

**INVENTORY MANAGEMENT AS A CATALYST FOR CORPORATE SUCCESS OF THE
DOWNSTREAM OIL AND GAS COMPANIES IN RIVERS STATE, NIGERIA**

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ABSTRACT

Inventory management continues to play a critical role in efficiency, cost optimization, service delivery, and competitiveness, especially in the downstream oil and gas industry where there are issues of availability and demand variability. This paper theoretically reviews the relationship between inventory management and corporate success, with a particular focus on key measures: product quality, process innovation, and product cycle time. Anchored in the Lean Thinking Theory developed by Womack and Jones (1990), the paper examines how lean inventory principles can enhance organizational performance by abating inventory-related costs while maximizing customer value. The review highlights some of the common issues in inventory management among downstream companies in Rivers State, such as stock-outs, overstocking, poor demand forecasting, and supply chain disruptions, which limit firm performance. Through a critical synthesis of extant theoretical and empirical reviews, the paper establishes that effective inventory management ensures the availability of the premium motor spirit (PMS/Petrol), automotive gas oil (AGO/Diesel), dual purpose kerosene (DPK), aviation turbine kerosene (ATK/Jet A-1), liquefied petroleum gas (LPG/Cooking Gas), low pour fuel oil (LPFO), marine diesel oil (MDO), engine oils, hydraulic oils, gear oils, greases, compressor oils, industrial lubricants, brake fluids etc. Moreover, the paper illustrates the significance of the Lean Thinking Theory in offering an effective framework in explaining the role played by inventory optimization in achieving

optimal organizational results within a competitive and regulated environment. The paper concludes that proper inventory management acts as a catalyst to ensure organizational success in terms of ensuring a healthy equilibrium between demand and supply, minimizing wastage, and gaining a competitive advantage for downstream oil and gas companies in Rivers State. Consequently, the paper recommends the adoption of lean-based inventory management practices such as Just-in-Time (JIT) inventory management to minimize waste, reduce inventory holding costs, and streamline operations.

INTRODUCTION

In the Nigerian context, Rivers State embodies a nucleus of oil and gas activities, and downstream oil and gas companies play a pivotal role in the economic development of the State by serving as the bridge between petroleum refining and the delivery of petroleum products to end-users. These organizations face increasing pressure to improve efficiency and enhance product quality with fluctuating global demand. Nigerian downstream oil and gas companies in Rivers State deal with infrastructural problems, supply chain uncertainties, as stock-outs, overstocking, poor demand forecasting, outdated inventory, and supply chain disruptions that hurt their competitiveness. To tackle these issues, many have embraced lean management principles that focus on eliminating waste, optimizing processes, and creating value for customers (Brancalion et al., 2024; De Giovanni, 2021). The success of these companies hinges not only on resource extraction but also on effectively managing inventory systems. These systems impact production flow, cost efficiency, and service quality. Rivers State is home to several listed multinational and local oil and gas companies. It is the heart of Nigeria's petroleum industry, contributing over 48% of onshore crude oil production and all liquefied natural gas exports (Worldfolio, 2022). As Chukwuemeka and Poi (2023) point out, citing Ugbomeh and Atubi (2010), the sector attracts foreign investment, transfers technology, and creates jobs. Thus, improving operations through lean practices is crucial for maintaining competitiveness and achieving long-term success. Despite its economic importance, the long-term sustainability and competitiveness of these firms depend largely on the effectiveness of their operational processes, especially inventory management. Inventory management involves planning, monitoring, and controlling the flow of materials to ensure the right quantity and quality of goods throughout the supply chain (Ogbeifun, 2018). In the oil and gas sector, this function goes beyond simple logistics; it is essential for operational continuity, cost savings, and overall success. Efficient inventory practices help prevent stockouts, optimize lead times, and improve production flexibility. These factors directly affect product quality, cycle times, and innovation processes (Chopra & Meindl, 2019; Odiase & Ekanem, 2019). Hitt et al (2018) define corporate success as the ability of a company to consistently meet strategic goals by creating value for stakeholders, achieving operational excellence, and innovating over time. Given this context, lean inventory practices have become a popular strategy for achieving operational excellence. Lean Thinking Theory, developed by Womack and Jones (1990) and based on the Toyota Production System (TPS) created by Taiichi Ohno in the 1950s, promotes the systematic removal of waste and constant pursuit of customer value. The theory is based on five main principles: value specification, value stream identification, flow creation, pull production, and perfection. Together, these principles boost efficiency and responsiveness (Womack & Jones, 2003). In the oil and gas industry, these principles are essential. Overproduction, defective products, transportation delays, and excess inventory can tie up significant capital and jeopardize safety (Shah & Ward, 2007).

