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Challenges and Strategic Responses in Truck Spare Parts Procurement: A Study of Dangote Industries Plc

[1]Saidu Musa Bala, [2]Ibraheem Forson Abdul-Azeez (PhD), [3]Fatai A. Yakeen (PhD)
[1,2,3]School of Transport and Logistics,
Lagos State University, Ojo. Lagos. Nigeria.

Abstract
This study investigates the challenges and strategic responses in truck spare parts procurement at Dangote Industries Plc, one of Africa's largest conglomerates, as it expands its logistics capabilities to support an extensive truck fleet, including the integration of 4,000 compressed natural gas (CNG)-powered trucks. The study identifies key procurement challenges such as foreign exchange volatility, supply chain disruptions, infrastructure limitations, and the emergence of specialized maintenance needs due to the CNG transition. Using a qualitative single-case study approach, semi-structured interviews with procurement managers were conducted to gather insights on how the company manages these challenges. Findings indicate that Dangote Industries Plc employs a strategic mix of supplier diversification, localization through its Dangote Sinotruk joint venture, and advanced inventory management practices to mitigate procurement risks and ensure fleet performance. The company's proactive approach includes strengthening local manufacturing of spare parts, enhancing supplier relationships, and addressing skills and infrastructure gaps to support the fleet's operational efficiency and long-term sustainability. The study contributes to the literature on supply chain management in developing economies, offering a detailed analysis of spare parts logistics within the context of a vertically integrated conglomerate facing complex procurement challenges. It provided practical recommendations for policy advocacy, localization efforts, and combating counterfeit parts.

Keywords: CNG transistion, Dangote Industries, Truck spare parts, procurement, supply chain management

Introduction

Procurement is vital as it ensures smooth supply chain operations by managing demand and supply uncertainties. Excess inventory ties up capital and raises obsolescence risks, while shortages reduce service levels and sales. Thus, effective inventory management is a core supply chain competency for achieving competitive advantage (Amulani & Sridharan, 2024). Business entities constantly seek ways to leverage both internal tangible and intangible resources to devise their strategy to improve business performance and gain a competitive advantage (Moh'd Ali Smadi & Ababneh, 2018). Despite the many advantages that can be derived from the strategic management and coordination of organizational procurement, some challenges hinder the true benefits of a potential cost-saving situation. There is a huge dependence on foreign suppliers in manufacturing, especially in most developing countries, induced by the absence or limited availability of a local supply base (Islam, 2015). The global supply chain ecosystem is increasingly becoming dynamic, extended, and more volatile with the occurrence of several geopolitical shifts and events like the 2025 trade tariff hikes in the United States of America, and many more. Organisations that can be

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agile in managing these complexities eventually gain a business competitive advantage over their less responsive counterparts (Mehrotra & Sehgal, 2023).

Effective spare parts procurement relies on a combination of strategic sourcing, rigorous supplier evaluation, accurate demand forecasting, and robust inventory control. These integrated practices are essential for enhancing both service delivery and cost-efficiency (Nwachukwu et al., 2023). This is particularly critical for small enterprises, as existing research indicates that the adoption of formal procurement processes and structured supply chain strategies directly contributes to superior operational performance and long-term business sustainability (Obi et al., 2022). Dangote Industries Plc, a flagship subsidiary of the Dangote Group, was founded in 1981 by Africa's richest entrepreneur, Aliko Dangote, and stands as one of the continent's largest and most diversified conglomerates. With its headquarters in Lagos, Nigeria, the group spans critical sectors including cement manufacturing, sugar and salt production, fertilizers, petroleum refining, and automotive assembly. The group has a workforce exceeding 30,000 employees and makes a profound contribution to Nigeria's gross domestic product (GDP) through its vertically integrated operations that control raw material sourcing, production, and distribution, thereby enhancing efficiency and minimizing costs (Dangote Industries, 2022; Omonzejele & Ogbuleka, 2025). At the heart of the conglomerate's dominance is Dangote Cement Plc, Africa's leading cement producer. Operating across 10 countries, including Nigeria, Senegal, Cameroon, Ghana, Ethiopia, South Africa, and others, the company boasts a substantial installed production capacity of approximately 52 million metric tonnes per annum (Mta) as of recent expansions, with further growth projected through new plants, such as a 3 Mta facility in Côte d'Ivoire nearing completion in 2025 (Dangote Cement, 2022).

