



Supply Chain Reliability And Export Competitiveness Of Agro-Industries In Southern Nigeria

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ABSTRACT

This study examined the relationship between supply chain reliability and export competitiveness of agro-industries in Southern Nigeria. Specifically, the study investigated the influence of information sharing and logistics reliability on the Export Competitiveness Index of selected agro-industrial firms. A quantitative research design employing a descriptive survey approach was adopted. Data were collected from 187 managerial and operational staff across export-oriented agro-industrial firms in the South-South region of Nigeria. The data were analyzed using descriptive statistics, Pearson correlation, and multiple regression analysis with the aid of SPSS version 26. Findings revealed that information sharing ($r = 0.548, p < 0.01; \beta = 0.298, p < 0.001$) and logistics reliability ($r = 0.621, p < 0.01; \beta = 0.441, p < 0.001$) both have significant positive effects on export competitiveness. Logistics reliability emerged as the strongest predictor of export competitiveness. The regression model explained 47 percent of the variance in export competitiveness. The study concludes that strengthening supply chain coordination and logistics systems is critical for improving non-oil export performance and enhancing the global competitiveness of agro-industries in Southern Nigeria. The study recommends increased investment in digital information-sharing platforms, resilient logistics infrastructure, and supportive trade facilitation policies.

Keywords:

Agro-industries Export competitiveness index, Information sharing, Logistics reliability, Supply chain management

Introduction

Agricultural exports remain central to Nigeria’s long-term strategy for economic diversification and foreign exchange stability. With global trade becoming increasingly competitive and standards-driven, export performance is no longer determined solely by production capacity, but by the efficiency and reliability of the supply chains that connect producers to international markets. According to World Bank (2023), trade logistics performance significantly influences developing countries’ participation in global markets. Similarly,

United Nations Conference on Trade and Development [UNCTAD] (2022) reports that export competitiveness increasingly depends on reliability, coordination, and information integration across value chains.

Nigeria’s non-oil export sector, particularly agro-industries, has shown renewed growth momentum in recent years (Nigerian Export Promotion Council [NEPC], 2023; Okoro, 2025). Commodities such as cocoa, cassava derivatives, seafood, and processed agricultural goods are gaining stronger footholds in regional and global markets. However, sustaining this

growth requires more than production expansion; it demands dependable supply chain systems capable of delivering consistent quality, meeting shipment deadlines, and complying with international standards. The Food and Agriculture Organization (2022) emphasizes that agricultural export success in developing economies is strongly tied to supply chain efficiency, especially in contexts where perishability and infrastructural constraints heighten risk.

Within Southern Nigeria, comprising key agro-producing states in the South-South and South-East regions, agro-industries operate in an environment characterized by infrastructural deficits, fragmented coordination, and administrative bottlenecks. Despite proximity to major seaports and export corridors, many firms struggle to maintain consistent export performance. This paradox highlights the importance of examining supply chain reliability as a strategic determinant of export competitiveness.

Supply chain reliability refers to the extent to which logistics systems and information flows operate predictably, accurately, and consistently across the value chain. Foundational supply chain literature (Christopher, 2016; Mangan et al., 2021) argues that reliability, rather than mere speed or cost minimization, is the core driver of competitive advantage in global trade. When buyers in international markets depend on strict delivery windows and quality standards, reliability becomes a critical reputational asset.

Two dimensions of supply chain reliability are particularly relevant in agro-export contexts: logistics reliability and information sharing. Logistics reliability concerns the consistent and timely movement of goods from production points to export terminals. In agricultural supply chains, where products are often perishable and seasonally sensitive, unreliable transportation, port congestion, and weak cold-chain infrastructure can result in spoilage, shipment delays, and financial losses (Nwankwo & Eze, 2021). Studies in Nigeria indicate that transport inefficiencies and inconsistent cargo handling significantly

increase export costs and reduce global market confidence (Okoro & Ogu, 2020). When logistics systems fail to perform predictably, exporters incur demurrage charges, contract penalties, and reputational damage that weaken their competitive standing.

Information sharing represents the second critical dimension of supply chain reliability. Effective export systems require real-time communication among producers, processors, freight agents, port authorities, and regulatory bodies. Information asymmetry or delayed documentation increases lead times and administrative uncertainty. Collaborative supply chain frameworks (Ezzeddine et al., 2012) emphasize that structured information exchange enhances coordination, reduces duplication, and improves responsiveness to market fluctuations. In Nigeria, however, limited digital integration and weak institutional coordination continue to constrain export efficiency (Afolabi, 2022; Ebong & Emeh, 2021).