In practice, lean inventory management emphasizes strategies like Just-in-Time (JIT) delivery, Kanban systems, value stream mapping, and accurate demand forecasting. These strategies promote minimal waste and maximum value delivery (Vinodh & Joy, 2012). By reducing holding costs, avoiding stockouts, and improving coordination among supply chain partners, companies can shorten product cycle times and maintain high output quality. This operational focus is particularly relevant for oil and gas firms in Rivers State, which deal with long lead times, disruptions from pipeline vandalism, and foreign exchange challenges (Ezirim et al, 2024). Poor coordination between vendors and third-party logistics often leads to inefficiencies, inventory control problems, and inconsistent delivery performance. Lean inventory practices thus offer a solid way to enhance process reliability, resource use, and responsiveness to market needs. Moreover, as Onumajuru et al (2024) noted, the oil and gas sector is key to powering other industries, including transportation, manufacturing, and electricity. However, Rivers State continues to struggle with providing affordable, reliable, and sustainable energy amidst a growing population. Adopting lean inventory systems can improve operational efficiency and strengthen the overall energy value chain through cost savings, innovative processes, and environmental responsibility.

Even with the well-established importance of inventory management and lean practices globally, there is still a lack of empirical evidence connecting lean-driven inventory practices to measures of corporate success. This includes product quality, cycle times, and process innovation among listed oil and gas firms in Rivers State. Previous studies, such as Onwuchekwa (2022) on inventory planning in the drilling fluid and chemical industry, Mbula, Memba, and Njeru (2016) on companies funded by government venture capital in Kenya, and Lin (2019) on Wal-Mart's inventory systems, have provided valuable insights but have limited relevance to Nigeria's oil and gas sector. Similarly, Harcourt and Ali (2021) investigated just-in-time inventory practices in paint manufacturing, while Kamau and Kagiri (2015) looked into Safaricom Kenya's inventory management framework. None of these studies have specifically examined how lean inventory practices affect corporate success in Nigeria's oil and gas sector, particularly in Rivers State.

Therefore, this study aims to address this gap by empirically examining the connection between lean-driven inventory practices and key measures of corporate success, such as product quality, cycle time, and process innovation in the downstream oil and gas companies exclusively operating in Rivers State, Nigeria. By integrating the theoretical principles of lean thinking with practical insights from the Nigerian oil and gas industry, this research seeks to contribute to both the existing knowledge base and managerial practice. It aims to provide evidence-based strategies for achieving sustainable corporate success through operational excellence. The conceptual framework is illustrated below:

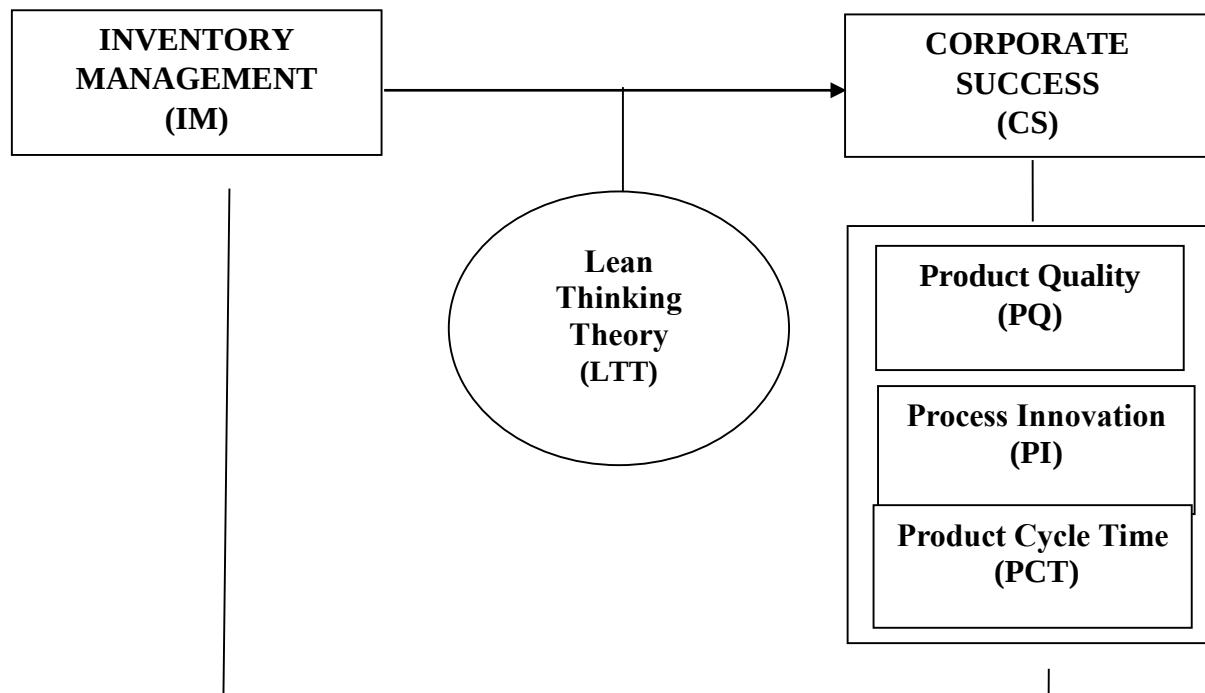


Figure 1: Conceptual Framework showing the Relationship between Inventory Management and Corporate Success of Quoted Oil and Gas Companies in Rivers State.