In Nigeria alone, Dangote Cement has eliminated reliance on imported cement, transforming the nation into a net exporter while serving regional markets. A landmark achievement came with the commissioning of the Dangote Petroleum Refinery in 2023–2024, the world's largest single-train refinery with a nameplate capacity of 650,000 barrels per day (bpd). Valued at approximately $20 billion, this facility aims to end Nigeria's chronic dependence on imported petroleum products by producing refined fuels domestically. By 2025, the refinery has ramped up operations significantly, with ongoing maintenance and expansions targeting even higher throughput, while also contributing to foreign exchange earnings through exports (Majekodunmi et al., 2025). Complementing these core operations are strategic initiatives in logistics and automotive manufacturing. The Dangote Sinotruk joint venture, established to assemble heavy-duty trucks locally, supports the group's massive transportation needs and promotes indigenous manufacturing. Central to Dangote's success is its extensive truck fleet—one of the largest in Africa—which has grown substantially in recent years. As of 2022, the fleet exceeded 10,000 vehicles, primarily for distributing cement, petroleum products, and other commodities. Recent expansions include the acquisition and phased deployment of 4,000 compressed natural gas (CNG)-powered trucks starting in mid-2025, aimed at revolutionizing fuel distribution, cutting logistics costs by up to ₦1.7 trillion annually, reducing emissions, and aligning with national sustainability goals (Tabansi, 2025; Simire, 2025).

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Dangote's vertically integrated logistics model is vital in Nigeria's challenging operating environment, characterized by poor road infrastructure, fuel shortages, and security issues. Through the ownership and operation of its fleet, Dangote ensures reliable just-in-time delivery, mitigates third-party risks, minimizes empty return trips through optimized routing, and maintains competitive advantages in product distribution across domestic and export markets in West Africa (Ndone, 2023). However, managing such a vast and diverse fleet and now incorporating advanced CNG technology introduces significant procurement and supply chain complexities, particularly for truck spare parts.

Statement of the Problem

Dangote Industries Plc operates one of Africa's largest and most strategically important truck fleets, essential for sustaining its vertically integrated business model across cement, petroleum products, fertilizers, and other commodities. As of recent developments in 2025, the conglomerate has expanded its logistics capabilities significantly, including the acquisition of 4,000 compressed natural gas (CNG)-powered trucks for fuel distribution from the $20 billion Dangote Petroleum Refinery, alongside additional dry cargo trucks, bringing the total fleet to over 10,000–14,000 vehicles in active or phased deployment (Simire, 2025). This massive fleet supports reliable just-in-time delivery, reduces dependence on third-party logistics, mitigates risks from Nigeria's poor road infrastructure, and aligns with sustainability goals by lowering emissions and operational costs, potentially saving up to ₦1.7 trillion annually in logistics expenses (Simire, 2025).

