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ANALYSIS OF ESSENTIAL FACTORS AFFECTING SUPPLY CHAIN MANAGEMENT IN NIGERIAN CONSTRUCTION INDUSTRY

Yusuf S.U[1]; N. U. Miko[2]; Y. Asmau [3]; Y.J Gandu[4]; P.E.J Anavhe[5]

[1,2,3,5] Department of Procurement and Supply Chain Management
Kaduna State University, Kaduna – Nigeria.
[4]Department Of Quantity Surveying, Faculty of Environmental Sciences,
Bingham University, Karu Nasarawa State Nigeria
[1]sulco4real@gmail.com; [3]qsasmajummai@gmail.com; [4]ganduyusuf@binghamuni.edu.ng; [5]panavhe@yahoo.com

Abstract: This research on analysis of essential factors affecting supply chain management in Nigeria's construction industry. The aim of the study is to determine the effect of the relationship between contractor and supplier on the supply chain in construction projects used in the study area and determine the factor of effective human resources impact on the contractor-supplier supply chain in construction projects. The research is a survey method which was conducted in 2022. The study's framework was built on agency theory underpinned because agency theory concerns itself with resolving the problems that can occur in agency theory. The research used survey method using structured questionnaires which were administered to 100 employees from stores and procurement department, finance department and sales department and procurement officers of selected procurement firms out of which 40 were validly returned upon which analysis were made. The data obtained were presented and analyzed using both descriptive (tables) and inferential (regression) tools of statistics. The regression analysis shows $p<0.05$ level which reveals that there is a positive significant influence of contractor and supplier in the supply chain management in Nigeria's construction industry. This study concludes that that the construction supply chain management systems used by main contractors are; personal relationships, contractual relationships, partnering, alliances and social bonding. It can be concluded from the result of the survey that contractors are being affected by lack of trust between them and the suppliers and lack of maturity for long-term relationships in their efforts to make Contractors-Suppliers relationships effective. The research therefore recommends that there is useful statistical impact of supply chain management on Nigeria's Construction Industry, the industry should employ the effective and efficient utilization of supply chain management with the view to increasing performance in construction industry.

1. Introduction

The construction industry globally has embraced supply chain management (SCM) practices due to their proven benefits, including reduced delivery times, improved financial performance, increased customer satisfaction, and enhanced credibility among stakeholders (Demmissie, 2016; Ageron, 2019). SCM improves organizational efficiency by coordinating procurement, production, and delivery processes, creating added value for customers. The construction supply chain is often plagued by management challenges such as fragmented communication, poorly coordinated contracts, and lack of integration strategies (Awate & Larsen Briscoe, 2020).

Research shows that effective SCM in construction leads to higher productivity, reduced delays, better cash flow, and risk mitigation (Briscoe & Dainty, 2020). It is also essential for delivering improved services and quality outcomes in response to client demands (Chinelo, 2019). A major concern is that subcontractors and suppliers contribute about 80% of project costs, indicating a broad and complex supply chain (Dino, 2021). Therefore, building a well-integrated SCM framework is vital for managing diverse activities from design and procurement to construction and maintenance (Gerald, 2022; Kothari et al., 2021).

Integration of upstream and downstream processes, a central focus of modern SCM, encourages seamless collaboration among all stakeholders (Heckmann, 2020). Giunipero (2019) noted that linking SCM with suppliers, distributors, and customers fosters competitiveness, while Jorge et al. (2019) and Benton & McHenry (2019) emphasized SCM strategies like just-in-time purchasing, subcontractor evaluation, and quality management as essential for project success.

Despite these advancements, Nigeria's construction industry continues to face significant SCM-related problems. Fragmentation, weak coordination, lack of communication, and dependence on third-party suppliers hinder effective SCM (Maqsood et al., 2021). Going global further complicates SCM operations, introducing new risks and higher operational costs if not properly managed (Christopher, 2021). Persistent issues such as poor productivity, cost and time overruns, and disputes between contractors and suppliers are exacerbated by adversarial relationships and lack of collaboration (Pryke, 2019; Benton & McHenry, 2021). Quality delivery is often compromised due to poor information sharing and uncoordinated material supply, placing undue burden on subcontractors (Reid & Rout, 2020; Salami et al., 2021).