Source: (Yankah et al 2022; Kotane 2013).

LEAN THINKING THEORY

Lean Thinking traces its intellectual roots to the Toyota Production System (TPS). This system emerged in post-war Japan as a practical way to improve manufacturing efficiency and quality. In 1988, Taiichi Ohno formalized the TPS, describing it as a philosophy centered on eliminating waste and optimizing production flow (Ohno, 1988). Womack and Jones (1996) popularized these ideas with their book *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*. They outlined five main principles: defining value, mapping the value stream, creating flow, establishing pull, and pursuing perfection. Over the years, Lean Thinking has expanded beyond manufacturing into a broad management philosophy used in various fields, including supply chain management, healthcare, and service delivery (Brancalion et al., 2024; Klein, 2022).

The main argument of Lean Thinking Theory is that waste, known as *muda*, leads to inefficiencies that hinder value creation. Lean principles promote the systematic removal of activities that do not add value. This allows organizations to focus on processes that directly improve customer value. Lean Thinking suggests that companies can achieve better performance by streamlining workflows, matching production to customer demand, and promoting continuous improvement. These strategies work together to reduce product cycle time, enhance product quality, and encourage process innovation (De Giovanni, 2021; Klein, 2022). Lean inventory practices like just-in-time (JIT), kanban, and synchronized replenishment create smoother material flow and lower excess inventory. This, in turn, enhances quality consistency and speeds up product delivery (Womack & Jones, 1996; Brancalion et al., 2024).

Counterarguments against Lean Thinking highlight several limitations. One major critique is that the focus on minimal buffers and inventory can make supply chains more vulnerable to disruptions. When unexpected events, such as supplier delays, logistics breakdowns, or security challenges, occur, firms with very lean inventories may face production stoppages or stockouts (Guo, 2024; Ivanova, 2025). This argument gained new attention after the COVID-19 pandemic, as organizations across various industries recognized the need to balance efficiency with resilience (Doetsch et al., 2024; Deloitte Insights, 2024). Another criticism is that lean tools are often applied superficially, without the cultural change needed for success. Without strong management support, employee involvement, and supplier cooperation, lean initiatives may fail to achieve significant results (Nnadi & Oko, 2021). Furthermore, some scholars argue that Lean Thinking tends to encourage small improvements rather than radical innovation, which limits its ability to drive large-scale changes unless combined with developing dynamic capabilities (De Giovanni, 2021).

Lean Thinking Theory provides a clear framework for connecting lean inventory practices with the three corporate success measures in this study. First, regarding product cycle time, Lean Thinking reduces delays by ensuring smooth production flow through techniques like smaller lot sizes, pull-based scheduling, and synchronized material replenishment (Womack & Jones, 1996). These practices shorten lead times and increase responsiveness. Second, in terms of product quality, Lean Thinking focuses on building quality into every stage of production through methods like total quality management (TQM), poka-yoke, and continuous improvement (kaizen). These methods reduce defects and rework, which improves customer satisfaction and reliability (Klein, 2022; Brancalion et al., 2024). In relation to process innovation, Lean Thinking promotes a learning culture where employees identify inefficiencies and test new solutions. The cumulative effect of these small innovations results in more flexible and adaptable production systems (De Giovanni, 2021; Klein, 2022).

In applying Lean Thinking to quoted oil and gas companies in Rivers State, it is important to consider local industrial conditions. The oil and gas sector in this region is known for high capital intensity, complex logistics, regulatory constraints, and risks related to infrastructure and security. In this context, lean inventory practices can improve operational efficiency by reducing waste and optimizing supply flows. However, being too lean could leave firms vulnerable to disruptions in crude supply, transportation issues, and changing market conditions. Empirical evidence supports this balance: Nnadi and Oko (2021) found that adopting lean inventory practices like JIT and TQM positively impacts productivity and delivery performance among oil and gas firms in Rivers State, especially when backed by strong organizational commitment. However, studies conducted after the pandemic highlight the need to incorporate resilience strategies such as supplier diversification, digital tracking, and contingency stock to manage environmental volatility (Guo, 2024; Ivanova, 2025; Deloitte Insights, 2024).