Despite these ambitions, the effective management and maintenance of such an extensive and technologically diverse fleet (including advanced CNG models) is severely constrained by persistent challenges in truck spare parts procurement. Nigeria's operating environment exacerbates these issues through a combination of economic, logistical, and structural factors (Liu, 2025). Foreign exchange volatility and ongoing naira devaluation have dramatically increased the cost of imported spare parts, which form the bulk of requirements for brands like Shacman trucks sourced primarily from China. Manufacturers, including those in the Dangote ecosystem, have reported substantial foreign exchange losses totalling billions of naira in recent quarters, directly impacting procurement budgets and profitability (Economic Confidential, 2025; Veriv Africa, 2025). Global and local supply chain disruptions further compound the problem. Shipping bottlenecks from China delayed the full arrival and deployment of thousands of CNG trucks in 2025, with only partial deliveries (e.g., 450–1,000 units initially) arriving on time due to insufficient vessel availability (Martin et al., 2025). These same vulnerabilities extend to spare parts, leading to prolonged lead times, stockouts, and increased downtime for vehicles already subjected to harsh road conditions, heavy loads, and frequent wear. Local sourcing remains inadequate owing to limited domestic manufacturing capacity for specialized components (particularly CNG-related parts), a shortage of skilled mechanics, underdeveloped repair networks, and the widespread circulation of counterfeit parts that pose safety risks and reduce reliability (Yakubu, 2020; Adeleye, 2022). Regulatory hurdles such as import permits, customs duties, and compliance requirements add further delays and costs, while historical events like the COVID-19 pandemic and commodity price fluctuations have demonstrated the fragility of global parts availability (Friedemann, 2016; Kanyepe et al., 2025). In the context of the CNG transition,

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additional complexities arise from limited fueling infrastructure and the need for specialized maintenance planning, potentially hindering the full realization of cost savings and environmental benefits.

These procurement challenges result in prolonged vehicle downtime, escalated maintenance expenses, operational inefficiencies, and risks to the overall supply chain performance of Dangote Industries Plc. If unaddressed, they could undermine the company's competitive edge, increase logistics vulnerabilities, and limit its ability to support national goals such as reduced fuel imports, enhanced energy security, and sustainable transportation. Despite the scale and strategic importance of Dangote's fleet operations, there is limited empirical research specifically examining the key challenges in truck spare parts procurement and the strategic responses adopted by the company to mitigate them. This gap in understanding hampers the development of effective, context-specific solutions for large-scale fleet operators in Nigeria's challenging economic landscape. It is against this backdrop that this study investigates the primary challenges in truck spare parts procurement at Dangote Industries Plc and explores how the company strategically manages its spare parts supply chain to ensure sustained logistics and transportation efficiencies across its diverse operations.

Research Objectives

The central objective is to evaluate the key challenges and the strategic responses employed by Dangote Industries Plc in managing its truck spare parts procurement. The specific objectives are to:

1. Examine the primary challenges in truck spare parts procurement at Dangote Industries Plc.
2. Evaluate how Dangote Industries Plc manages its spare parts supply chain strategically.

Research Questions

1. What are the primary challenges that confront Dangote Industries Plc in truck spare parts procurement?
2. How do Dangote Industries Plc manage its spare parts supply chain strategically?

Literature Review

The role of procurement in supply chain management in Fleet Management

Global development and the standings of nations are generally classified by the quality of life and the built environment, the standard of living of citizens, and the level of infrastructural development (Hamma-adama & Ahmad, 2021). The supply chain encompasses several key activities, including supplier management, procurement, inventory management, logistics, and transportation (Valence & Magada, 2025). Managing activities of the supply chain is seen as a very critical activity because an efficient and effective supply chain has the potential to lower operating costs while facilitating quicker, more accurate, and personalized product delivery (Stock & Manrodt, 2020). Strong, agile, and responsive supply chains play a major part in bridging the gap between developed and developing economies. Infrastructure development and

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industrialization can be linked to economic growth, while an optimal procurement process can significantly reduce costs and improve economic efficiency (Estache & Limi, 2008).

The supply chain management (SCM) process is a critical driver of economic development, facilitating trade and serving as a fulcrum through which infrastructural development and industrialization are realized. Supply chain management is regarded as the process by which the flow of materials, information, as well as the process of operations (movement of products from the source (i.e., raw material suppliers) to the customer (i.e., end-user)) is managed (Zaalouk et. al., 2023). A critical function or node in the sequence of business processes involved in SCM is the procurement function, and procurement decisions significantly impact supply chain performance and market success in organisations (Moretto et. al., 2022). Procurement is the strategic practice of securing the essential resources, including goods, services, and works, that empower an organization to achieve its objectives. It is a careful journey that starts with identifying needs, continues with analyzing markets and sourcing ethically, and concludes with conscientious acquisition through balanced financial and contractual agreements (Das, 2020). The procurement process, policies, and strategies of an organisation in any sector are, therefore, arguably the most important function and the defining point of the organizational or project success according to Niboi (2018).

