



Ignatius Ajuru University of Education, Port Harcourt, Nigeria

Research and Development Centre

1<sup>st</sup> International Conference and Exhibition on Research, Innovation and Development (ICERID 2026)

Proceedings URL: <https://iauejournals.com/index.php/ICERID>

Website: <https://icerid.online>



ISBN: 978-978-63205-1-9

June 2026; Page No. 335-346

## Logistics and Supply Chain Management as Strategic Drivers of Business Competitiveness in Nigeria

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### Abstract

Logistics and supply chain management have become central to enterprise competitiveness, trade efficiency, customer satisfaction and national economic development. In Nigeria, firms operate within an environment marked by road infrastructure deficits, port congestion, high operating costs, customs delays, weak warehousing systems, unreliable electricity, security risks and uneven digital adoption. These conditions increase production and distribution costs, weaken delivery reliability, reduce customer trust and limit the ability of local enterprises to compete across wider markets. This paper examines logistics and supply chain management as strategic drivers of business competitiveness in Nigeria. It adopts a conceptual and framework-development approach grounded in the resource-based view, dynamic capability theory, transaction cost economics, systems theory and supply chain resilience thinking. The paper argues that logistics should not be treated merely as transport or delivery, but as an integrated managerial capability involving sourcing, procurement coordination, inventory control, warehousing, distribution, information visibility, relationship-enabled routing and disruption preparedness. Its central contribution is an integrated logistics capability framework which links enabling infrastructure, firm-level logistics competence, supply chain integration, digital visibility, human capability and resilience routines to operational performance and business competitiveness. The paper concludes that Nigerian firms can improve cost efficiency, delivery reliability, market reach and customer value when logistics is deliberately planned, measured and coordinated as a strategic function. It suggests stronger logistics education, digital adoption, supplier coordination, performance measurement, trade facilitation and infrastructure support as necessary conditions for improving supply chain performance in Nigeria.

**Keywords:** Logistics Management, Supply Chain Management, Business Competitiveness, Supply Chain Resilience, Nigeria

### Introduction

Logistics and supply chain management occupy a central position in the functioning of contemporary business organisations and national economies. Every productive activity depends on the timely movement of inputs, finished products, information, funds and supporting services from one point to another. Manufacturers require raw materials; traders require stock; schools require books and equipment; farmers depend on access to markets where demand is active. In e-commerce firms depend on last-mile delivery, order tracking and customer communication. Agricultural producers need storage, cold-chain systems, transport networks and reliable market connections to reduce loss between farm and final buyer. In this sense, logistics is not an auxiliary activity; it is a value-creating function through which production, exchange and consumption become commercially possible.

Supply chain management broadens this logic by looking beyond the physical movement of goods to the coordination of all actors involved in value creation and delivery. Mentzer et al. (2001) define supply chain management as the

335 | Cite this paper as:

Ifekanandu, C. C. (2026). Logistics and supply chain management as strategic drivers of business competitiveness in Nigeria. In *Proceedings of the 1<sup>st</sup> International Conference and Exhibition on Research, Innovation and Development (ICERID)*, Ignatius Ajuru University of Education, Port Harcourt, Nigeria. (Vol. 1, pp. 335-346).

systemic coordination of traditional business functions and tactics across business functions and across organisations for the purpose of improving the long-term performance of individual organisations and the supply chain as a whole. This definition is important because it shows that business performance is not produced only within the firm. It is also shaped by suppliers, transporters, warehouses, distributors, technology platforms, financial institutions, government agencies and customers. A firm may produce a good product, but if inputs are delayed, warehouses are poorly managed, delivery is unreliable or customers cannot receive orders conveniently, the firm's market performance will still suffer.

The strategic importance of logistics has become more visible because of recent global disruptions affecting shipping routes, port performance, freight cost and supply reliability. The World Bank's Logistics Performance Index remains a major international tool for benchmarking trade logistics performance and reflects how countries differ in customs efficiency, infrastructure quality, international shipments, logistics competence, tracking and tracing, and timeliness (World Bank, 2023). Similarly, UNCTAD (2024) shows that freight costs now respond strongly to maritime chokepoints, port congestion and security-related uncertainties. These developments reinforce the vulnerability of global supply chains and the need for countries and firms to build stronger logistics capability.

In Nigeria, logistics and supply chain management require serious scholarly and policy attention because the country has a large population, a wide geographical market, expanding e-commerce activity, substantial import and export dependence, growing urban consumption and a strong entrepreneurial sector. However, infrastructure deficits, port delays, unreliable power, insecurity and fragmented transport systems continue to raise the cost and uncertainty of business movement. The International Trade Administration (2025) identifies logistics as a major sector of opportunity in Nigeria but also notes continuing challenges relating to infrastructure deficit, customs processing, port congestion and road quality. These conditions make logistics management both a public policy issue and a firm-level capability issue.