In this study, Lean Thinking highlights several measurable components for both the independent and dependent variables. Relevant indicators for lean-driven inventory practices include the degree of JIT implementation, lot-size policies, supplier integration, frequency of real-time information sharing, and built-in quality assurance systems like jidoka and poka-yoke (De Giovanni, 2021; Klein, 2022). To assess product cycle time, indicators such as order-to-delivery lead time, throughput time, and process lead time provide insight into operational efficiency (NetSuite, 2025). Product quality can be evaluated using metrics like defect rates, rework percentages, and customer complaint ratios (Klein, 2022). For

process innovation, indicators include the number of improvement projects implemented, the time taken to introduce new processes, and the share of innovations initiated by employees (De Giovanni, 2021). Moderating variables such as organizational support, supply chain visibility, and buffer strategy also play a role, as they affect the effectiveness of lean inventory practices (Nnadi & Oko, 2021; Guo, 2024).

Lean Thinking Theory is highly relevant to this study because it provides a framework for understanding how lean-driven inventory management influences corporate success measures. In Rivers State oil and gas companies, Lean Thinking shows how waste elimination, continuous improvement, and synchronized supply systems can improve product quality, reduce product cycle time, and promote process innovation. However, the theory needs to be adapted to the specific risks of the Nigerian oil and gas environment, where issues like infrastructure instability, policy uncertainty, and security threats require a careful approach to lean implementation. Thus, Lean Thinking remains a strong theoretical foundation for this study. It explains the connection between lean-driven inventory practices and corporate success measures such as product quality, product cycle time, and process innovation. Still, in unstable environments like Rivers State, applying Lean must be backed by organizational commitment, digital visibility, and resilient inventory buffers. Therefore, Lean Thinking should be seen as essential but should be adjusted to fit the context to achieve the best results when supported by capable practices and flexible methods.

INVENTORY MANAGEMENT

The term inventory is a list of items; the quantity of goods in stock or the stock of product(s) which a firm offers for use or sale (Poi & Nwokah 2022). Inventory management in the context of downstream oil and gas companies in Rivers State, Nigeria ensures that the right quantity of premium motor spirit (PMS/Petrol), automotive gas oil (AGO/Diesel), dual purpose kerosene (DPK), aviation turbine kerosene (ATK/Jet A-1), liquefied petroleum gas (LPG/Cooking Gas), low pour fuel oil (LPFO), marine diesel oil (MDO), engine oils, hydraulic oils, gear oils, greases, compressor oils, industrial lubricants, brake fluids etc. are available to satisfy customers' demand. By striking a healthy balance between maintaining adequate stock levels to meet operational needs while minimizing holding, shortage, and ordering costs of inventory. Ogbeifun (2018) suggests that inventory management is the strategic planning, monitoring, and control of stocks. This encompasses demand forecasting, procurement, storage, distribution, and disposal of materials. It is essential for ensuring uninterrupted operations, controlling costs, and achieving organizational goals. Inventory management plays a pivotal role in achieving supply chain efficiency in Nigerian oil and gas companies. Madueme and Okogbenin (2019) defined inventory management as the careful administration of upstream and downstream inventories to reduce lead times and enhance coordination with suppliers and customers. This, in turn, can optimize production, reduce costs, and improve overall corporate success. Inventory management in Nigerian oil and gas companies often emphasizes quality control. It involves the meticulous monitoring and sourcing of materials to ensure that only high-quality components are used in the production process. Effective quality-centric inventory management is essential to maintain the industry's reputation and meet stringent global standards (Olowosejeje & Olowosejeje, 2020). Inventory management in Nigerian oil and gas companies strives for cost efficiency. It involves balancing the costs of holding inventory, such as storage and carrying costs, with the benefits of ensuring materials are readily available for production. Cost-efficient inventory management contributes to overall corporate success by reducing operational

expenditures (Ewubare, 2015). Inventory management in Nigerian oil and gas companies also entails compliance with industry regulations and standards. This includes managing inventory to ensure adherence to environmental, safety, and quality standards set by regulatory authorities. Such compliance is essential for maintaining corporate reputation and success (Ibeh, 2018).