Export competitiveness, measured in this study using the Export Competitiveness Index, reflects a firm's ability to sustain market share, price advantage, quality compliance, and foreign exchange earnings relative to competitors. According to UNCTAD (2022), competitiveness in agricultural exports increasingly depends on supply-side efficiency rather than tariff protection. Similarly, fiscal and regulatory reforms highlighted by Adewale and Olaniyan (2022) suggest that operational reliability plays a stronger role in export success than policy incentives alone.

Despite growing policy emphasis on non-oil export expansion, empirical research linking supply chain reliability to export competitiveness at the firm level in Southern Nigeria remains limited. Existing analyses often focus on macro-level trade performance (World Bank, 2023) or national export statistics (NEPC, 2023), with insufficient attention to micro-level operational determinants. Moreover, while studies have examined logistics constraints or cold-chain failures independently (Nwankwo & Eze, 2021), few integrate logistics reliability and information sharing into a unified reliability

framework linked directly to export competitiveness outcomes.

The consequences of unreliable supply chains are evident in shipment delays, quality rejections, reduced buyer trust, and declining export margins. Conversely, firms that invest in dependable transport networks, digital tracking systems, and collaborative information platforms are better positioned to meet international standards and secure repeat contracts (Christopher, 2016; Mangan et al., 2021). Understanding these relationships is critical for informing targeted infrastructure investment, digital trade facilitation, and private-sector operational reforms in Southern Nigeria's agro-industrial sector. Therefore, this study examines the influence of supply chain reliability, operationalized through logistics reliability and information sharing, on export competitiveness among agro-industries in Southern Nigeria. The study provides a parsimonious yet robust explanation of how operational stability and information integration shape firms' competitive performance in international agricultural markets.

Aim of the Study: The primary aim of this study is to examine the influence of supply chain reliability on export competitiveness of agro-industries in Southern Nigeria.

Specific Objectives

- i. To determine the effect of logistics reliability on export competitiveness of agro-industries in Southern Nigeria.
- ii. To examine the influence of information sharing on export competitiveness of agro-industries in Southern Nigeria.

Supply Chain Reliability

In contemporary export management literature, supply chain reliability has emerged as a central determinant of firm-level competitiveness, particularly within agro-industrial systems characterized by infrastructural constraints and market volatility. While earlier studies (Chan & Chan, 2010; Christopher, 2016) conceptualized

supply chain effectiveness in terms of broad dynamics or effectiveness, the present study narrows the focus to reliability—the degree to which supply chain processes consistently perform as expected under varying operational and environmental conditions.

Supply chain reliability refers to the capability of interconnected supply chain actors to deliver products and exchange information accurately, consistently, and on schedule, despite internal variability or external disruptions. It reflects stability, predictability, and coordination across logistics and communication channels. According to Christopher (2016), reliable supply chains are those that balance responsiveness with consistency, ensuring that goods reach customers in the right condition and at the promised time. Similarly, Chopra and Meindl (2021) argue that reliability is foundational to supply chain performance because variability in delivery or information flow creates cascading inefficiencies throughout the network. In agro-industrial export systems, reliability is particularly critical due to product perishability, documentation requirements, regulatory compliance standards, and infrastructure-related uncertainties.

Unlike manufacturing sectors with buffer inventories and flexible storage capacity, agro-exporters often operate under tight harvest windows and strict quality conditions. Consequently, inconsistent transportation schedules or delayed information exchange can result in spoilage, missed shipping deadlines, tariff penalties, and reputational damage. Thus, the reliability construct in this study is conceptualized through two interrelated but analytically distinct dimensions: Logistics Reliability and Information Sharing. Together, these dimensions capture both the physical flow of goods and the informational flow that coordinates supply chain activities (Afolabi, 2022; Li & Lin, 2020). Rather than treating supply chain systems as abstract networks, this study views reliability as an operational capability that determines whether export commitments are fulfilled consistently and competitively.