Challenges In Procurement in The Logistics and Transportation Sector

Procurement plays a crucial role in inbound logistics for organisations, impacting the entire supply chain system because for every product in finished form, there has to be an input at some point in the form of raw material or supply. The procurement function is critical to organisational success in today's business environment due to a constant need to sustain competitiveness, minimize risks, and ensure the all-round supply of goods and services (Wittinger, 2022). The procurement function, therefore, represents a significant opportunity for cost reduction by addressing productivity factors and streamlining the procurement process (Dua & Sahu, 2024). As supply chains become more extended, complex, and dynamic, procurement as a function has become more challenging for organisations and sector participants (Ossei-Owusu et. al., 2014). Bailey et. al. (2008) classifies the potential risks of procurement as external and internal, with broader distinctions with respect to financial, operational, strategic, and hazard risks (see Table 1).

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Table 1. Classes and Categories of Procurement Risks

Classes of Procurement Risks	External	Internal
Financial	Interest rates Exchange rates Credit	Liquidity & Cash flow Accounting contracts
Strategic	Competition Customer changes Industry changes Consumer demand	Research & Development Intellectual capital
Operational	Regulations Culture	Recruitment Supply Chain Information systems
Hazard	Contracts Natural events/Force majeure Supplier(s) environment	Employees Properties Products/services

Source: Adapted from Bailey et. al. (2008)

Procurement functions or activities are said to be affected by several factors that could dictate the behaviour of actors and participants in the procurement process; in other words, procurement operates under a pressured atmosphere (Wittinger, 2022). The author further noted that there are four notable forces (requestors, suppliers, internal regulations, and external rules) that put pressure on the procurement function.

- Requestors are simply the user departments internal to the organization. They are spread across various business and functional units of the company.
- Suppliers refer to external partners, businesses, or individuals responsible for the direct supply of Store Keeping Units (SKUs), products, or raw materials needed for the production process.
- Internal regulations refer to the relevant management rules, conditions, and organisational strategies that guide the overall functioning of an organization. These rules govern day-to-day operations and workflows, and also determine how the organization interacts with the external business environment in conformity with established rules and legislation.
- External rules refer to regulatory policies, frameworks, and guidelines established by government authorities and professional bodies to ensure standards and system balance are maintained and complied with (e.g. Procurement acts).

The management of these four procurement pressures for organisational success, thus, presents one of the most prominent challenges to procurement personnel and functions for organisations globally.

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Theoretical Review

Contingency Theory

Contingency theory examines how organisations adapt an appropriate organisational structure in relation to their operating environment to achieve higher performance. Contingency theory suggests that internal and external factors influence the efficient management and leadership of organisations, with no single standard deemed as sufficient (David & Ntegwa, 2024). Contingency theory argues that competitive advantage stems from the interaction of organisational characteristics with contingencies, especially the environment, organisational size, and strategy (Donaldson, 2001), cited in (Sorgard, 2021). According to Donaldson (2001), in opposition to being viewed as one unified theory, the contingency approach is a paradigm from which multiple specific theories are derived. These theories all build on three key ideas: (1) An organization's structure and processes are connected to certain external or internal conditions (the contingencies). (2) If these conditions change, the organization must also change to remain effective and competitive. (3) Business success is not limited to having the absolute best organisational structure; however, it is largely hinged on establishing the structure that is adaptive and responds to the current situational demands. The contingency theory is applied in this study to help view the larger business environment in which Dangote Industries operates. The contingencies are the external and internal pressures that impact daily operations, efficiency and sustainability. Organisational success is largely dependent on timely and calculated responses to emerging threats in the global and domestic business and supply chain landscape.