CORPORATE SUCCESS

Corporate success is a complex idea that includes how well an organization works, adapts, and remains sustainable while reaching its strategic goals in a competitive business landscape. Hitt et al (2018) explain that corporate success means consistently meeting strategic goals while ensuring strong financial performance and creating value for all stakeholders, including shareholders, employees, customers, and the larger community. Likewise, Oguru and Barango-Tariah (2024) state that corporate success is an organization's ability to effectively achieve its goals by using resources well and responding quickly to market changes. Both definitions highlight that corporate success includes more than just financial measures; it also encompasses innovation, operational efficiency, stakeholder satisfaction, and sustainability. The corporate environment is influenced by complex interactions among customers, employees, and management, as pointed out by (Gabriel, Gabriel, and Lolo 2024). This context shows that corporate success isn't just about profit but also about an organization's ability to build strong relationships and uphold ethical practices that support long-term growth. Freeman and Reed (1983) were early proponents of the stakeholder theory, arguing that a corporation's success depends on balancing the different and often conflicting needs of stakeholders instead of focusing only on shareholder profits. Harrison and Wicks (2013) support this view, stating that engaging stakeholders builds trust, encourages innovation, and improves a company's reputation, all of which help maintain a competitive edge.

On the other hand, critics like Jensen (2002) claim that an overemphasis on multiple stakeholder interests can distract from strategic goals and hurt performance. These critics favor maximizing shareholder value, suggesting that when companies focus on profitability and efficiency, benefits for other stakeholders follow naturally. However, modern research increasingly disputes this limited view, stressing that long-term corporate success requires integrating environmental, social, and governance (ESG) factors into business strategies (Elkington, 1997; Kotane, 2015). The triple bottom line framework by Elkington (1997) broadens the idea of corporate success to include people, planet, and profit, making sustainability, ethical responsibility, and social impact essential for corporate performance.

From a different angle, Kotane (2015) ties corporate success to measurable factors like product quality, process innovation, productivity, and product cycle time. He emphasizes that companies must keep improving their processes to stay competitive. This idea aligns with the view that in fast-changing industries like oil and gas, corporate success hinges on an organization's ability to face environmental challenges, drive innovation, and maintain high operational efficiency. Critics warn that focusing too much on efficiency and innovation, without considering social and ethical issues, may lead to short-term benefits but cause long-term damage to reputation (Harrison & Wicks, 2013).

This study defines corporate success as a broad and multidimensional concept that merges financial performance, operational excellence, innovation, sustainability, and stakeholder value creation. In the context of downstream oil and gas companies in Rivers State, Nigeria, corporate success is best viewed through the lens of lean-driven operational efficiency, which improves product quality, shortens product cycle time, and encourages process innovation. Considering the region's infrastructure and regulatory issues, achieving corporate success calls for aligning lean inventory practices with key performance results. Therefore, this study believes that corporate success goes beyond just maximizing profits. It is a combined outcome of ongoing process improvements, innovation, stakeholder satisfaction, and sustainable value creation, all made possible through effective lean-driven inventory practices.

PRODUCT QUALITY

Product quality is the degree to which a product satisfies its intended purpose or is "fit for use." Quality is determined by the extent to which a product meets customer needs and expectations. Product quality is often associated with the degree to which a product conforms to specified standards and requirements (Juran 1988; Feigenbaum, 1991). Product quality can also be seen as a perception of excellence that meets or exceeds customers' expectations. It emphasizes that quality is not just about technical specifications but also about the overall experience and satisfaction of the end-users (Parasuraman et al 1988). Product quality is the degree to which a product meets or exceeds customer expectations. It involves characteristics such as reliability, durability, performance, and aesthetics. High product quality is essential for customer satisfaction and loyalty (Garvin, 1984). It emphasizes employee involvement, process improvement, and a customer-centric approach to ensure superior product quality (Oakland, 2003). The ISO 9000 family of standards provides a framework for quality management systems. Compliance with ISO 9000 standards ensures that a company follows best practices to consistently deliver high-quality products. This is critical for international trade and customer trust (ISO, n.d.). Six Sigma is a data-driven methodology used to improve processes and reduce defects. It aims to achieve near-perfect product quality by minimizing variations and errors. Companies that implement Six Sigma often see significant improvements in product quality (Pyzdek & Keller, 2014). High product quality can provide a competitive advantage for a company. It leads to increased customer satisfaction, reduced product returns, and enhanced brand reputation. Companies that prioritize product quality often outperform their competitors (Reid & Sanders, 2015). These discussions provide a comprehensive view of product quality, covering aspects such as customer satisfaction, quality management systems, international standards, process improvement methodologies, and the relationship between product quality and competitive advantage. According to Monczka et al (2015), product quality in supply chain management refers to the ability of a product to meet specified standards and requirements throughout its journey from the manufacturer to the end customer.