Given these challenges, studying the SCM systems in Nigeria's construction industry becomes essential. SCM in construction is inherently complex, involving multiple trades and temporary project-based supply chains, which demand strategic planning and effective management (Vrijhoef & Koskela, 2020; Tey et al., 2021). This study therefore aims to identify the essential factors affecting SCM performance in Nigeria's construction sector.

Objectives of the Study

The aim of the study is to investigate into essential factors affecting supply chain management in Nigeria's Construction Industry. Specifically, the objectives are to:

- **i.** Find out how contractors and material suppliers influence the way building materials and services move through the construction process in Nigeria.
- **ii.** Identify how the structure and setup of construction projects affect the smooth flow of the supply chain in the building industry.
- **iii.** Examine how the skills, number, and involvement of workers affect the construction supply process.
- **iv.** Understand how unpredictable changes in the environment like market shifts, policies, or weather disrupt or affect the smooth running of construction supply chains.

Hypotheses of the Study

H_{01}: Contractor and supplier has no significant impact on supply chain in construction in Abuja.
H_{02}: Construction structure has no significant impact on supply chain in construction in Abuja
H_{03}: Human resources have no significant impact on supply chain in construction in Abuja
H_{04}: Environmental uncertainty has no significant impact on supply chain in construction in Abuja

Significance of the Study

This study is vital in bridging the knowledge gap on the essential factors influencing supply chain management (SCM) in Nigeria's construction industry. Understanding the impact of these factors is prelude to effective management of the supply chain. It will improve firm's competitiveness, operational efficiency, and reduce SCM costs. Academically, it supports researchers and students by offering deeper insights beyond classroom knowledge, and it serves as a foundation for future research. Theoretically, it enriches existing literature on SCM, while practically-aids construction firms and regulatory bodies in identifying main obstacles and assessing their readiness for effective SCM implementation. The findings could guide the enforcement of existing policies or the development of new strategies aligned with a dynamic business environment. Methodologically, the study's involvement of professionals directly or indirectly engaged in SCM ensures the practical relevance of its findings.

Scope of the Study

This study seeks to investigate the essential challenges affecting the sourcing, transportation, and overall management of construction materials and services within Nigeria's building industry, using Abuja as the primary case study. Abuja, the Federal Capital Territory (FCT), presents a unique and ideal environment for such analysis due to its rapid urban expansion, steady influx of infrastructural investments, and dense presence of both indigenous and multinational construction firms. According to data from the National Bureau of Statistics (NBS, 2022), Abuja accounted for approximately ₦384 billion in public sector construction expenditure in 2021 alone, representing over 15% of the national total. This high volume of development activity creates a dynamic platform to explore how construction supply chains function in practice. The study will adopt a descriptive survey design, integrating both quantitative methods (e.g., structured questionnaires) and qualitative approaches.

Abuja's selection is scientifically grounded on its urban planning standards, centralized governance, and consistency in public policy enforcement factors that allow for more controlled observations of supply chain processes. The city benefits from infrastructure that supports logistical efficiency, including a ring-road network, centralized distribution hubs, and proximity to national administrative bodies such as the Federal Ministry of Works and Housing and the Federal Capital Development Authority (FCDA). The FCDA (2023) reported the execution of over 120 large-scale construction projects between 2018 and 2023, including roadways, public housing schemes, hospitals, and educational facilities. These projects present an ideal dataset for analyzing supply chain dynamics in live construction environments.