The Nigerian logistics problem is not only a matter of public infrastructure. It is also a managerial and institutional problem. Many firms still treat logistics as a reactive function handled after products have been made or after customers have placed orders. Inventory is often managed through experience rather than data. Warehousing is frequently seen as storage space rather than a system for protecting value, improving order accuracy and reducing fulfilment delay. Supplier relationships may be informal and poorly documented. Delivery planning may depend on phone calls, driver availability and last-minute decisions rather than structured route planning and performance measurement. These weaknesses are particularly visible among small and medium enterprises, although larger firms also face coordination problems when supply chains are fragmented.

The consequence is that Nigerian businesses often carry hidden logistics costs. These costs appear in delayed deliveries, damaged goods, stock-outs, overstocking, excess transport expenses, customer complaints, driver idle time, poor cash-flow planning, loss of perishable products and inability to scale beyond familiar local markets. A retailer may have competent sales staff and attractive products but may lose customers because orders arrive late. A food processor may have safer local packaging and storage methods but may fail because perishables are not delivered quickly enough. A pharmaceutical distributor may lose product quality because temperature-sensitive products are not properly handled. A construction supply company may lose customer confidence because delivery timing is unreliable. These examples show that competitiveness is not only price, product or market promotion; it is also the dependable capacity to deliver value.

Existing logistics and supply chain literature provides strong theoretical and practical foundations, but much of it was developed from relatively formal and infrastructure-supported environments. The Nigerian context requires adaptation because informality, weak infrastructure, institutional friction, insecurity, energy limitations, fragmented distribution channels and limited digital maturity shape how supply chains operate. Therefore, the central problem addressed in this paper is how logistics and supply chain management should be understood as strategic drivers of business competitiveness in Nigeria rather than as ordinary transport or after-sales activities.

The aim of this paper is to examine logistics and supply chain management as strategic drivers of business competitiveness in Nigeria through an integrated logistics capability framework.

The specific objectives are to:

1. clarify the concepts of logistics management, supply chain management and business competitiveness within the Nigerian business context;
2. review relevant literature on logistics capability, supply chain integration, digital visibility, resilience and firm competitiveness;
3. apply relevant theories to explain how logistics and supply chain management influence enterprise performance;
4. develop an integrated logistics capability framework suitable for Nigerian firms;
5. discuss practical and policy implications for SMEs, logistics service providers, policymakers, universities and development actors.

As a conceptual paper, the study is guided by the following questions:

1. How should logistics and supply chain management be understood in relation to business competitiveness in Nigeria?
2. What theoretical explanations support the treatment of logistics capability as a strategic resource and dynamic capability?
3. How do enabling environment, firm-level logistics capability, supply chain integration, digital visibility and human capability influence operational performance?
4. What framework can guide Nigerian firms in converting logistics and supply chain management into competitive advantage?
5. What practical and policy actions are required to strengthen logistics performance among Nigerian firms?

### **Contribution and Organisation of the Paper**

The contribution of this paper is mainly conceptual and practical. It brings together logistics infrastructure, firm-level capability, supply chain integration, digital visibility, human competence and resilience into one framework that explains how logistics can support business competitiveness in a developing economy. The paper is organised into conceptual clarification and literature review, theoretical framework, analytical approach, conceptual framework, discussion and analysis, implications, challenges, conclusion and suggestions.

### **Conceptual Clarification**

#### **Conceptualising Logistics Management**

Logistics management refers to the planning, implementation and control of the movement, storage and flow of goods, services and related information from origin to consumption in ways that meet customer requirements efficiently. Christopher (2016) treats logistics as a strategic process through which firms manage procurement, movement, storage and distribution to improve customer value at lower total cost. In this paper, logistics management is used to describe the firm-level and network-level routines through which Nigerian enterprises organise sourcing, transportation, warehousing, inventory control, order fulfilment, returns and delivery communication.

The Nigerian setting gives logistics management a wider meaning than physical transportation. Because firms operate with road deterioration, traffic delays, high fuel cost, port congestion, insecurity and unstable power supply, logistics management also involves risk planning, route choice, supplier monitoring, stock buffering, documentation, dispatch control and customer communication. For many SMEs, logistics capability may begin with simple but disciplined practices such as stock cards, delivery logs, reorder points, customer address records, dispatch schedules and proof-of-delivery routines. These basic routines may appear ordinary, but they often determine whether a firm can serve customers reliably.

#### **Conceptualising Supply Chain Management**

Supply chain management is broader than logistics management because it covers the coordinated management of relationships, processes and flows across organisations involved in value creation. Lambert and Cooper (2000) describe supply chain management as the integration of key business processes from end users through original suppliers. Chopra and Meindl (2019) similarly emphasise that supply chain management involves the management of products, information and funds across the stages that satisfy customer needs. These views show that supply chain management is relational, process-based and information-driven.