PROCESS INNOVATION

Process innovation is the procedure of introducing new ideas, products, processes, or services that lead to improved efficiency, competitiveness, and growth. It plays a pivotal role in achieving corporate success by promoting creativity, adaptability, and the ability to stay ahead in dynamic markets (Tidd & Bessant 2018). Corporate success through process innovation can be assessed using key performance indicators (KPIs) that reflect process

innovation performance. Disruptive process innovation, as introduced by Clayton Christensen, involves creating new markets and value networks, ultimately disrupting existing markets and leading to corporate success. Companies that embrace disruptive process innovation can gain a competitive edge (Christensen, 1997). Open process innovation involves collaborating with external partners like customers, suppliers, and third-party logistics providers to drive corporate success. It fosters knowledge sharing and quickens the development and commercialization of new ideas and technologies (Chesbrough, 2003). These definitions and discussions provide a comprehensive view of process innovation as a measure of corporate success, considering its role in encouraging creativity, sustainability, disruption, and collaboration. Digital process innovation involves leveraging data analytics, IoT, and AI to optimize operations. Successful process innovation measures include the integration of digital technologies, enhanced data analytics capabilities, and the ability to make data-driven decisions leading to operational efficiency and cost reduction (Baker 2019). In the context of the oil and gas industry, process innovation is often achieved through open collaboration with external partners, such as technology vendors and start-ups. Successful process innovation measures include the number of successful collaborations, adoption of novel solutions, and the resulting operational improvements (Zhang & Zhu, 2013). Corporate success is measured by the company's ability to adapt and contribute positively to environmental sustainability goals (Ewusi-Mensah & Al Mahrouqi, 2019).

PRODUCT CYCLE TIME

In the realm of supply chain management, product cycle time relates to the time it takes for a product or material to move through the entire supply chain, from production to delivery. Reducing product cycle times in the supply chain can enhance operational efficiency and customer satisfaction (Chopra & Meindl, 2019). Product cycle time is the time required to complete a specific task, activity, or project phase. It is a critical measure of project efficiency and can significantly impact a project's success (Schwalbe, 2018). Product cycle time, in the context of Lean manufacturing, is the time it takes to complete one cycle of a specific process, from beginning to end. Reduced product cycle times are associated with improved efficiency and productivity (Womack & Jones, 2003). Product cycle time in manufacturing refers to the time required to complete a specific manufacturing process or operation. It plays a crucial role in determining the overall efficiency and throughput of production lines (Buffa & Sarin, 1987).

Reducing product cycle time can positively impact customer service and satisfaction. Shorter product cycle times in processes relate to order fulfilment, product delivery, and service response times and contribute to better customer experiences (Blackburn, 2007). Product cycle time reduction is essential in supply chain management, particularly in the fast-paced world of e-commerce and global distribution. Shorter product cycle times lead to faster delivery, reduced holding costs, and increased customer satisfaction (Lummus et al 2003). Shorter product cycle times are closely related to improved customer service and rapid response to customer demands, achieved by reducing inventory product cycle times, can enhance corporate success through increased customer satisfaction (Stock & Lambert, 2001). In the oil and gas industry, product cycle times refer to the time taken to complete one full inventory cycle - from the ordering or manufacturing of a product or material to its sale or consumption.

EMPIRICAL REVIEW

The relationship between inventory management and corporate success has been highlighted in both theoretical discussions and empirical research. At the theoretical level, inventory management leads to enhanced corporate success because firms with this strategic posture are proactive in reducing waste and achieving corporate success, and this position has been empirically validated by previous studies. Therefore, the following empirical review reveals the studies and findings from various scholars on related topics.

Gebisa (2023) conducted an empirical investigation of the impact of supply chain practices on firm performance. The prime objective of the paper was to study the impact of information-sharing practices and inventory management on firm performance. To realize the specified objective of the study, data were gathered from one hundred and seventy (170) individuals who are familiar with the supply chain practices of the companies and analysed using structural equation modelling (SEM). The result shows a significant direct and indirect effect of information sharing and inventory management practices on firm performance. Generally, the results show that higher information-sharing practices and better inventory management practices lead to greater firm performance; and higher information-sharing leads to improved inventory management, which in turn leads to greater firm performance. Theoretically, the result provides evidence of the effects of information sharing and inventory management on the supply chain practices' performance in a firm. The managerial implications of the results are enhancing information sharing and inventory management practices by adopting, internalizing, and building information technology into all the business operations to enhance information sharing and inventory management practices to enhance firm performance.

Chebet and Kitheka (2019) investigated the effects of inventory management systems on firm performance: An empirical study. The study was guided by the following objectives: to find out how the systematic application of production in data processing (SAP), just-in-time system and economic order quantity affect the organization's performance. The literature review indicated that previous studies have brought out both positive relations and weak relations between the inventory management practices and the operational performance of firms. The researcher used empirical evidence to analyse the findings. The study established that systematic application and production in data processing affect the performance of an organization. The study concluded that Economic order quantity should be continuously reviewed, were by inventory control system is closely monitored at all times to make it more effective. On recommendations, the first recommendation made was that since SAP was found to significantly affect firm performance, organizations should appropriately use the SAP technology in managing their procurement for efficient operation. The second recommendation was based on EOQ. Since EOQ was found to be an important technique in inventory management, firms should ensure to order the recommended lot size as determined by the EOQ.