Resource-Based View (RBV)

The Resource-Based View (RBV) theory posits that a firm's sustained competitive advantage derives from its ability to leverage unique internal resources and capabilities that are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Wernerfelt, 1984). Within supply chain management, RBV emphasizes the strategic role of both tangible and intangible resources—such as supplier relationships, customer knowledge, logistics infrastructure, and organizational processes in enhancing performance outcomes (Komakecha et al., 2025). Capabilities, particularly dynamic ones, enable firms to adapt and reconfigure resources to meet changing market demands, thereby sustaining competitiveness in volatile environments (Ofori & Appiah-Nimo, 2022). RBV asserts that firm-specific relational assets can be leveraged for superior performance, thus providing a robust theoretical lens for understanding how firms strategically deploy resources and capabilities to achieve operational resilience and long-term advantage in dynamic industries.

In the context of Dangote Industries Plc's truck spare parts procurement, RBV offers a useful framework for analyzing how the company's internal resources and strategic capabilities underpin its competitive advantage. Dangote's vertically integrated operations, supplier diversification, and localization efforts through the Dangote Sinotruk joint venture represent valuable and rare resources that mitigate procurement risks and enhance fleet performance. The company's ability to strategically manage foreign exchange volatility, supply chain disruptions, and counterfeit parts through advanced inventory systems and strengthened supplier relationships reflects dynamic capabilities that align with RBV's emphasis on adaptability in turbulent environments (Komakecha et al., 2025). Moreover, the integration of compressed natural gas (CNG)-powered trucks introduces specialized maintenance and infrastructure needs, positioning technological

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adaptation as a rare and inimitable capability that sustains competitive advantage in Nigeria's evolving logistics landscape. Applying RBV to this study highlights how Dangote leverages its unique resource base, consisting of both tangible (fleet size, local manufacturing) and intangible (supplier relationships, managerial expertise), to overcome procurement challenges and secure long-term operational efficiency.

Methodology

This study adopts a qualitative single-case study design to investigate the key challenges and strategic responses in truck spare parts procurement at Dangote Industries Plc. This approach is well-suited for exploring complex, context-specific phenomena in real-life organizational settings, such as supply chain management within a large-scale, vertically integrated conglomerate operating amid Nigeria's economic and infrastructural constraints (Yin, 2018). The methodology enables an in-depth examination of procurement processes by drawing on the subjective experiences and insights of key insiders, thereby generating rich, contextual data. This study is grounded in an interpretivist paradigm, which acknowledges that procurement challenges and strategic responses are socially constructed and best understood through the meanings and interpretations provided by procurement professionals. A single-case holistic design is employed, with Dangote Industries Plc as the primary unit of analysis. This design supports detailed exploration of the phenomenon in its natural context, encompassing the company's extensive heavy-duty truck fleet. The fleet has undergone significant transformation, including the phased deployment of 4,000 compressed natural gas (CNG)-powered trucks beginning in August 2025 as part of a ₦720 billion investment to enhance fuel distribution from the 650,000-barrels-per-day Dangote Petroleum Refinery, with broader expansions toward over 10,000 units and plans for electric vehicle integration by early 2026 (Dangote Industries, 2025).

The target population consists of the 12 procurement managers directly responsible for truck spare parts procurement at Dangote Industries Plc, primarily based at the headquarters in Lagos, Nigeria. These managers handle sourcing, supplier relations, inventory management, and logistics for spare parts, including imported components for brands like Shacman/Sinotruk and specialized items for CNG technologies. Purposive sampling was used to select participants with relevant expertise and direct involvement in the function. Semi-structured in-depth interviews were conducted with 8 out of the 12 managers, achieving a 67% response rate. This sample size is sufficient for qualitative case study research in supply chain management, where thematic depth and data saturation take precedence over statistical generalization (Saunders et al., 2009). Primary data were collected via semi-structured interviews, which offered flexibility to explore emergent themes while aligning with the research questions. Each interview lasted 17-30 minutes and was conducted face-to-face between September and October 2025. An interview guide, developed in line with the study's objectives and questions, covered economic and financial challenges (e.g., foreign exchange volatility and import costs), supply chain disruptions, infrastructural and regulatory barriers, specialized CNG-related issues, and strategic responses such as supplier diversification, inventory strategies, and localization efforts through Dangote Sinotruk. All interviews were audio-recorded with informed consent and transcribed verbatim. Secondary data from company reports, industry