For Nigerian firms, supply chain management involves coordination among suppliers, transporters, warehouse operators, agents, distributors, retailers, digital platforms, customers and regulators. Where these actors are poorly coordinated, firms experience repeated stock-outs, wrong deliveries, poor demand forecasting, delayed payments and customer dissatisfaction. Where coordination improves, firms can reduce uncertainty, improve service reliability and respond better to market shifts. Supply chain management is therefore not only about moving goods; it is about creating dependable relationships and routines that convert production into market value.

### **Logistics, Supply Chain Integration and Business Competitiveness**

Business competitiveness refers to the ability of a firm to attract customers, deliver value, sustain profitability, respond to market change and maintain a favourable position relative to competitors. Logistics contributes to competitiveness because it influences cost, speed, reliability, availability, customer satisfaction and market reach. Christopher (2016) argues that logistics can become a source of competitive advantage when firms deliver superior customer value at lower total cost. This means that a business can compete not only through product quality or price but also through the reliability and convenience of fulfilment.

Studies on supply chain performance also show that measurement is central to competitiveness. Gunasekaran et al. (2004) argue that supply chain performance measurement should capture cost, delivery, flexibility and customer-related indicators. In practical terms, this means that firms need to monitor delivery lead time, transport cost per order, inventory accuracy, stock-out frequency, product damage, return rates and customer complaints. Such indicators are particularly useful in Nigeria because they help firms move from informal judgement to evidence-based logistics decisions.

### **Logistics Infrastructure and Nigerian Business Conditions**

The literature on logistics infrastructure shows that national logistics conditions shape firm-level competitiveness. The World Bank (2023) uses customs, infrastructure, international shipments, logistics competence, tracking, tracing and timeliness to assess logistics performance across countries. These indicators matter because firms do not operate in isolation from roads, ports, customs systems, electricity, security, documentation procedures and trade regulations. Poor logistics infrastructure increases transaction costs and makes business planning uncertain.

In Nigeria, this infrastructure dimension is significant because many firms depend on roads, ports and informal distribution systems for market access. The International Trade Administration (2025) identifies Nigeria's logistics sector as an important area but also notes constraints linked to roads, ports, electricity, customs processes and trade facilitation. These challenges do not remove managerial responsibility, but they create a difficult environment in which firms must develop adaptive capability. A firm that understands its logistics constraints can plan delivery routes, maintain alternative suppliers, use dispatch records, introduce buffer stock and communicate more honestly with customers.

### **Digital Visibility, Resilience and SME Growth**

Digital visibility refers to the ability of a firm to know the location, status, quantity, movement and condition of goods and orders through reliable information systems. In advanced firms, this may involve enterprise resource planning systems, warehouse management systems, tracking platforms and analytics. In many Nigerian SMEs, it may begin with structured spreadsheets, inventory applications, cloud-based records, WhatsApp Business catalogues, delivery logs, digital receipts and GPS-enabled dispatch monitoring. The critical point is not technological sophistication alone, but disciplined and timely information use.

Resilience has become more important because supply chains face disruptions arising from fuel scarcity, insecurity, exchange-rate volatility, global shipping delays, port congestion and demand uncertainty. Ponomarov and Holcomb (2009) define supply chain resilience as the adaptive capability of a supply chain to prepare for, respond to and recover from unexpected events. Ivanov and Dolgui (2020) extend this discussion by emphasising viability and the ability of supply networks to maintain essential functions under disruption. For Nigerian firms, resilience requires alternative suppliers, flexible transport arrangements, buffer policies, supplier trust, customer communication and evidence-based performance monitoring.

## Theoretical Framework

### Resource-Based View

The resource-based view argues that firms achieve sustainable competitive advantage when they possess resources and capabilities that are valuable, rare, difficult to imitate and difficult to substitute (Barney, 1991). In logistics and supply chain management, resources include distribution networks, supplier relationships, warehouse routines, inventory systems, service-level agreements, trained logistics personnel and digital visibility tools. These resources become strategic when they enable a firm to deliver faster, reduce cost, protect product quality and improve customer satisfaction in ways that competitors cannot easily copy. Applied to the Nigerian context, the resource-based view suggests that logistics capability can become a competitive resource when firms build routines that are superior to the informal practices common in their markets. A firm may operate under the same poor road conditions as its competitors, but better route planning, supplier coordination, stock control and customer communication can still produce superior delivery reliability. The limitation of the resource-based view, however, is that it may understate the extent to which external infrastructure and institutional constraints shape the value of firm-level resources in developing economies.