Moedu, et al (2023) examined the effect of inventory control on the profitability of listed industrial goods firms in Nigeria. The specific objectives of the study were to examine the extent to which inventory conversion period, inventory to sales ratio, and inventory turnover ratio affect return on assets. An ex-post facto design was deployed for the study. A sample size of seven (7) listed industrial goods firms was purposely selected from the population

of thirteen (13) listed industrial goods manufacturing firms in Nigeria. Cross-section Fixed Effect Model was utilised in estimating the test results at a five (5%) level of significance. The findings include: inventory conversion period does not have a significant effect on return on assets ($\beta_1 = 0.000108$, t-Statistic = 1.140571, $\text{Prob} > |t| = 0.2586$); inventory to sales ratio significantly and negatively affects return on assets ($\beta_2 = -2.955392$, t-Statistic = -5.534244, $\text{Prob} > |t| = 0.0000$); inventory turnover ratio significantly and negatively affects return on assets ($\beta_3 = -0.057291$, t-Statistic = -8.533998, $\text{Prob} > |t| = 0.0000$) of listed industrial goods manufacturing firms in Nigeria. In conclusion, the earnings after tax of the firm is improved through the instrumentality of effective inventory control techniques. It was recommended that potential investors in listed industrial goods firms should watch out for firms with a lower inventory as a percentage of sales since a lower inventory-to-sales ratio is an indication that the firm is making more sales per item in the firm's inventory.

Yankah et al (2023) investigated how inventory management affected the performance of manufacturing enterprises in the Kumasi Metropolis. In addition, the research used both descriptive and explanatory research approaches. The research demographic included all of the manufacturing companies in Ghana's Kumasi Metropolis, and the target demographic included all of the staff members who work in essential departments of the manufacturing businesses cited throughout the Assembly. The total population is sixty-two (62). The sample size was determined using the Yamane sample size determination formula in the study. Because the population and location of manufacturing companies were available, probability sampling was utilized in this investigation, with a sample size of fifty-four (54). According to the research, a one-unit gain in inventory management leads to a 20.3 percent, 31.9 percent, and 21 percent rise in marketplace efficiency, financial results, as well as client satisfaction, respectively. Ultimately, the research shows that stock management is a factor in the success of manufacturing companies. As a result, it is advised that optimum stock management methods be implemented in order to improve the operation of industrial enterprises in Ghana's Kumasi Metropolis.

Asuzu et al (2023) explored the relationship between inventory turnover and firm performance of quoted consumer goods manufacturing firms in Nigeria. Inventory management is critical to the success of manufacturing organisations in today's competitive and dynamic business environment. The study specifically examined the relationship between inventory turnover period and two firm performance proxies: the net profit margin and operating cash flow to sales ratio. The study adopted the ex-post facto research design. The population of the study comprised quoted consumer goods manufacturing firms, and the sample was delimited to this sector. The study relied on secondary data obtained from annual reports and accounts. The data were analysed using multiple regression techniques. The results showed a non-significant negative relationship between inventory turnover period and net profit margin; secondly, a non-significant negative relationship between inventory turnover period and operating cash flow to sales ratio. Based on these, the study recommends, amongst others, that managers establish deliberate strategies for efficient inventory management; practices such as Demand Forecasting, Just in Time, and Vendor Management Inventory, proven to positively impact organizational performance, are recommended to ensure a sustainable increase in firm performance.

Olaide and Omodero (2023) determined the impact of inventory management on the profitability of two (2) industrial goods firms listed on the Nigerian Stock Exchange. The independent variable (Inventory Management) was measured using opening inventory, closing inventory, and average inventory. The dependent variable (Firm Profitability) was measured using Profit After Tax gathered for the study for a period of 5 years (2015-2019), was analysed using descriptive statistics, correlation analysis, and the ordinary least squares method. The results of the study showed that inventory management had a significant effect on Profit After Tax. Therefore, the study recommends that in order for companies to improve their Net Profits as a measure of profitability, they should implement strategies in order to improve their inventory management systems.

