tracking systems (e.g., barcode/RFID) are in use.	15 (38%)	19 (47%)	-	2 (5%)	4 (10%)
Inventory audits are conducted periodically to ensure accuracy.	12 (30%)	21 (53%)	2 (5%)	2 (5%)	3 (7%)

Source: Field survey (2026)

Table 4.3 shows the frequency of responses and their percentages on the inventory control dimension. Question on Inventory levels are regularly monitored to prevent stock outs**.** A proportion of 40 respondents, 19 (47%) strongly agreed to questions, 14(36%) agreed, 3 (7%) were undecided, 4 (10%) strongly disagreed and none disagreed, thus concludes that with the level of agreement of 83% means that inventory control contributes to performance.

On the question that Safety stock and reorder points are effectively implemented, 12 (30%) agreed, 2 (5%) were undecided, 4 (10%) strongly disagreed and 5 (12%) disagreed, thus concludes that with the level of agreement means that inventory control contributes to performance.

On the question that automated inventory tracking systems (e.g., barcode/RFID) are in use, a proportion of 40 respondents, 15 (38%) strongly agreed to questions, 19(47%) agreed, none were undecided, 2 (5%) strongly disagreed and 4 (10%) disagreed, thus concludes that with the level of agreement of 85% means that inventory control contributes to performance.

On the question Inventory audits are conducted periodically to ensure accuracy. A proportion of 40 respondents, 12 (30%) strongly agreed to questions, 21 (53%) agreed, 2 (5%) were undecided, 2 (5%) strongly disagreed and 3 (7%) disagreed, thus concludes that with the level of agreement of 83% means that inventory control contributes to performance.

From the descriptive analysis is it observed that 81% of the respondents were of the agreement while 19% were not. Showing that the inventory control contributes to performance.

4.2 Test of Hypotheses

Hypothesis One

H_{o1}: There is no significant influence of transport management on the performance of SEEPCO,

H_1: There is significant influence of transport management on the performance of SEEPCO,

Table 4.8: The Simple Linear Regression Analysis on the Influence of transport management on the performance of SEEPCO, Nigeria.

Model Summary[b]					
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
1	.907[a]	.823	.822	.38237	1.030
a. Predictors: (Constant), Transport management					
b. Dependent Variable: Performance					

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	164.670	1	164.670	1126.259	.000[b]
	Residual	35.529	39	.146		
	Total	200.199	40			
a. Dependent Variable: performance						
b. Predictors: (Constant), transport management						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.453	.130		-3.475	.001
	transport management	1.105	.033	.907	33.560	.000
a. Dependent Variable: performance						

The model summary in table 4.8 shows an R- value of 0.907. The result shows a positive influence of transport management on performance of SEEPCO. The R square- value of 0.823 shows that 82.3% variation in transport management was accounted for by variations in performance of SEEPCO. The ANOVA table indicates that the regression model significantly predicts the dependents variable given the F- value of 1126.259 and its corresponding P-value of 0.00. This implies that there is a positive influence of transport management on performance. Also, the B-coefficient of 0.033 implies that holding every other thing constant, the model predicts 0.033 units increase in transport management given a unit increase in performance. Therefore, since an F-value of 1126.259 and P-value of .000 lies below the alpha value of 0.05 level of significant in social sciences, it can be affirmed that the null hypothesis which states that there is no significant influence of transport management on the performance of SEEPCO in Nigeria is rejected and the alternative accepted, suggesting that there is a significant influence of transport management on the performance of SEEPCO, Nigeria ($P<0.05$)

Hypothesis Two

H_{O2}: Inventory control does not significantly influences the performance of SEEPCO,

H_2: Inventory control significantly influences on the performance of SEEPCO,

Table 4.8: The Simple Linear Regression Analysis on the Influence of inventory control on the performance of SEEPCO, Nigeria.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893[a]	.797	.796	.36424	1.030
a. Predictors: (Constant), Inventory control					
b. Dependent Variable: Performance					

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	126.449	1	126.449	953.111	.000[b]
	Residual	32.239	39	.133		

	Total	158.687	40			
a. Dependent Variable: Inventory control						
b. Predictors: (Constant), Performance						

Coefficients[a]					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	.154	.124		1.245	.215
Inventory control	.968	.031	.893	30.872	.000
a. Dependent Variable: performance					

Source: Researcher's Computation (2026)

The model summary result shows that the correlation coefficient (R) is 0.893, indicating a very strong positive relationship between Inventory Control and the Performance of SEEPCO. The coefficient of determination (R^2) is 0.797, which implies that 79.7% of the variation in organizational performance is explained by Inventory Control, while the remaining 20.3% is due to other variables not included in the model. The Adjusted R^2 value (0.796**)** confirms that the model is stable and has strong explanatory power. The ANOVA table shows that the regression model is statistically significant.