### Dynamic Capability Theory

Dynamic capability theory extends the resource-based argument by emphasising the ability of firms to integrate, build and reconfigure internal and external competences in response to changing environments (Teece et al., 1997). This theory is relevant to Nigerian supply chains because firms operate under volatile fuel prices, exchange rates, port conditions, security risks and customer demands. Logistics capability is not fixed; it must be adjusted through new suppliers, revised routing, digital records, alternative delivery arrangements and improved customer communication. The theory explains why two firms with similar resources may perform differently when disruption occurs. One firm may continue using old delivery routines even when conditions change, while another may redesign routes, renegotiate supply arrangements, introduce tracking tools and adjust stock policies. Dynamic capability therefore explains how logistics resources become useful through adaptation, learning and reconfiguration.

### Transaction Cost Economics

Transaction cost economics explains that firms organise economic activities in ways that reduce the costs of searching, negotiating, monitoring, enforcing agreements and managing uncertainty (Williamson, 1985). Supply chains involve repeated transactions among suppliers, transporters, warehouse operators, customers and regulators. Where information is poor, contracts are weak, delivery promises are unreliable and documentation is incomplete, transaction costs increase and competitiveness declines. In the Nigerian context, transaction costs are visible in delayed clearance, repeated calls to transporters, informal payments, lost waybills, unreliable delivery promises and weak enforcement of service agreements. Logistics management can reduce these costs by improving documentation, selecting reliable partners, clarifying delivery obligations, tracking orders and measuring performance. Transaction cost economics therefore explains why supply chain coordination and documentation are not mere administrative practices; they are mechanisms for reducing uncertainty and protecting value.

### Systems Theory and Supply Chain Resilience

Systems theory provides another useful foundation because supply chains operate as networks of interdependent activities. Procurement affects production; production affects inventory; inventory affects warehousing; warehousing affects order fulfilment; order fulfilment affects customer satisfaction; and customer feedback affects future demand. When one part of the chain is weak, other parts are affected. This is why logistics problems cannot be solved only by buying more vehicles or renting more warehouse space. They require coordinated systems thinking. Supply chain resilience thinking completes the theoretical background by focusing on how firms prepare for, respond to and recover from disruption. Ponomarov and Holcomb (2009) locate resilience in adaptive capability, while Wieland and Wallenburg (2013) connect resilience with relational competences. In Nigeria, where disruptions can arise from fuel shortages, poor infrastructure, policy uncertainty and security concerns, resilience requires both internal routines and trusted relationships across the supply chain.

### Integrated Theoretical Position

The theoretical position of this paper is that logistics capability becomes a strategic capability when it is valuable to customers, difficult for competitors to copy, supported by dynamic routines, embedded in transaction governance, coordinated as a system and resilient under disruption. This theoretical synthesis provides the basis for the conceptual

framework developed in the paper. It explains why logistics should be treated as a strategic driver of business competitiveness rather than a narrow operational activity.

### Analytical Approach

This paper adopts a conceptual and framework-development approach. It draws on established theories, peer-reviewed logistics and supply chain literature, institutional reports and Nigerian contextual evidence to develop an analytical framework for understanding logistics and supply chain management as strategic drivers of business competitiveness. The approach is appropriate because the paper does not report field survey data; instead, it synthesises concepts, theories and contextual realities into a practical framework that can guide future empirical testing and managerial application. The analysis proceeds in five steps. First, it clarifies the key concepts of logistics management, supply chain management and business competitiveness. Second, it reviews relevant literature on logistics capability, integration, digital visibility, resilience and performance. Third, it applies selected theories to explain the relationship between logistics capability and competitive outcomes. Fourth, it develops an integrated logistics capability framework for Nigerian firms. Finally, it discusses the practical and policy implications of the framework for firms, SMEs, universities, logistics service providers, policymakers and future researchers.

### Conceptual Framework

#### Integrated Logistics Capability Framework for Nigerian Firms

The analysis of logistics and supply chain management in Nigeria can be organised around an integrated logistics capability framework. This framework explains how infrastructure and institutional conditions, firm-level logistics capability, supply chain integration, digital visibility, human competence and resilience routines jointly shape operational performance and competitiveness. The framework below presents this relationship in a simplified form suitable for theoretical interpretation and practical application.