Ikechie et al (2023) examined the effect of inventory management on the financial performance of selected manufacturing firms in Nigeria. The ex-post facto design was adopted in this study. Fifty-six (56) listed manufacturing firms in the Nigerian Stock Market were selected as the population of the study. Eleven (11) companies were selected using a purposive sampling method. The multiple Ordinary Least Squares regression technique, specifically the panel regression model was applied in testing the hypotheses of the study. Firstly, the study revealed that cash conversion cycle has a negative significant effect on return on assets of listed manufacturing firms in Nigeria. The second hypothesis tested showed that accounts receivable turnover has a positive significant impact on return on assets of listed manufacturing firms in Nigeria. The third hypothesis tested indicated that accounts payable turnover has a positive significant effect on return on assets of listed manufacturing firms in Nigeria. Consequently, the recommendations of the study are that manufacturing firms in Nigeria should speed up the conversion of finished goods into sales. Through putting in place appropriate marketing strategies that ensure quick sales of products to attract more revenues and profit, this can be achieved. Again, manufacturing firms should strive to retain only creditworthy customers who would ensure prompt payment of accounts receivable. By doing so, quick returns would be enhanced, and the profitability of manufacturing firms boosted. In conclusion, manufacturing firms should strive to achieve timely payment of credit purchases, as this would aid suppliers in having greater confidence in entrusting more raw materials to the firms on a credit basis, with the positive effect of boosting their inventories, increased sales, and profit.

METHODOLOGY

This study adopted a theoretical review design, which is an organised examination of current scholarly literature on inventory management and corporate success in the downstream oil and gas industry. The theoretical review approach was deemed apt because the study sought to synthesize an established theory, concepts, and empirical findings to explain how inventory management contributes to corporate success without obtaining primary data. Thus, relevant peer-reviewed journal articles, conference proceedings, and official publications relevant to the subject matter were considered and collected from reputable academic databases. The literature search focused on studies published between 1988 and 2025, consistent with the emergence of the Lean Thinking Theory by Womack and Jones (1990), and duplicate publications, unpublished manuscripts without academic validation, and articles unrelated to inventory management or corporate success were omitted. The synthesized literature was interpreted within this theoretical perspective to

examine the relationship between inventory management practices and corporate success in downstream oil and gas companies operating in Rivers State, Nigeria.

CONCLUSION

Based on the theoretical and empirical reviews, the study concludes that proper inventory management serves as a catalyst for corporate success by maintaining a healthy equilibrium between demand and supply, minimizing wastage, and gaining a competitive advantage for downstream oil and gas companies in Rivers State. Effective inventory management not only ensures the availability of stock in the required quantity and quality, but it has a ripple effect on the different metrics of corporate success: product quality, process innovation, and product cycle time. By optimizing inventory management processes and adopting innovative technologies, downstream oil and gas companies can enhance their process innovation capabilities. This may involve implementing advanced inventory tracking systems, adopting data analytics for demand forecasting, and exploring new supply chain solutions to stay competitive in a rapidly evolving industry. Well-managed inventory ensures that resources are utilized efficiently, reducing wastage and unnecessary holding costs. A streamlined inventory management system can lead to increased productivity, lower operational expenses, and ultimately higher profitability for these companies. Product cycle time reduction is integral to inventory management efficiency. Quicker turnaround times in the movement of materials, from procurement to production to delivery, lead to cost savings and better response to market demands, contributing to corporate success. To reinforce these relationships, Nigerian oil and gas companies should continue to invest in advanced inventory management practices, technology, and training. Moreover, a proactive approach to supply chain risk management, sustainability, and customer service is essential. In a dynamic industry like oil and gas, where market volatility and global competition are common challenges, mastering the art of inventory management and its link to product quality, process innovation, productivity, and product cycle time is paramount to achieving sustainable corporate success in Nigeria.

RECOMMENDATIONS

Based on the relationship between inventory management and corporate success, with a focus on product quality, process innovation, productivity, and product cycle time in quoted oil and gas companies in Nigeria, the following recommendations are made:

- i. **Adopt Advanced Inventory Management Systems:** Implement sophisticated inventory management systems and software that provide real-time tracking, demand forecasting, and data analytics. These systems can enhance visibility, reduce errors, and improve inventory turnover, ultimately contributing to better product quality, process innovation, and productivity.
- ii. **Invest in Employee Training:** Prioritize employee training and development to ensure that the workforce is well-equipped to handle inventory management processes efficiently. Employees should be proficient in using the technology and adopting best practices.
- iii. **Embrace Lean Inventory Principles:** Implement Lean principles, such as Just-in-Time (JIT) inventory management, to minimize waste, reduce holding costs, and streamline operations. Lean practices can improve product cycle time and overall efficiency.

- iv. Prioritize Sustainability and Environmental Responsibility: Ensure that inventory management practices align with environmental regulations and sustainability goals. Responsible inventory management, including waste reduction and resource conservation, contributes to product quality and corporate reputation.
- v. Empirical Testing: The study of inventory management and corporate success should be subjected to empirical testing in the context of quoted oil and gas companies in Nigeria.

By implementing these recommendations, downstream oil and gas companies in Nigeria can enhance their inventory management practices and leverage them as a strategic asset for achieving corporate success, including improved product quality, process innovation, productivity, and product cycle time efficiency. These measures will help maintain a competitive edge in a dynamic industry.

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