2. Literature Review

Concept of the Supply Chain Management

Supply Chain Management (SCM) emerged from logistics and operations management, gaining prominence in the 1980s due to increasing global competition that demanded lower costs, higher quality, and better customer service (Cooper et al., 2019). Its early focus was on reducing inventory through practices like Just-in-Time (JIT) and Total Quality Management (TQM), which emphasized efficiency and cooperation among suppliers and buyers.

In the 1990s, globalization, high logistics costs, and intense market pressure led to collaborative practices between manufacturers and selected suppliers, aiming at cost reduction, improved quality, and innovation. Around this period, Business Process Reengineering (BPR) also influenced performance-driven process redesigns, although it declined due to its association with downsizing (Wisner et al., 2019). SCM, however, gained traction as a more sustainable approach for achieving competitive advantage.

SCM has since evolved to encompass multiple disciplines, including quality management, logistics, and stakeholder engagement (Chen & Paulraj, 2022). Its definitional ambiguity stems from these diverse influences, and it is often mistakenly equated with logistics alone (Green et al., 2021; Wisner et al., 2021). To clarify, Mentzer et al. (2021) argue that while definitions of supply chains are widely accepted, SCM as a broader management strategy remains contested.

Christopher (2022) defines a supply chain as a network of organizations involved in upstream and downstream activities that deliver value through products or services to end-users. SCM, therefore, focuses on integrating various business processes such as logistics, information systems, planning, product design, and customer service into a unified system to enhance competitive advantage (Cooper et al., 2019; Wisner et al., 2019).

Vrijhoef and Koskela (2020) emphasize that SCM is rooted in recognizing interdependencies within the supply chain and promoting integration for better control. The literature generally views SCM from two perspectives: strategic and operational. The operational view dominates, focusing on logistics such as procurement, inventory, and distribution (Ganeshan & Harrison, 2021). This perspective aims to minimize cost and lead times while maximizing value through activities like warehousing, demand forecasting, and order management (Stock & Lambert, 2021).

In the construction sector, adapting SCM is challenging due to its unique features: one-off projects, on-site production, and temporary organizational structures (Khalfan, 2021). Nonetheless, researchers advocate its implementation, recognizing that a single party cannot ensure system-wide efficiency (Chen, 2019). SCM in construction involves a complex network of clients, consultants, contractors, and suppliers working collaboratively to exchange resources, ideas, and information to meet client requirements.

Concept of Contractor–Supplier Relationship

The relationship between contractors and suppliers plays an essential role in the success of construction projects. One of the most significant challenges in construction is the unavailability of materials when needed, which can delay work, reduce productivity, increase project costs, and potentially extend the project timeline. Therefore, ensuring timely material availability is essential, and contractors must establish effective arrangements with suppliers to meet this demand (Leenders et al., 2019).

In practice, the construction industry often operates within an adversarial framework, particularly due to its traditional reliance on competitive hard bidding. Contractors typically seek to minimize costs by soliciting bids from suppliers and subcontractors, often awarding contracts to the lowest bidder. While this may reduce immediate costs, it can lead to strained relationships. Suppliers and subcontractors, if forced to accept lower profits, may become less committed

to project success, which can introduce complications in quality, delivery, and reliability (Perdomo, 2020).

Leenders et al. (2019) offer a classification system for suppliers based on service quality and value delivery. The lowest tier is unacceptable suppliers, who fail to meet both operational and strategic needs, often delivering late or substandard materials. Acceptable suppliers fulfill operational requirements but offer nothing unique that distinguishes them from competitors. Good suppliers not only meet material needs but also provide added services that enhance value. Preferred suppliers stand out by offering integrated systems such as electronic procurement that streamline transactions and support both operational and strategic goals. At the top of the hierarchy are exceptional suppliers, who proactively understand and meet customer needs, offer flexibility, and help reduce risk through innovation and reliability.

Concept of Construction Industry Supply Chain and Management

Construction Supply Chain Management (CSCM) is defined as the integration of essential construction business processes from client demand and design to construction among main stakeholders such as the client, designer, contractor, subcontractor, and supplier (Xue et al., 2021). While earlier studies like Agapiou et al. (1998) noted the absence of a precise CSCM definition, current views present it as a management strategy focused on collaboration and process optimization to enhance client value and construction performance.