- $F(1,243) = 953.111$
- $p = .000 < 0.05$

This indicates that Inventory Control significantly predicts the performance of SEEPCO. Therefore, the regression model provides a good fit for the data. The regression coefficient for Inventory Control (B = 0.968) indicates that a one-unit increase in Inventory Control will lead to a 0.968 increase in organizational performance. The standardized beta coefficient (β = 0.893) shows that Inventory Control is a very strong predictor of performance. The t-value **(**30.872**)** with p = .000 indicates that the effect is statistically significant at the 0.05 level. It can validated that the null hypothesis which states that inventory control does not significantly influence the performance of SEEPCO in Nigeria is rejected and the alternative accepted suggesting that inventory control significantly influence on the performance of SEEPCO, Nigeria.

4.3 DISCUSSION OF FINDINGS

The first objective was to examine the influence of transport management on the performance of SEEPCO. The descriptive analysis revealed that transport management significantly influences organizational performance. Efficient transport operations, including fleet utilization, route planning, and timely deliveries, were shown to improve overall operational

efficiency. Properly managed transport ensures materials and products move quickly and cost-effectively between locations, reducing delays and enhancing customer satisfaction. Investment in transport infrastructure, GPS tracking, and predictive maintenance can further enhance performance. This aligns with previous studies (Christopher, 2016; Chopra and Meindl, 2019) that highlight transport management as a critical factor for logistics efficiency and service quality.

The second objective was to ascertain the effect of inventory control on the performance of SEEPCO. Inventory control was found to have a strong positive effect on organizational performance. Maintaining optimal stock levels, implementing reorder points, and using automated tracking systems significantly reduce stock outs, overstocking, and operational inefficiencies. Organizations with robust inventory control can ensure smooth production and distribution, reducing operational disruptions. Automated systems, periodic audits, and safety stock strategies are crucial for sustaining performance. This is consistent with the works of Cachon and Terwiesch (2019), who argue that effective inventory management directly influences supply chain efficiency and performance outcomes.

CONCLUSION

This study examined the influence of logistics management on the performance of Sterling Oil Exploration and Energy Production Company Ltd (SEEPCO), with particular emphasis on transport management and inventory control. The findings revealed that both dimensions of logistics management have a significant positive influence on organizational performance. The regression analysis showed that transport management accounted for 82.3% of the variation in performance ($R^2 = 0.823$), while inventory control explained 79.7% of the variation in performance ($R^2 = 0.797$). These results indicate that efficient transportation systems and effective inventory control practices are critical drivers of operational efficiency, productivity, cost reduction, and service reliability within SEEPCO.

The study therefore concludes that logistics management plays a vital role in enhancing the performance of SEEPCO. Despite the logistical challenges associated with operating in the Niger Delta region, improvements in transportation and inventory management can significantly reduce operational bottlenecks, improve resource utilization, and strengthen the company's competitive position. Consequently, effective logistics management should be regarded as a strategic tool for achieving sustainable organizational performance.

Recommendations

SEEPCO should strengthen its transport management practices by optimizing fleet utilization, improving route planning, and adopting modern fleet management technologies such as GPS tracking and route optimization software. This will help reduce transportation costs, minimize delays, improve delivery reliability, and enhance overall operational efficiency. The company should also establish strategic partnerships with reliable logistics service providers and develop contingency transportation plans to address security and infrastructure challenges common in the Niger Delta region.

Furthermore, SEEPCO should improve its inventory control system through the adoption of automated inventory management technologies such as barcode and RFID systems to enhance stock visibility and accuracy. Regular inventory audits and continuous monitoring of stock levels should be conducted to prevent stock-outs and overstocking. In addition, the company should integrate its logistics functions through a comprehensive logistics information system and provide continuous training for logistics personnel to ensure effective utilization of modern logistics tools and practices, thereby sustaining organizational performance and competitiveness.

REFERENCES

1. Adhiambo, J. (2024). *Supply chain management practices and supply chain performance of private universities in Kenya*. Unpublished research report.
2. Akpaetor, U. A., & Akpan, M. J. (2022) Production Scheduling and Organizational Productivity in Transportation Companies in Akwa Ibom State.
3. Akpaetor, U. A., and Madubuike, E. S. (2022). Critical success factors and strategic change management in selected deposit money banks in Uyo, Akwa Ibom State. AKSU Journal of Management Sciences (AKSUJOMAS), 7(1–2), 107–120..
4. Akpaetor, U., & Madubuike, E.S. (2023). Business Process Reengineering (BPR): A contemporary tool for strategic response in selected brewing firms in the Nigerian Brewery Industry. Being Paper Presented at Ist International Conference, Faculty of Management Sciences, Akwa Ibom State University, Obio Akpa Campus, Akwa ibom state.
5. Bahadır, M., Uzir, M. U. H., & colleagues. (2022). Customer satisfaction and service performance in modern organizations. *Journal of Service Management Studies*, 14(2), 45–59.