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publications, news sources (including updates on fleet deployments), and academic literature supplemented the primary findings for triangulation and contextual depth.
Data analysis followed a thematic analysis approach, involving familiarization with the transcripts through repeated reading, initial coding to identify patterns, development of themes and sub-themes related to challenges (e.g., economic, logistical, and regulatory) and strategies (e.g., risk mitigation and vertical integration), iterative refinement via constant comparison, and cross-verification with secondary sources (Braun & Clarke, 2006). Ethical considerations were prioritized throughout. Participants received a detailed information sheet and anonymity and confidentiality were maintained through pseudonyms (e.g., Manager A–H) and secure data storage. Participation was voluntary, with the right to withdraw at any time, and the study adhered to Lagos State University Research ethical guidelines.

Results and Discussion
This section presents the key findings from the qualitative analysis of semi-structured interviews, and it is sub-sectionalised based on each research questions

1. What are the primary challenges that confront Dangote Industries Plc in truck spare procurement?
The procurement managers consistently identified a cluster of interconnected challenges that severely impact the availability, cost, and reliability of spare parts for the company's extensive heavy-duty truck fleet, which includes the ongoing integration of over 4,000 CNG-powered trucks deployed for fuel distribution from the Dangote Petroleum Refinery. For instance, *economic and financial pressures* emerged as the most frequently cited challenge. Managers highlighted foreign exchange (forex) volatility and naira devaluation as primary drivers of inflated procurement costs, particularly for imported parts from China (e.g., for Shacman/Sinotruk brands). One manager noted that *"USD-denominated imports have become prohibitively expensive due to repeated devaluations",* leading to budget overruns and delayed orders. This aligns with broader reports of global supply chain vulnerabilities and currency fluctuations exacerbating costs for import-reliant operators in Nigeria (Adeleye, 2022; Liu, 2025). Also, *global and local supply chain disruptions* were another dominant theme. Participants described prolonged lead times due to shipping bottlenecks from China, mirroring delays in the initial CNG truck deliveries, where insufficient vessel availability stalled full deployment beyond the planned date. Managers reported that these same issues affect spare parts, resulting in stockouts and extended vehicle downtime, often weeks or months, for critical components. Historical disruptions, such as those from the COVID-19 era and commodity price swings, continue to influence planning, with Manager C stating, *"We still feel the ripple effects; parts that should arrive in 4–6 weeks now take 3–6 months"*.

Again, *infrastructural, regulatory, and local market factors* compounded these issues. Harsh road conditions in Nigeria accelerate wear and tear, increasing demand for frequent repairs, while a shortage of skilled mechanics, particularly for advanced CNG technologies, limits effective local servicing. Regulatory hurdles, including import permits, customs duties, and compliance requirements, add significant delays and costs. The prevalence of counterfeit parts in local markets was repeatedly emphasized as a major safety and reliability risk; manager A stressed that *"fake*

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parts compromise vehicle performance and can lead to accidents", forcing the company to prioritize verified imports despite higher costs (Yakubu, 2020). Also, *specialized challenges from CNG transition* represented an emerging concern. With the fleet's shift toward CNG-powered units (phased rollout ongoing into 2026, alongside plans for electric integration), procuring specialized components faces additional constraints. Limited fueling infrastructure and a lack of expertise in CNG maintenance planning hinder timely repairs, potentially offsetting projected cost savings of up to 40% in operations (Agbetiloye, 2025). Manager D expressed worry that *"CNG-specific parts are not yet readily available locally amd it is extending downtime further".* Overall, these challenges result in prolonged vehicle downtime, escalated maintenance expenses, and operational inefficiencies, threatening the fleet's role in supporting just-in-time distribution and vertical integration advantages.