From a systems perspective, supply chains are inherently dynamic, exhibiting feedback loops, time delays, and amplification effects such as the bullwhip phenomenon described by Lee et al. (2004). When logistics and information systems are unreliable, minor fluctuations in demand can escalate into major production and inventory distortions. Conversely, high reliability dampens volatility, stabilizes flows, and enhances export performance. Moreover, digital transformation has redefined the architecture of reliable supply chains. Technologies such as IoT-enabled tracking, RFID, enterprise resource planning systems, and blockchain-based documentation platforms enhance visibility and coordination (Gunasekaran et al., 2017; Kache & Seuring, 2017). In emerging economies like Nigeria, however, infrastructural gaps and limited digital integration continue to challenge reliability across agro-industrial export chains (Eze & Chukwu, 2021). Within the context of Southern Nigeria's agro-industry, supply chain reliability therefore represents a strategic capability that mitigates environmental uncertainty and strengthens export competitiveness.

Dimensions of Supply Chain Reliability

Information Sharing

Information sharing is the structured, timely, and accurate exchange of operational and strategic data among supply chain partners to facilitate coordination and decision-making. It represents the communicative backbone of supply chain reliability. According to Li and Lin (2020), information sharing reduces uncertainty by ensuring that supply chain members operate based on real-time, consistent data rather than speculative forecasts. Similarly, Li et al. (2006) demonstrate that structured information exchange significantly improves operational performance and supply chain synchronization.

In agro-export contexts, information sharing encompasses:

- Demand forecasts from foreign buyers
- Inventory status updates

- Shipment schedules
- Customs documentation and tariff requirements
- Quality compliance data

The absence of reliable information exchange often leads to distorted demand signals and inefficiencies. The bullwhip effect, as described by Lee et al. (2004), illustrates how minor demand variations can amplify upstream when information transparency is weak. For Nigerian agro-exporters, poor coordination between farmers, processors, freight operators, and customs agencies can delay shipments and increase export costs (Nwankwo & Ihedioha, 2021). Modern technologies significantly enhance information-sharing reliability. Enterprise systems, cloud platforms, and blockchain-based documentation improve traceability and reduce administrative errors (Kache & Seuring, 2017). According to Gunasekaran et al. (2017), digital integration strengthens supply chain visibility and improves responsiveness to disruptions.

For agro-industrial firms in Southern Nigeria, effective information sharing enhances:

- Coordination among supply chain actors
- Compliance with export documentation and tariff regulations
- Reduction in administrative delays
- Forecast accuracy and inventory optimization
- International buyer trust

Ultimately, information sharing transforms fragmented supply networks into coordinated systems capable of sustaining export competitiveness.

Logistics Reliability

Logistics reliability refers to the consistency and dependability of transportation and distribution systems in delivering goods accurately, safely, and on schedule. It reflects the physical execution capability of the supply chain. According to Bowersox et al. (2019), logistics reliability is achieved when transportation, warehousing, and order

fulfillment systems consistently meet predefined service standards. Similarly, Mentzer and Moon (2019) emphasize that delivery predictability strengthens customer confidence and operational stability.

Key components of logistics reliability include:

- Delivery timeliness
- Order accuracy
- Consistency of service quality
- Flexibility in responding to disruptions

In agro-industrial exports, where products are often perishable and sensitive to handling conditions, logistics reliability directly affects quality preservation and compliance with international standards (Christopher, 2016). Delays caused by poor road infrastructure, port congestion, or inconsistent customs procedures can significantly undermine export performance in Nigeria (Eze & Chukwu, 2021). Technological integration enhances logistics reliability through GPS tracking, IoT-based condition monitoring, predictive analytics, and transport management systems (Kumar et al., 2021). These technologies enable real-time shipment tracking, proactive disruption management, and improved route optimization.

From a performance standpoint, reliable logistics:

- Reduces spoilage and wastage
- Minimizes emergency shipping costs
- Enhances customer satisfaction
- Strengthens export reputation
- Improves market credibility

Furthermore, reliable logistics mitigates systemic instability within supply chains. When delivery schedules are predictable, firms can operate leaner inventories and reduce safety-stock buffers, thereby lowering operational costs and improving efficiency (Lee et al., 2004).