Trucker et al. (2001) described CSCM as the strategic coordination of information, processes, and tasks across upstream and downstream networks throughout the project life cycle. The upstream activities involve design and planning with clients and design teams, while downstream processes involve suppliers and subcontractors delivering the construction output. The evolution of CSCM parallels changes in procurement practices from adversarial, single-stage methods in the early 20th century to collaborative and strategic models such as design and build, two-stage tendering, and management contracting (Saad et al., 2021; Edum-Fotwe et al., 2001).

The initiatives like the UK Ministry of Defense's "Building Down Barriers" project (Holti et al., 2021) and its pilot projects with AMEC and Laing demonstrated the benefits of integrated supply chain systems. These efforts emphasized trust, openness, and long-term relationships to reduce costs, improve quality, and foster teamwork. Vrijhoef and Koskela (2020) supported such approaches, noting that CSCM offers system-based solutions essential for navigating the complexities of modern construction projects.

The benefits, studies also highlight persistent barriers. Syed et al. (2022) identified issues like poor logistical capacity, lack of strategic guidance, strong project-centric focus, and limited internal integration. Similarly, Polat and Ballard (2021) and Jorge et al. (2021) found that delays in information flow and coordination failures disrupt performance. Suggested solutions include adopting integrated planning, using standard components, and building trust among stakeholders. In Malaysia, challenges such as fragmented processes, multi-trade supply networks, and weak information integration have also been reported (Tey et al., 2022). Recommendations include lean construction, strategic integration, and robust communication systems. Vrijhoef and Koskela (2020) emphasized that CSCM in construction is typically temporary, make-to-order, and convergent in nature.

Dong (2021) classified CSCM modelling techniques into five groups, including mixed-integer programming and simulation-based models. Xue et al. (2021) proposed internet-enabled mechanisms like electronic marketplaces and information hubs to accelerate innovation and performance improvement. Global literature on CSCM is extensive, there remains a lack of focused research on CSCM as a systematic management approach within Nigeria's construction industry a gap this study aims to fill.

3. Methodology

The study employed a descriptive survey and qualitative research design, focusing on hypothesis testing to investigate essential factors affecting supply chain management (SCM) in Nigeria's construction industry, using Abuja-based projects as a case study. Emphasis was placed on ensuring that information collected from construction firms directly contributed to achieving the research objectives.

Population of the Study

The target population comprised managers and staff of registered construction firms in Abuja Metropolis, particularly those involved in various aspects of SCM. Due to the unavailability of an exact figure for procurement heads and management staff, the study adopted a

purposive selection of 50 staff members as the research population.

Sample Size and Sampling Technique

Using the Yaro Yamane (1967) formula for sample size determination at a 5% significance level, the sample size was calculated to be 40 respondents. A simple random sampling technique was adopted to ensure equal participation opportunity for all individuals in the population.

Instrument of Data Collection

Primary data were gathered through self-administered, structured questionnaires. These were specifically designed to capture relevant information across main SCM areas. Questionnaires were chosen for their ability to collect extensive data efficiently and cost-effectively.

Techniques of Data Analysis

Data collected were analyzed using the Statistical Package for Social Sciences (SPSS v.23). Findings were presented in tables, and multiple regression analysis was used to test the hypotheses. This method was chosen as it effectively evaluates the impact of multiple independent variables such as logistics management components on firm performance.