**Table 1: Integrated Logistics Capability Framework for Nigerian Firms**

| Framework Component                     | Main Concern                                                                                             | Mechanism of Influence                                                             | Expected Outcome                                                        | Practical Application                             |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|
| Enabling Environment                    | Roads, ports, power, security, regulation and trade facilitation                                         | Creates the baseline condition for movement, storage and market access             | Lower friction or higher constraint in supply chain operations          | Requires public investment and trade facilitation |
| Firm-Level Logistics Capability         | Transport routines, warehousing, inventory, order processing and records                                 | Converts resources into reliable fulfilment                                        | Reduced cost, faster delivery and fewer service failures                | Requires management discipline before technology  |
| Supply Chain Integration                | Supplier coordination, customer information, third-party logistics relationships and inter-unit routines | Reduces information gaps and transaction uncertainty                               | Improved service quality and operational responsiveness                 | Requires documentation and communication routines |
| Digital Visibility and Human Capability | Tracking systems, analytics, inventory records, logistics skills and process discipline                  | Transforms logistics from guesswork into monitored and accountable decision-making | Better planning, faster exception handling and more accurate fulfilment | Can begin with affordable digital tools           |
| Operational and Competitive Outcomes    | Cost efficiency, delivery reliability, customer satisfaction and market reach                            | Links logistics performance to business value and strategic positioning            | Stronger competitiveness, SME growth and improved trade participation   | Requires continuous measurement                   |

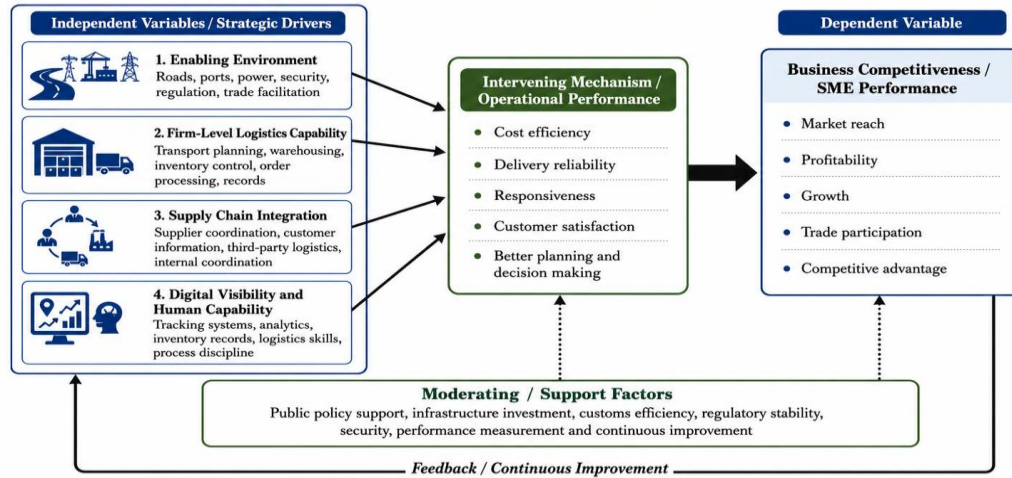


Figure 1: Integrated Logistics Capability and Business Competitiveness Framework for Nigerian Firms

Author's conceptualisation (2026), informed by Barney (1991), Mentzer et al. (2001), Teece et al. (1997), and Ponomarov and Holcomb (2009).

### Explanation of Framework Components

The first component of the framework is the enabling environment. This includes transport infrastructure, ports, electricity, customs processes, regulatory stability and security. Firms do not operate in a vacuum. The public environment influences logistics cost before firm-level decisions begins. When roads are poor, vehicle maintenance cost rises. When electricity is unreliable, warehousing and cold-chain expenses increase. When customs processes are slow, importers and manufacturers face uncertainty. When transport corridors are insecure, firms adjust routes and pay more for risk management. The enabling environment therefore shapes the starting point of competitiveness.

The second component is firm-level logistics capability. This is where managerial action becomes central. Logistics capability includes the ability to plan transport, manage stock, organise warehouses, package products, process orders, handle returns and coordinate fulfilment. In many Nigerian SMEs, logistics capability is underdeveloped because the owner-manager focuses mainly on buying, selling and cash flow. However, as the firm grows, poor logistics routines begin to limit growth. A small trader may manage ten orders by memory, but cannot manage hundreds of orders without written records and process discipline.

The third component is supplying chain integration. Integration is the practical discipline through which different actors become a functioning chain. Supplier coordination reduces input uncertainty. Customer information improves demand planning. Logistics partnerships improve delivery reliability. Internal alignment prevents departments from making separate decisions that create conflict. In Nigeria, where many supply chains contain informal actors, integration may begin with simple practices such as supplier registers, delivery agreements, weekly dispatch reports, customer order records and shared dispatch schedules.

The fourth component is digital visibility and human capability. Technology improves visibility, but people create interpretation and discipline. A tracking system does not improve delivery if no one monitors route deviation. Inventory software does not improve stock accuracy if warehouse workers do not update records. A customer notification system does not help if staff provide misleading delivery promises. Therefore, digital visibility requires human capability, logistics culture, process discipline, training and accountability.