Export Competitiveness

Export competitiveness has increasingly become a central measure of how effectively a nation or industry can produce and sell goods in

international markets while sustaining or expanding its global market share. In an era characterized by trade liberalization, technological advancement, and intensified cross-border competition, the ability to compete successfully in export markets serves as a critical indicator of trade performance and productive efficiency. The notion of competitiveness, as advanced by Michael E. Porter in *The Competitive Advantage of Nations*, emphasizes a nation's capacity to innovate, upgrade, and deploy its resources efficiently in order to enhance productivity and long-term economic performance (Porter, 1990). Building on this foundation, contemporary global assessments such as the *Global Competitiveness Report in 2023* by the World Economic Forum and the trade performance frameworks of the United Nations Conference on Trade and Development further conceptualize competitiveness as a multidimensional construct encompassing innovation capacity, infrastructure quality, macroeconomic stability, and market efficiency (World Economic Forum [WEF], 2023; UNCTAD, 2022). Within this context, the Export Competitiveness Index (ECI) emerges as a composite indicator designed to quantify and compare the relative ability of countries or sectors to compete effectively in global markets.

Export Competitiveness Index

The ECI is a composite measure of trade performance, capturing productivity, diversification, innovation, and institutional effectiveness (UNCTAD, 2022). It evaluates both price and non-price factors such as product quality, logistics efficiency, compliance with standards, and supply chain reliability (Ehinomen & Adeleke, 2021; Cavusgil & Knight, 2015; Christopher, 2016). Institutions like the IMF, World Bank, and OECD stress that competitiveness depends not only on cost advantage but also on productivity growth, policy coherence, and integration into global value chains (IMF, 2023; World Bank, 2023; OECD, 2021).

At the firm level, competitiveness entails consistent quality, timely delivery, and

adaptability to global demand (Cavusgil & Knight, 2015). In agro-industrial sectors, compliance with phytosanitary and traceability standards, logistics efficiency, and production consistency are critical (Christopher, 2016; Ehinomen & Adeleke, 2021). Human capital development and technological adoption further strengthen competitiveness (Adeyemi & Adeniran, 2020).

Nigeria's reliance on crude oil exports underscores the need to strengthen non-oil sectors. The Nigeria Export Competitiveness Report 2023 highlights agro-industrial exports—palm oil, cocoa, cassava, fisheries—as strategic, though constrained by logistics and institutional inefficiencies. Studies show that competitiveness in Nigeria's non-oil sector is shaped by production consistency, technology adoption, supply chain coordination, and supportive policies (Adebayo & Yusuf, 2020; Akinwumi & Olayinka, 2020).

Competitive export sectors generate foreign exchange, diversify the economy, and enhance integration into global value chains, fostering technology transfer and industrial upgrading (OECD, 2021; Gereffi & Fernandez-Stark, 2016; Eze & Okafor, 2022). Thus, strengthening export competitiveness in agro-industries is not only a trade objective but a pathway to inclusive growth and sustainable development. The ECI provides a robust measure of trade performance and industrial readiness (OECD, 2021). As the criterion variable in this study, it captures how agro-industrial firms translate resources, technology, and policy support into sustained global market success, aligning with both theoretical perspectives and empirical evidence.

Theoretical Review

This study is grounded in two complementary frameworks: the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), which together explain how supply chain reliability—operationalized through logistics reliability and information sharing—enhances export competitiveness among agro-industries in Southern Nigeria. RBV emphasizes how firm-

specific resources generate competitive advantage, while DCT addresses the need to adapt and reconfigure these capabilities in dynamic export environments.

The Resource-Based View, advanced by Wernerfelt (1984) and Barney (1991), posits that sustained competitive advantage arises from resources that are valuable, rare, inimitable, and non-substitutable (VRIN). In the agro-industrial export context, supply chain reliability constitutes a strategic resource. Reliable logistics networks and integrated information systems are embedded capabilities that enhance operational efficiency and buyer trust (Grant, 1996; Peteraf, 1993). Logistics reliability—defined as consistent and timely movement of goods—reduces shipment uncertainty and strengthens market reputation (Bowersox et al., 2019). Likewise, information sharing across producers, logistics providers, customs agents, and buyers enhances coordination, responsiveness, and error reduction, making it difficult for competitors to replicate (Mentzer & Moon, 2019). In Nigeria, where infrastructural bottlenecks and regulatory complexities persist, superior internal supply chain resources allow firms to offset these constraints and achieve stronger export competitiveness (Adewale & Nnaji, 2020; Okonkwo, 2021). RBV thus explains how firm-specific logistics and information-sharing capabilities translate into measurable export performance outcomes (Zou & Stan, 1998).