Variables Measurement

Table 1: Variables Definition, Measurement, and Sources

Variable	Definition	Measurement
Construction Industry Performance (CI)	The perceived effectiveness and efficiency of construction firms' performance	5-Point Likert Scale (1 = Strongly Disagree; 5 = Strongly Agree)
Construction Structure (PP)	The organizational and operational framework of construction project execution	5-Point Likert Scale (1 = Strongly Disagree; 5 = Strongly Agree)
Contractor–Supplier Relationship (CS)	The interaction and cooperation between contractors and material suppliers	5-Point Likert Scale (1 = Strongly Disagree; 5 = Strongly Agree)
Types of Contractor–Supplier (TCS)	The classification of supplier relationships based on performance and value	5-Point Likert Scale (1 = Strongly Disagree; 5 = Strongly Agree)
Factors Militating Against SCM (FSCM)	Barriers and challenges affecting supply chain management in construction	5-Point Likert Scale (1 = Strongly Disagree; 5 = Strongly Agree)

4. Results and Discussion

General Information of the Respondents

S/N	Variables	Frequency	Percentages (%)
1.	**Age Group**		
a.	Less than 25 years	5	10.0
b.	26 - less than 40 years	13	26.0
c.	40 - less than 55 years	21	42.0
d.	55 years & above	11	22.0
	Total	**40**	**100.0**
2.	**Gender**		
a.	Male	31	82.0
b.	Female	9	18.0
	Total	**40**	**100.0**
3.	**Highest Educational Attainment**		
a.	High School	1	2.0
b.	Diploma	8	36.0
c.	Bachelor degree	26	52.0
D	Master degree	4	8.0
e.	PhD	1	2.0
	Total	**40**	**100.0**
4.	**Years of Experience**		
a.	Less than 5 years	8	16.0
b.	5-9 years	10	28.0
c.	10-14 years	16	40.0
d.	15-19 years	7	14.0
e.	20 years and more	1	2.0
	Total	**40**	**100.0**
5.	**Unit/Department**		
a.	Construction Manager	10	20.0
b.	Site Engineer	8	16.0
c.	Stores/Warehouse	5	10.0
d.	Construction Supervisor	8	16.0
e.	Procurement & Logistics	19	38.0
	Total	**40**	**100.0**

From the 40 completed questionnaires, most respondents (42%) were aged 40–54, with the majority (82%) being male. A significant number (52%) held Bachelor's degrees, indicating strong educational qualifications. In terms of work experience, 40% had 10–14 years, suggesting relevant expertise in the field. Regarding departmental affiliation, 38% worked in procurement and logistics, followed by construction managers (20%) and site engineers (16%). This indicates that most respondents possessed the necessary experience and departmental relevance to provide informed insights on procurement and supply chain management in the construction industry.

Response on Structure of the Relationship Between Contractors and Suppliers

Table 2: Responses on Questions on Systems of contractors-suppliers relationships

		SA (%)	A (%)	D (%)	SD (%)	U (%)	Total
1.	Partnering	14(28.0)	26(52.0)	5(10.0)	4(8.0)	1(2.0)	40(100)
2	Personal/Individual	13(16.0)	28(56.0)	4(8.0)	3(6.0)	2(4.0)	40(100)
3	Social bonding	12(24.0)	14(28.0)	2(4.0)	16(32.0)	6(12.0)	40(100)
4	Structural bonding	12(24.0)	30(60.0)	5(10.0)	2(4.0)	1(2.0)	40(100)
5	Contractual	14(28.0)	31(62.0)	2(4.0)	0(0.0)	3(6.0)	40(100)
6	Alliances	20(40.0)	18(36.0)	8(16.0)	3(6.0)	1(2.0)	40(100)

7	Joint venture	30(60.0)	12(24.0)	5(10.0)	3(6.0)	1(2.0)	40(100)

The findings reveal that most respondents believe contractor-supplier relationships are significantly influenced by partnering (80%) and personal relationships (82%). Social bonding received mixed responses, with a considerable 32% strongly disagreeing. Structural bonding and contractual relationships were largely supported, with 84% and 90% agreement, respectively. In practice, 33.3% often used partnering, while 63% most often used personal relationships. Social bonding and structural bonding were less commonly applied, with 38.9% and 40.7% never using them, respectively. Contractual relationships were frequently used, while alliance and joint venture systems were the least adopted. Personal and contractual ties ranked highest in usage, while joint ventures ranked lowest.