The fifth component is operational and competitive outcome. Logistics creates competitiveness when it improves cost efficiency, delivery speed, reliability, flexibility, quality protection and customer satisfaction. Cost efficiency allows firms to protect profit margins. Delivery reliability improves customer trust. Flexibility allows firms to respond to

demand shifts. Quality protection is especially important for food, pharmaceuticals, agricultural produce and fragile products. These outcomes convert logistics activity into business performance.

### **Original Contribution of the Framework**

The original contribution of the framework is that it connects public logistics conditions with firm-level capability rather than treating them as separate explanations. Many discussions of Nigerian logistics stop at poor roads, ports and power, while many managerial discussions assume that firms can solve logistics problems without attention to infrastructure and institutions. This framework rejects both extremes. It shows that competitiveness emerges when public infrastructure, transaction governance, internal process discipline, digital visibility and human competence reinforce one another. The model is useful because it gives both academic researchers and firm managers a practical structure for asking: what should improve, who should act, and how should improvement be measured?

## **Discussion and Analysis**

### **Repositioning Logistics as a Value System**

The first major issue in the discussion is the need to reposition logistics from a cost centre to a value system. Many business owners interpret logistics mainly as transportation expenditure. They ask how much it costs to move goods from one location to another, but they often pay less attention to the value logistics creates through reliability, speed, customer assurance and market expansion. When logistics is treated only as a cost, firms try to reduce expenditure without considering the cost of late delivery, damaged goods, lost customers and poor reputation. This distinction is significant in Nigeria because customers increasingly compare firms not only by price and product quality but also by fulfilment experience. In urban retail, online commerce, food delivery, pharmaceutical distribution, spare parts, construction materials and fashion distribution, customers may cancel orders or shift to a competitor when the firm cannot deliver as promised. Logistics therefore becomes part of customer value, not merely an operational burden.

### **Supply Chain Integration and Relationship Coordination**

The second issue is supply chain integration. Integration is both internal and external. Internal integration means that procurement, production, inventory, marketing, sales and finance units share relevant information. External integration means that the firm works with suppliers, transporters, distributors, customers and logistics partners in a coordinated manner. In weakly integrated systems, each actor optimises its own activity without considering the whole chain. This produces conflict, duplication and service failure. In Nigerian firms, weak integration often appears in simple but costly ways. Sales teams may promise customers delivery dates without confirming stock availability. Procurement officers may buy from suppliers without considering transport lead time. Warehouse staff may not update stock records properly. Logistics officers may not receive delivery instructions early enough. Finance units may delay payment to transporters, thereby weakening delivery reliability. These problems are not always caused by lack of money; they are often caused by lack of coordination. A basic supply chain integration system can therefore improve performance even before major investment in infrastructure.

### **Digital Visibility and Human Capability**

The third issue is digital visibility. Modern supply chains depend on information as much as physical movement. Chopra and Meindl (2019) emphasise that supply chain management is concerned with managing flows of products, information and funds. Information makes it possible to know what is available, what has been ordered, what has been dispatched, what is delayed and what customers should expect. Without visibility, firms rely on guesswork. This creates poor demand planning, duplicated orders, lost products, false delivery promises and customer frustration. For Nigerian SMEs, digital visibility does not have to begin with expensive enterprise systems. Many firms can start with structured inventory sheets, cloud-based stock records, QR or barcode labels, delivery logs, customer databases, GPS-enabled dispatch monitoring, WhatsApp Business catalogues and simple dashboards. The important point is that digital tools must be linked to disciplined routines. A phone-based delivery report is useful only when the dispatch officer records it accurately and management uses it for decision-making.

### **Infrastructure Constraints and Managerial Adaptation**

The fourth issue is the relationship between logistics infrastructure and business competitiveness. Infrastructure determines the baseline conditions under which firms operate. Poor roads increase vehicle maintenance cost and delivery time. Port congestion increases demurrage and uncertainty. Unreliable electricity raises warehousing and cold-chain costs. Weak rail connectivity places excessive pressure on road transport. Multiple agencies increase border

transaction delays. These infrastructural limitations influence how much Nigerian firms pay to serve local and regional markets.

Yet infrastructure weakness does not remove managerial responsibility. Firms must still design adaptive logistics systems within the constraints they face. A firm operating in a poor road environment may plan earlier dispatch, use route risk information, maintain alternative transport partners and communicate realistic delivery timelines to customers. A firm exposed to port delays may hold strategic safety stock or adjust supplier agreements. These responses do not remove the need for public infrastructure, but they show that competitiveness also depends on managerial response to constraint.