Dynamic Capabilities Theory complements RBV by emphasizing a firm's ability to integrate, build, and reconfigure resources in response to rapidly changing environments (Teece, 2007; Winter, 2003). It conceptualizes competitiveness as a function of sensing opportunities, seizing them through resource mobilization, and transforming organizational structures to adapt to market shifts (Teece, 2007). Within this framework, logistics reliability is more than having transport assets—it reflects the firm's capacity to adjust distribution arrangements, renegotiate contracts, and adopt alternative routes in response to congestion, infrastructure disruptions, or changing export schedules

(Eisenhardt & Martin, 2000). Similarly, dynamic information-sharing capabilities, such as digital tracking and ERP integration, enhance real-time coordination and responsiveness across supply chain partners (Ngo & O’Cass, 2013; Kindström et al., 2013).

Empirical studies in Nigeria support the relevance of DCT. Adaptive supply chain mechanisms and technology-enabled learning significantly improve export performance among agro-industrial firms (Adebayo & Olamide, 2020; Nwokah & Maclayton, 2019). These findings suggest that firms capable of continuously refining logistics reliability and information-sharing systems are better positioned to sustain competitiveness despite infrastructural and policy instability. By integrating RBV and DCT, this study underscores that export competitiveness arises not only from possessing valuable resources but also from the ability to adapt and reconfigure them effectively in dynamic global markets.

Methodology

This study adopted a quantitative research design utilizing a descriptive survey approach to examine the relationship between strategic supply chain drivers and export competitiveness among agro-industrial firms in Southern Nigeria. A descriptive survey approach was considered appropriate because it allows for the systematic collection of standardized data from a defined population, thereby facilitating empirical testing of hypothesized relationships among variables within a real organizational setting.

The population of the study comprised managerial and senior operational staff of selected agro-industrial export-oriented firms operating within the geographic scope of the study. The firms were selected based on their active participation in non-oil export activities, particularly in agro-based products such as palm oil, cocoa derivatives, cassava products, and fisheries. These firms are formally registered with the National Export Promotion Council and are recognized as active contributors to Nigeria’s non-oil export sector.

The total estimated workforce across the selected firms was 420 employees, spanning production, quality assurance, logistics, procurement, export documentation, and marketing departments.

A stratified random sampling technique was employed to ensure adequate representation of respondents across key functional units directly involved in export-related operations. Using Yamane’s (1967) formula for sample size determination, a sample size of 205 respondents was derived as statistically adequate for the study population. The sample was proportionately allocated across the selected firms and their respective functional units to enhance representativeness and reduce sampling bias. Primary data were collected from the sample groups through a structured questionnaire designed specifically to measure the constructs under investigation. Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), allowing for the quantification of respondent perceptions.

To ensure content and construct validity, the draft questionnaire was subjected to expert review by specialists in international trade, supply chain management, and research methodology. Their feedback informed revisions related to clarity, contextual appropriateness, and alignment with the study objectives. Reliability testing was conducted using Cronbach’s alpha to assess the internal consistency of the measurement scales. The reliability coefficients exceeded the acceptable threshold of 0.70, indicating satisfactory internal consistency: logistics reliability ($\alpha = 0.86$), information sharing ($\alpha = 0.83$), and export competitiveness index ($\alpha = 0.88$). These values confirm that the instrument was statistically reliable for measuring the study constructs.

Data collected from the field were coded and analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were employed to summarize demographic characteristics and provide an overview of respondent perceptions.

Inferential statistical techniques were subsequently applied to test the formulated hypotheses. Specifically, multiple regression analysis was used to determine the predictive influence of supply chain reliability dimensions (logistics reliability and information sharing) on export competitiveness. The hypotheses were tested at a 5 percent level of significance ($p < 0.05$), consistent with conventional standards in social science research. Ethical considerations were strictly observed throughout the research process. All procedures complied with established ethical standards governing research involving human participants.

Results

Out of 205 questionnaires distributed to managerial and operational staff of selected agro-industrial export firms in the South-South region of Nigeria, 187 valid responses were analyzed, yielding a 91.2% response rate. Respondents included managers, logistics

officers, export supervisors, and operations staff. The sample comprised 62% male and 38% female participants, with 34.2% aged 26–35, 29.9% aged 36–45, 16.6% aged 46–55, 11.8% aged 18–25, and 7.5% above 56 years. Most respondents held B.Sc/B.A degrees (49.7%), followed by M.Sc/MBA (27.3%), OND/NCE (14.4%), Ph.D. (5.3%), and other qualifications (3.3%). Regarding job position, 28.3% were managers, 21.9% logistics officers, 19.8% export supervisors, 24.6% operations staff, and 5.4% held other roles. Experience in export operations varied, with 18.7% having 1–3 years, 27.8% 4–6 years, 31.6% 7–10 years, and 21.9% over 10 years. Geographically, respondents were from Rivers (29.4%), Bayelsa (15.0%), Akwa Ibom (17.6%), Cross River (13.9%), Delta (14.4%), and Edo (9.7%) States. These characteristics indicate that respondents possessed adequate experience and knowledge to provide reliable insights into supply chain practices and export competitiveness.