Responses on Types of Contractor-Supplier relationships

Table 2: Responses on Questions on Types of Contractor-Supplier relationships

		SA (%)	A (%)	D (%)	SD (%)	U (%)	Total
1	Social bonding type	30 (60.0)	12 (24.0)	5 (10.0)	3 (6.0)	1 (2.0)	40 (100)
2	Structural bonding type	12 (24.0)	27 (54.0)	1 (2.0)	4 (8.0)	6 (12.0)	40 (100)
3	Types on Joint venture	20 (40.0)	18 (36.0)	8 (16.0)	3 (6.0)	1 (2.0)	40 (100)

The findings indicate that most respondents agreed that social (84%) and structural (78%) bonding types of contractor-supplier relationships significantly affect supply chain management in Nigeria's construction industry. On their last projects, 42.6% used personal relationships, making it the most common type, followed by contractual (29.6%) and partnering (13%). Complexity of the project was the top factor (38.9%) influencing the choice of relationship type. 64.8% of contractors preferred a short-term approach with suppliers, highlighting a transactional rather than long-term strategic orientation in contractor-supplier interactions within Nigeria's construction sector.

Responses on Factors responsible for types of Contractor-Suppliers relationship used by contractors

Table 3: Responses on Questions on Factors responsible for types of Contractor-Suppliers relationship used by contractors

S/N	Factors	SA (%)	A (%)	D (%)	SD (%)	U (%)	Total
1	Contractors' decentralized organization	10 (18.5)	6 (11.1)	16 (29.6)	8 (14.8)	14 (25.9)	40 (100)
2	Inconsistency in the projects' way of working	6 (11.1)	5 (9.3)	18 (33.3)	15 (27.8)	10 (18.5)	40 (100)
3	Nature and size of project	21 (38.9)	7 (13.0)	17 (31.5)	6 (11.1)	3 (5.6)	40 (100)
4	Contractors' short-term approach	7 (13.0)	11 (20.4)	16 (29.6)	10 (18.5)	10 (18.5)	40 (100)
5	Organizations' lack of maturity for long-term relations	5 (9.3)	7 (13.0)	11 (20.4)	13 (24.1)	18 (33.3)	40 (100)
6	Market forces of demand and supply	4 (7.4)	8 (14.8)	17 (31.5)	11 (20.4)	14(25.9)	40 (100)
7	Lack of trust for suppliers	3 (5.6)	6 (11.1)	10 (18.5)	12 (22.2)	23 (42.6)	40 (100)

The table reveals that the most discouraging factor affecting contractor-supplier relationships in Nigeria's construction industry is lack of trust (42.6%). Other significant issues include organizational immaturity for long-term partnerships (33.3%) and contractors and suppliers operating in different markets (38.9%). Factors considered less discouraging include decentralization (29.6%), short-term approaches (29.6%), and inconsistent project methods (33.3%). The nature and size of projects ranked lowest in influence (38.9%). Overall, lack of trust was identified as the leading barrier, with a Relative Importance Index (RII) of 3.22, highlighting its strong impact on relationship effectiveness.

Responses on improving contractors-suppliers relationships

Table 4: Improving contractors-suppliers relationships

S/N	Improving Contractor-Supplier Relationships	SA (%)	A (%)	D (%)	SD (%)	U (%)	Total
1	Long-term relationship of contractors to suppliers	3 (5.6)	4 (7.4)	6 (11.1)	9 (16.7)	32 (59.3)	40 (100)
2	Emphasis on the benefits of maintaining a permanent set of suppliers	4 (7.4)	5 (9.3)	10 (18.5)	12 (22.2)	23 (42.6)	40 (100)
3	Employment of skilled professionals for handling inconsistencies	5 (9.3)	4 (7.4)	16 (29.6)	8 (14.8)	21 (38.9)	40 (100)
4	Encouraging	5	9	10	11	19	40

	specialization in the construction industry	(9.3)	(16.7)	(18.5)	(20.4)	(35.2)	(100)
5	Partnering with suppliers' organizations on construction projects	5 (9.3)	3 (5.6)	10 (18.5)	15 (27.8)	21 (38.9)	40 (100)