6. Bair, J., & Palpacuer, F. (2015). CSR beyond the corporation: Contested governance in global value chains. *Global Networks*, 15(1), 1–19.
7. Bassey, E. E., Kowo, S. A., & Akinbola, O. A. (2023). Organizational agility and business performance in emerging economies. *International Journal of Business Studies*, 12(3), 67–82.
8. Bassey, B.A., Ekanem, U.A., & Edem, E.A. (2025). Penetration Strategies and the Performance of Cement Manufacturing Firms in Nigeria. African Journal of Business and Economic Development, 5(4), 1-18.
9. Best, J. W., & Kahn, J. V. (2006). *Research in education* (10th ed.). Pearson Education.
10. Bowersox, D. J., Closs, D. J., & Cooper, M. B. (2019). *Supply chain logistics management* (5th ed.). McGraw-Hill Education.
11. Brandt, T., Kumar, V., & Singh, P. (2022). Risk management and inventory optimization in supply chains. *International Journal of Logistics Management*, 33(4), 521–538.
12. Cachon, G., & Terwiesch, C. (2019). *Matching supply with demand: An introduction to operations management* (4th ed.). McGraw-Hill Education.
13. Cardy, R., & Munjal, S. (2016). Lean and agile supply chain strategies: Inventory implications. *Supply Chain Review*, 8(2), 55–69.
14. Cawley, J., & Snyder, R. (2012). Transportation management and logistics performance. *Journal of Transport Economics*, 16(3), 122–135.
15. Charles, G. (2012). *Supply chain management and customer satisfaction*. Oxford University Press.
16. Chopra, S., & Meindl, P. (2021). *Supply chain management: Strategy, planning, and operation* (8th ed.). Pearson Education.
17. Christopher, M. (2022). *Logistics and supply chain management* (6th ed.). Pearson Education.
18. Christopher, M. (2016). *Logistics and supply chain management* (5th ed.). Pearson Education.
19. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334.
20. Dalwai, T., & Salehi, M. (2021). Operational efficiency and organizational competitiveness. *Management Science Review*, 19(2), 115–128.
21. David, F. R. (2011). *Strategic management: Concepts and cases* (13th ed.). Pearson Education.

22. Derouiche, R., Neubert, G., & Bouras, A. (2020). Measuring operational efficiency in modern organizations. *Operations Management Journal*, 28(4), 210–225.
23. Ekanem, U. A., Akpan, B. B., Ekanem, G. U., & Edem, E. A. (2022). Green Operation Practice and Organizational performance in selected manufacturing firms in Akwa Ibom State, Nigeria. European Journal of Business and Innovation Research, 11(4), 59–73.
24. Ekanem, G.U, Martin B.E, Ekanem, U.A, & Udom, K.O (2026). Artificial Intelligence and Employee Performance in Manufacturing Firms in South-South, Nigeria. International Journal Advanced Research Publication, 2(5), 1-24.
25. Ekanem, U.A., & Efi, A.E. (2025). Strategic Agility and the Performance of Fast-Moving Consumer Goods (FMCG) Firms in South-West Nigeria. Research Journal of Management Practice, 5(3), 74-94.
26. Ellinger, A. E., Ellinger, A. D., & Keller, S. B. (2012). Logistics and inventory management practices. *Journal of Business Logistics*, 33(1), 1–12.
27. Gimenez, C., & Sierra, V. (2013). Sustainable supply chain management and transport practices. *International Journal of Production Economics*, 140(1), 39–50.
28. Goldratt, E. M. (1984). *The goal: A process of ongoing improvement*. North River Press.
29. Goldratt, E. M. (1990). *What is this thing called theory of constraints and how should it be implemented?* North River Press.
30. Goldratt, E. M., & Cox, J. (1992). *The goal* (2nd ed.). North River Press.
31. Green, K. W. (2025). Logistics performance and firm performance in a supply network setting. *Journal of Supply Chain Management*, 61(1), 35–49.
32. Habib, A., Khan, M., & Ahmad, S. (2022). Operational efficiency and organizational performance. *International Journal of Productivity and Performance Management*, 71(5), 1421–1438.
33. Hillier, F. S. (2012). *Introduction to operations research* (9th ed.). McGraw-Hill.
34. Imagha, E., Bassey, E., & Udoh, A. (2024). Organizational performance measurement and business competitiveness. *African Journal of Management Research*, 11(2), 76–91.
35. Karim, R., Rahman, M., & Ahmed, S. (2018). Inventory management and organizational performance. *International Journal of Supply Chain Management*, 7(4), 45–53.
36. Kim, J., & Choi, H. (2024). Organizational performance and market orientation. *Management Review Quarterly*, 74(1), 89–107.
37. Kiraga, J. (2024). Transport management practices and logistics performance of humanitarian organizations in Kenya. *African Logistics Journal*, 10(2), 50–66.

38. Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International Publishers.
39. Kowo, S. A., & Akinbola, O. A. (2019). Business agility and organizational success. *Journal of Entrepreneurship and Management*, 8(1), 21–35.
40. Lee, J., Park, Y., & Kim, S. (2019). Operational efficiency and profitability among manufacturing firms. *Journal of Operations Management*, 65(3), 250–265.
41. Lu, C. S., Lai, K. H., & Cheng, T. C. E. (2015). Logistics capabilities and firm performance. *Transportation Journal*, 54(1), 23–45.
42. Lysons, K., & Farrington, B. (2012). *Procurement and supply chain management* (8th ed.). Pearson Education.
43. Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. Allyn & Bacon.
44. Mba, O., Akpan, A., & Udo, E. (2023). Strategic resource allocation and organizational competitiveness. *Nigerian Journal of Management Sciences*, 15(2), 88–102.
45. McInerney, C. (2015). Inventory management and business performance. *International Journal of Inventory Control*, 5(1), 12–24.
46. Mentzer, J. T., Stank, T. P., & Esper, T. L. (2014). Supply chain management and transportation performance. *Journal of Business Logistics*, 35(1), 1–18.
47. Muhammad, A. (2020). Determinants of organizational performance in dynamic industries. *International Business Review*, 18(4), 201–215.
48. Mutangili, P. (2019). Electronic logistics and performance of logistics firms. *Journal of Logistics and Supply Chain Management*, 11(2), 60–74.
49. Ogah, O., Ekanem, E., & Bassey, U. (2022). Logistics management and organizational competitiveness. *Nigerian Journal of Business Administration*, 9(1), 34–49.
50. Olaleye, B., Uche, M., & Nwosu, P. (2024). Customer satisfaction and service quality assessment. *Journal of Consumer Behaviour Studies*, 13(2), 101–118.
51. Orobia, L., Nakibuuka, J., Bananuka, J., & Akisimire, R. (2020). Logistics management practices and firm performance. *African Journal of Business Management*, 14(3), 85–97.
52. Richey, R. G., Chen, H., Upreti, R., Fawcett, S. E., & Adams, F. G. (2011). The moderating role of barriers on logistics performance. *International Journal of Physical Distribution & Logistics Management*, 41(3), 233–252.
53. Sitienei, E., & Memba, F. (2015). Inventory management practices and organizational performance. *International Journal of Economics, Commerce and Management*, 3(4), 1–15.

54. Soares, A., Mendes dos Reis, J., & Ferreira, P. (2018). Logistics services and organizational performance. *International Journal of Logistics Research and Applications*, 21(4), 355–372.
55. Swami, S., & Shah, J. (2013). Inventory management and operational efficiency. *International Journal of Business and Management*, 8(5), 125–134.
56. Toroitich, P., & Nondi, M. (2024). Logistics management and performance of transportation companies in Mombasa County. *Journal of Transport and Supply Chain Management*, 18(1), 1–15.
57. Uforo, A. E., Malachi, U. U. and Don, B. (2022). Maintenance management and organizational performance in selected manufacturing firms, Akwa Ibom State, International Journal of Business and Management Review, 10(4), 37-59.
58. Uzir, M. U. H., Al Halbusi, H., Thurasamy, R., et al. (2021). Customer satisfaction and service quality: A contemporary review. *Journal of Retailing and Consumer Services*, 60, 102–117.
59. Volberda, H. W., & Karali, E. (2015). Lean, agile, and hybrid supply chain strategies. *Supply Chain Forum: An International Journal*, 16(3), 24–37.
60. Wathe, P. (2024). Logistics management and performance of manufacturing firms in Kenya. *African Journal of Supply Chain Management*, 7(1), 14–29.
61. Yoo, J., & Kim, S. (2022). Organizational performance measurement and future competitiveness. *Management Decision*, 60(4), 981–997.
62. Zakaria, N., Rahman, A., & Hassan, M. (2016). Internal controls, inventory management and organizational performance. *International Journal of Accounting and Finance*, 6(2), 77–92.