Table 1: Descriptive Statistics of Study Variables

Variable	Item Statement	Mean	SD
Information Sharing	IS1: Our firm maintains open communication with supply chain partners.	4.18	0.62
	IS2: We share real-time data on stock levels and shipment schedules with partners.	4.05	0.68
	IS3: Information sharing reduces export delays and administrative bottlenecks.	4.12	0.60
	IS4: We use digital platforms to facilitate quick exchange of export-related information.	4.09	0.64
Logistics Reliability	LR1: Our logistics partners consistently deliver goods within scheduled timeframes.	4.21	0.59
	LR2: Transportation delays rarely occur in our export processes.	3.98	0.71
	LR3: We have contingency plans to handle logistics disruptions.	4.07	0.63
	LR4: Our export goods are transported under conditions that preserve quality.	4.15	0.58
Export Competitiveness Index	ECI1: Our firm competes effectively with similar exporters from other countries.	4.03	0.66
	ECI2: The quality of our products meets international export standards.	4.24	0.55
	ECI3: We have developed strong brand recognition in export markets.	3.89	0.74
	ECI4: Our export prices are competitive compared to international rivals.	4.01	0.69

Criterion Mean = 3.0

The descriptive results indicate that all mean scores exceeded the criterion benchmark of 3.0, suggesting positive perceptions of information sharing practices, logistics reliability, and export competitiveness among the sampled agro-industrial firms. Notably, logistics reliability recorded the highest overall mean values, particularly in timely delivery and product preservation. Within the Export Competitiveness Index, product quality recorded the highest mean score, while brand recognition showed relatively moderate strength, indicating potential room for strategic improvement in market positioning.

Correlation Analysis

Pearson Product-Moment Correlation analysis was conducted to determine the strength and direction of relationships between information sharing, logistics reliability, and export competitiveness.

Table 2: Pearson Correlation Between Predictors and Criterion Variables of the Study

Variables	Export Competitiveness
Information Sharing	$r = 0.548^{**}, p < 0.001$
Logistics Reliability	$r = 0.621^{**}, p < 0.001$

**N = 187; Correlation is significant at the 0.01 level (2-tailed).

The results reveal significant and positive relationships between both independent variables and export competitiveness. Logistics reliability demonstrated a stronger correlation with export competitiveness compared to information sharing, suggesting that dependable transportation systems and delivery performance play a particularly critical role in enhancing firms' competitive positioning in international markets.

Regression Analysis

Multiple regression analysis was performed to examine the predictive influence of information sharing and logistics reliability on export competitiveness among agro-industrial firms.

Model Summary

$$R^2 = 0.47, F(2,184) = 81.63, p < 0.001$$

Predictor	β	t	p-value
Information Sharing	0.298	4.87	0.000
Logistics Reliability	0.441	7.21	0.000

Source: IBM SPSS Version 26.0 Output

The regression model explains 47 percent of the variance in export competitiveness ($R^2 = 0.47$), indicating substantial explanatory power. Both information sharing and logistics reliability significantly predict export competitiveness at the 5 percent level of significance. Logistics reliability exerts the strongest influence ($\beta = 0.441$), underscoring the critical importance of timely delivery, reduced disruptions, and quality-preserving transportation in strengthening competitive export performance.

Overall, the findings confirm that effective supply chain coordination mechanisms, particularly reliable logistics systems, significantly enhance the export competitiveness of agro-industrial firms in South-South Nigeria.