Table 4.6 identifies main factors to improve contractor-supplier relationships in Nigeria's construction industry. The most influential factor is fostering long-term relationships (59.3%), followed by maintaining a permanent supplier base (42.6%), and hiring skilled professionals to manage operational inconsistencies (38.9%). Other notable factors include partnering with suppliers (38.9%), industry specialization (35.2%), and pre-contract provision of supplier lists (31.5%). With a Relative Importance Index (RII) of 3.78, long-term relationships rank highest, while specialization ranks lowest among the top six factors enhancing effective contractor-supplier collaboration.

Result of Regression Analysis

Variables	**Coefficient (β)**	**t-value**	**Sig. (p-value)**
Constant	1.819	1.968	0.001
Construction Industry Performance	0.201	1.972	0.012
Construction Structure	0.152	1.975	0.018
Contractor–Supplier Relationship	0.129	1.981	0.035
Types of Contractor–Supplier	0.118	1.889	0.045
Factors Militating Against SCM	-0.096	-1.821	0.048
R (Multiple Correlation)	0.394		
R-Squared (R^2)	0.409		
Standard Error of Estimate (S.E.)	1.232		
F-statistic	8.816		
Significance (p-value)	0.000		
Degrees of Freedom (df)	49		
Durbin-Watson	2.010		

Hypothesis	**Decision**	**Reason**
H01: Construction industry performance has no significant effect on SCM	**Reject H01**	$p = 0.012 < 0.05$; positive significant effect ($\beta = 0.201$)
H02: Construction structure has no significant effect on SCM	**Reject H02**	$p = 0.018 < 0.05$; positive significant effect ($\beta = 0.152$)
H03: Contractor–supplier relationship has no effect on SCM	**Reject H03**	$p = 0.035 < 0.05$; significant positive effect ($\beta = 0.129$)
H04: Types of contractor–supplier relationship have no effect on SCM	**Reject H04**	$p = 0.045 < 0.05$; moderately significant effect ($\beta = 0.118$)
H05: Factors militating against SCM have no effect on SCM	**Reject H05**	$p = 0.048 < 0.05$; slight negative but significant effect ($\beta = -0.096$)

The multiple regression model is statistically significant ($F = 8.816$, $p < 0.001$), explaining about 40.9% of the variance in construction supply chain management performance ($R^2 = 0.409$). All tested variables Construction Industry Performance, Structure, Contractor–Supplier Relationship, Relationship Types, and Militating Factors have a statistically significant effect, confirming their importance in optimizing procurement and vendor strategies within the construction sector.

5. Conclusion and Recommendations

This study examined the essential factors affecting supply chain management (SCM) in Nigeria's construction industry, particularly contractor–supplier relationships. The findings revealed that contractors primarily use personal, contractual, partnering, alliance, and social bonding systems. The effectiveness of these relationships is hindered by lack of trust and organizational immaturity for long-term collaboration. Most contractors adopt short-term approaches, although long-term relationships were recommended for better quality, time, and cost control.

The study also found that contractors often choose SCM systems based on project complexity, familiarity with suppliers, and project simplicity. To improve SCM efficiency, recommendations include encouraging specialization, promoting long-term contractor–supplier relationships, employing skilled professionals, and requiring contractors to provide supplier lists before contract awards.

The study recommends:

1. Effective use of SCM to boost construction performance.
2. Focused investment in people, management, and technology to enhance SCM readiness.
3. Expansion of procurement supply chains to improve procurement activities.
4. Training employees on procurement planning to address SCM challenges.
5. Strengthening procurement monitoring to optimize the influence of contractor–supplier types on SCM.

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