3. How do Dangote Industries Plc manage its spare parts supply chain strategically?

In response to these challenges, procurement managers described a multifaceted strategic approach emphasizing resilience, localization, and vertical integration to maintain fleet availability and control costs. For instance, it was noted **that** *supplier relationships and diversification* form a core strategy. Manager B said that *"The company maintains strong ties with primary Chinese manufacturers (e.g., Sinotruk/Shacman), leveraging long-term contracts for priority access amid global disruptions"*. Efforts to diversify suppliers and explore alternative sourcing mitigate single-source risks, though import dependence remains high. Also**,** *localization and vertical integration efforts* through the Dangote Sinotruk joint venture represent a proactive long-term response. The assembly plant in Lagos supports partial local production of components and aims to increase local content (targeting up to 60% in earlier phases), reducing reliance on full imports and potentially enabling future spare parts manufacturing (Dangote Industries, 2025). Manager A highlighted this as a key mitigation against forex and shipping delays by noting that "*The Sinotruk partnership helps us move toward self-sufficiency in parts"*. Additionally, *inventory management and risk mitigation strategies* include predictive stockpiling of high-wear items, optimized inventory planning to balance holding costs with availability, and technology integration for better forecasting. Manager E referenced the adoption of *"...digital tools for tracking and predictive maintenance*" to minimize downtime, drawing from broader fleet management successes in controlling over 10,000 trucks. Also, *internal capacity building* addresses skills gaps through training programs and partnerships, ensuring better handling of CNG technologies and as Manager H said *"Vertical integration extends to in-house logistics control and enables optimized routing and maintenance to extend part life and reduce procurement frequency".* Taken together, these strategies demonstrate a resilient and adaptive supply chain management approach tailored to Nigeria's context. While challenges persist particularly with the CNG transition, the company's emphasis on localization, strategic supplier partnerships, and internal capabilities positions it to sustain fleet performance and support broader goals like cost reduction and sustainability.

Conclusion and Recommendations

This study provides valuable insights into the key challenges and strategic responses in managing truck spare parts procurement in Dangote Industries Plc. The findings reveal a complex operating environment shaped by Nigeria's economic volatility, infrastructural deficits, and the ongoing

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transition to advanced technologies such as compressed natural gas (CNG)-powered vehicles. This study concludes that Dangote Industries Plc's approach to truck spare parts procurement exemplifies strategic foresight in a volatile environment. Therefore, this study recommended that, to enhance spare parts procurement resilience and support the company's ambitious logistics transformation, the company should:

1. **Accelerate Localization Initiatives:** The company should prioritize scaling up local content in the Dangote Sinotruk plant beyond current targets, focusing on manufacturing high-demand spare parts (e.g., CNG-specific components) domestically. This would reduce forex exposure, shorten lead times, and mitigate shipping vulnerabilities. Also, collaboration with the government on incentives for local manufacturing could further strengthen this effort.
2. **Enhance Supplier Diversification and Risk Management**: The company should develop a multi-sourcing strategy by exploring additional global suppliers (beyond China) and investing in strategic stockpiling for critical, high-risk items. In this regard, the company should implement advanced digital tools for real-time supply chain visibility, predictive analytics, and early warning systems to preempt disruptions.
3. **Address Skills and Infrastructure Gaps**: The company should expand in-house training programmes and partnerships with technical institutions to build a larger pool of skilled mechanics specialized in CNG and future electric technologies. With this, the company would be advocating for a public-private initiative to improve CNG fueling infrastructure nationwide to ensure alignment with fleet expansion plans.
4. **Combat Counterfeit Parts Proliferation**: The company should strengthen verification processes through certified supplier networks, blockchain traceability for parts, and collaboration with regulatory bodies to enforce anti-counterfeiting measures. This will ensure a public awareness campaign, and stricter enforcement could reduce safety risks and improve reliability.
5. **Policy Advocacy and Broader Implications**: The company should engage policymakers to address systemic issues such as forex stability, streamlined import regulations, and incentives for green logistics. These efforts would benefit not only Dangote but also other fleet operators in Nigeria, thereby contributing to the national goals of energy security, reduced emissions, and industrial self-sufficiency.

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