### **Logistics Capability, SME Growth and Trade Participation**

The fifth issue is the role of logistics in SME growth and entrepreneurship. SMEs often fail to scale because their logistics systems cannot support growth beyond familiar local markets. When orders increase, informal inventory records become unreliable. When customers are located farther away, delivery costs become difficult to estimate. When products become more fragile or regulated, quality protection becomes more important. When customers demand faster service, manual coordination becomes too slow. Entrepreneurship development, therefore, requires capable value-delivery systems, not only product ideas or market opportunities. Business planning should include sourcing routes, supplier lead time, inventory policy, warehouse records, distribution channels, delivery cost, payment collection, customer communication and return management. A business plan that identifies customer demand but ignores logistics capacity is incomplete. This is directly relevant to Nigerian firms because many promising ventures lose customers when they are unable to fulfil orders consistently. For Nigeria, this analysis has clear relevance to trade and regional integration. The African Continental Free Trade Area promises opportunities for Nigerian firms to access wider African markets, but such opportunities depend on logistics competence. A firm cannot benefit from continental market access if it cannot package goods properly, deliver them across borders, manage customs documentation, preserve quality, receive secure and compliant customer trust, or respond to distant-market complaints. Logistics competence therefore becomes a trade-readiness requirement rather than a firm-level technical issue.

### **Measurement and Continuous Improvement**

The analysis also points to the importance of measurement. What is not measured is difficult to improve. Nigerian firms should track delivery lead time, stock-out frequency, inventory accuracy, transport cost per order, damaged goods rate, return rate, warehouse picking accuracy, supplier fulfilment rate and customer delivery complaints. Performance measurement allows firms to identify repeated problems, compare suppliers, evaluate transporters and improve customer service. Gunasekaran et al. (2004) argue that supply chain performance measurement is necessary because firms need to evaluate cost, delivery, flexibility and customer satisfaction across the chain. Measurement should not be treated as complex bureaucracy. A growing SME can begin with a delivery register, a dispatch log, a customer complaint record and a monthly review of common failures. Over time, these records help the firm decide whether to change transporters, increase stock, adjust delivery promises, negotiate supplier arrangements or invest in digital systems. Continuous improvement is therefore the mechanism through which logistics capability becomes stronger over time.

### **Practical and Policy Implications**

#### **Implications for Nigerian Firms and SMEs**

For Nigerian firms and SMEs, the implication is that logistics should be treated as a strategic management function rather than an after-sales operational arrangement. Owner-managers should include sourcing, inventory planning, warehousing, delivery, returns and customer fulfilment in business planning. This is particularly important for SMEs seeking to expand beyond local markets because weak logistics systems often collapse when customer demand increases.

Second, firms should introduce simple but consistent performance measures. Indicators such as delivery lead time, transport cost per order, stock-out frequency, inventory accuracy, product damage rate, return frequency and customer delivery complaints should be monitored. These measures will help managers identify repeated problems and improve service quality. Logistics performance should become part of weekly or monthly business review rather than an informal matter handled only when customers complain.

### Implications for Universities, Polytechnics and Entrepreneurship Centres

The discussion suggests that logistics should be embedded in entrepreneurship education. Many entrepreneurship programmes teach opportunity recognition, business model development, marketing and finance, but give limited attention to supply chain design. This creates a gap because an entrepreneur may identify an opportunity and attract customers but fail at fulfilment. Universities, polytechnics and entrepreneurship centres should therefore teach students how to map supply chains, calculate reorder levels, manage warehouses, design delivery routes, evaluate suppliers, reduce stock-out risk and use simple digital logistics tools. Applied logistics education should also include practical assignments. Students can be asked to map the supply chain of a local food seller, supermarket, fashion designer, pharmaceutical retailer or e-commerce vendor. Such assignments would connect entrepreneurship learning with the realities of Nigerian markets and help students understand that business success depends on both opportunity recognition and value delivery.

### Implications for Government and Logistics Policy

For policymakers, the framework implies that logistics development should be linked to national trade, industrial and SME policy. Road rehabilitation, rail-port connectivity, customs modernisation, inland dry ports, cold-chain infrastructure, digital trade documentation, transport security and transparent regulation are not isolated infrastructure projects. They are competitiveness instruments. When these systems improve, firms can reduce cost, expand market access and participate more effectively in domestic and regional trade. Policy should therefore combine infrastructure investment with firm-level capability support. SME agencies, trade promotion institutions and state governments can provide logistics training, templates for delivery records, model service-level agreements, basic warehouse management tools and digital record-keeping support. Such practical support is especially important for micro and small firms that cannot afford expensive consultants or large logistics systems.

### Implications for Logistics Service Providers and Development Actors

Logistics service providers should professionalise operations through staff training, digital tracking, transparent pricing, insurance options, service-level agreements and customer reporting. Informal dispatch arrangements may remain useful at micro scale, but they are insufficient for scalable business growth. Logistics providers that offer reliable documentation, customer updates and proof of delivery will become stronger partners to SMEs and exporters. Development actors, industry associations and business support organisations can also apply the framework by designing logistics capability programmes for SMEs. These programmes may include route planning, inventory control, packaging standards, dispatch documentation, reverse logistics, cold-chain awareness, digital records and customer communication. Such support would connect entrepreneurship development to operational competitiveness.