Summary Of Findings

This study examined how supply chain reliability, specifically information sharing and logistics reliability, affect export

competitiveness among agro-industrial firms in South-South Nigeria. The results indicate that both factors significantly influence firms' ability to compete in international markets. Information sharing showed a positive and significant correlation with export competitiveness ($r = 0.548$, $p < 0.01$) and was a significant predictor in the regression model ($\beta = 0.298$, $p < 0.001$). Firms that maintain open communication with supply chain partners, share real-time operational data, and utilize digital platforms demonstrate stronger global market positioning, consistent with supply chain integration theory (Christopher, 2016). Logistics reliability exhibited an even stronger effect ($r = 0.621$, $p < 0.01$; $\beta = 0.441$, $p < 0.001$), highlighting the importance of timely delivery, contingency planning, and quality-preserving shipment conditions in sustaining competitive advantage. This finding aligns with literature emphasizing operational reliability as a key determinant of export success (Cavusgil & Knight, 2015). The regression model explained 47% of the variance in export competitiveness ($R^2 = 0.47$), showing that supply chain coordination mechanisms substantially account for differences in export performance. Overall, the study confirms that transparent information exchange and dependable logistics systems are critical enablers of export competitiveness, reinforcing the need for strengthened supply chain integration to enhance Nigeria's non-oil export performance.

Implications of The Study

The findings of this study have theoretical, managerial, and policy implications. Theoretically, the study adds to the literature linking supply chain management to export performance in developing economies. By showing that information sharing and logistics reliability significantly predict export competitiveness, it reinforces supply chain integration theory and resource-based perspectives, providing context-specific evidence from Southern Nigeria's agro-industrial sector, which is an under-researched non-oil export domain.

Managerially, the results emphasize the importance of strengthening supply chain coordination. Agro-industrial firms aiming to improve global competitiveness should prioritize transparent information exchange with suppliers, logistics partners, and intermediaries. Investments in digital tracking systems, real-time data platforms, and integrated logistics planning enhance delivery reliability and reduce export delays. With logistics reliability identified as the strongest predictor of export competitiveness, managers should focus on resilient transportation networks, contingency planning, and quality-preserving shipment practices to build buyer confidence and enhance brand reputation.

From a policy perspective, the study underscores the need for infrastructural and institutional support to improve logistics systems. Policymakers should invest in port efficiency, road networks, cold chain infrastructure, and export facilitation services, while fostering collaboration between government agencies and export-oriented firms. Addressing systemic logistics constraints can create an enabling environment that supports agro-industrial competitiveness and promotes economic diversification beyond oil dependence.

Conclusion

This study examined the relationship between supply chain reliability and export competitiveness of agro-industries in Southern Nigeria, with particular focus on information sharing and logistics reliability. Using quantitative analysis, the study established that both variables are positively and significantly associated with export competitiveness. Logistics reliability emerged as the strongest predictor, indicating that timely delivery, minimal disruptions, and quality-preserving transportation systems are central to sustaining competitive advantage in international markets. The results confirm that export competitiveness in agro-industries is not determined solely by product quality or pricing strategies, but also by the structural strength and dependability of supply chain systems. Firms that demonstrate

high levels of coordination, transparency, and logistics efficiency are better positioned to meet international standards, maintain delivery commitments, and build lasting relationships with foreign buyers. Overall, the study concludes that strengthening supply chain reliability is a critical pathway for enhancing non-oil export performance and advancing Nigeria's participation in global trade.

Recommendations

Based on the study's findings, it is recommended that agro-industrial firms institutionalize integrated information-sharing systems that enable real-time coordination with supply chain partners, adopting digital platforms to track shipments, inventory, and documentation to minimize delays and enhance operational transparency. Firms should also strengthen logistics reliability by forming strategic partnerships with reputable logistics providers, developing contingency frameworks to manage transportation disruptions, and ensuring adherence to international handling standards to improve export performance. Additionally, government agencies should prioritize the enhancement of logistics infrastructure, including port operations, transportation networks, and export processing systems, to address systemic bottlenecks that compromise reliability. Finally, industry associations and export promotion bodies should offer training programs focused on supply chain risk management, digital logistics tools, and international quality compliance to build managerial capacity within agro-industrial firms.

Suggestions for Future Studies

Future research could expand the scope of this study by incorporating additional dimensions of supply chain management such as supplier relationship management, risk mitigation strategies, and technological innovation capability. Comparative studies across different geopolitical zones in Nigeria or across West African countries would provide broader insights into regional variations in export

competitiveness. Longitudinal studies may also be conducted to assess how improvements in supply chain reliability influence export performance over time. Furthermore, future studies could adopt mixed-method approaches to capture qualitative insights from export managers and policymakers regarding structural challenges and strategic adaptation mechanisms.

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