### Challenges and Limitations

#### Implementation Challenges

Several challenges may affect the implementation of logistics capability in Nigeria. Infrastructure remains a major constraint. Poor roads, port congestion, weak rail systems, unreliable electricity, insecurity and inconsistent regulation continue to raise the cost and uncertainty of business movement. These issues cannot be fully solved by individual firms. They require sustained public investment, institutional coordination and policy accountability. At firm level, implementation may be constrained by limited finance, low digital literacy, weak managerial discipline, poor record-keeping culture and resistance to formal systems. Many SMEs operate informally and may consider delivery logs, inventory records or supplier evaluation as unnecessary paperwork. This mindset can prevent firms from seeing logistics as a source of competitiveness. Human capability is therefore as important as technology adoption.

#### Conceptual and Evidence Limitations

This paper is conceptual and framework-driven. It does not report primary survey data, statistical test results or sector-specific empirical findings. Its arguments are based on theoretical synthesis, literature and contextual analysis. Therefore, the framework should be treated as an analytical model for interpretation, teaching and future empirical research rather than as a tested causal model. Future studies should test the framework across Nigerian sectors such as manufacturing, agriculture, pharmaceuticals, retail, construction, oil and gas services and e-commerce.

### Conclusion

Logistics and supply chain management are strategic drivers of business competitiveness, especially in a developing economy such as Nigeria where infrastructure, institutional and market conditions create significant operational friction. The paper has argued that logistics should not be reduced to transport or delivery. It should be understood as

an integrated capability that connects sourcing, inventory control, warehousing, distribution, information visibility, supplier coordination, customer fulfilment and resilience.

The theoretical argument developed in this paper shows that logistics capability can function as a valuable resource, a dynamic capability, a transaction cost reduction mechanism, a systems coordination tool and a foundation for resilience. The resource-based view explains why superior logistics routines can differentiate firms. Dynamic capability theory explains why firms must reconfigure logistics practices under changing conditions. Transaction cost economics explains why documentation, trust and coordination reduce uncertainty. Systems thinking explains why supply chain performance depends on interdependence, while resilience thinking explains why firms must prepare for disruption.

The Nigerian context makes the argument more urgent. Infrastructure deficits, customs delays, poor roads, port inefficiencies, unreliable power, insecurity and limited digital maturity continue to affect logistics performance. However, these constraints should not lead firms to neglect internal capability. Firms can still improve competitiveness through better planning, supplier coordination, inventory accuracy, digital visibility, performance measurement and customer communication. The integrated logistics capability framework developed in this paper therefore provides a practical basis for understanding how logistics can support competitiveness in Nigeria.

### Suggestions

1. Nigerian firms should treat logistics and supply chain management as strategic functions rather than after-sales operational arrangements. Business owners and managers should include sourcing, inventory planning, warehousing, delivery, returns and customer fulfilment in their strategic planning processes.
2. Firms should introduce simple but consistent logistics performance measures. Indicators such as delivery lead time, transport cost per order, stock-out frequency, inventory accuracy, product damage rate, return frequency and customer delivery complaints should be monitored regularly.
3. SMEs should adopt affordable digital visibility tools. Not every firm needs a complex enterprise resource planning system at the early stage, but every growing firm needs reliable records. Cloud-based spreadsheets, inventory applications, GPS-enabled dispatch monitoring, digital receipts, WhatsApp Business tools and simple dashboards can strengthen visibility.
4. Universities, polytechnics and entrepreneurship centres should strengthen applied logistics and supply chain education. Students should be taught how to map supply chains, calculate reorder levels, manage warehouses, design delivery routes, evaluate suppliers, reduce stock-out risk and use simple digital tools.
5. Government and relevant agencies should improve the enabling logistics environment through road rehabilitation, rail-port connectivity, customs modernisation, inland dry ports, cold-chain infrastructure, digital trade documentation, security on transport corridors and transparent regulation.
6. Logistics service providers should professionalise operations through staff training, digital tracking, transparent pricing, insurance options, service-level agreements and customer reporting. Informal dispatch arrangements may remain useful at micro scale, but they are insufficient for scalable business growth.
7. Policymakers should link logistics development with Nigeria's broader trade and industrial strategy. AfCFTA participation, export promotion, manufacturing growth, agricultural commercialisation and digital commerce will depend heavily on reliable logistics systems.
8. Future researchers should empirically test the framework proposed in this paper across sectors such as manufacturing, agriculture, pharmaceuticals, retail, construction, oil and gas services and e-commerce. Possible studies may examine the relationship between logistics capability and SME performance, the mediating role of operational reliability, or the moderating role of infrastructure quality.

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