

Procurement Entrepreneurship and Food Security Performance in Northeast Nigeria: Modeling Pathways to Achieve Sustainable Development Goal 2

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ABSTRACT

Driven by farmer-herder conflicts, insurgency, climate change, weak supply chain systems and limited institutional capacity, food insecurity remains a critical development challenge in Nigeria. In alignment with United Nation's Sustainable Development Goal 2 (Zero Hunger), this study examines how procurement entrepreneurship enhances food security performance in the Northeast region of the country. Drawing on integrated theoretical framework, the study conceptualizes procurement innovation capability, strategic supplier development and sustainable procurement orientation as key strategic capabilities influencing food availability, accessibility and stability. A quantitative cross-sectional design was adopted, with primary data collected from procurement managers in agribusiness firms, cooperative leaders and relevant institutional actors across Borno and Adamawa States. Multiple regression analysis was employed to assess the effects of procurement entrepreneurship dimensions on food security performance indicators. Findings reveal that innovation-driven and sustainability-oriented procurement systems significantly strengthen agricultural value chains, reduce supply disruptions and enhance food system resilience in fragile contexts. The study recommends that organizations

and policymakers promote procurement entrepreneurship by investing in digital and innovative sourcing mechanisms, strengthening strategic supplier development for local producers and institutionalizing sustainability-oriented procurement frameworks to improve food security performance and accelerate progress toward SDG 2.

Keywords: Procurement Entrepreneurship; Food Security Performance; Sustainable Procurement; SDG 2; Northeast Nigeria.

1. INTRODUCTION

Achieving Sustainable Development Goal 2 (Zero Hunger) remains a critical global challenge, particularly in conflict-affected regions where systemic weaknesses in agricultural value chains undermine food security (United Nations, 2024). In Northeast Nigeria, protracted insecurity, climate variability and weak infrastructure have severely constrained productivity and disrupted food distribution networks (Food and Agriculture Organization [FAO], 2023a). The October 2025 Cadre Harmonisé report indicates that approximately 9 million people across Nigeria's Northeast and Northwest are acutely food-insecure, with projections suggesting this could rise to 11.6 million during the 2026 lean season (World Food Programme [WFP], 2025).

Recent evidence highlights that flawed public procurement policies significantly impede progress (Kundu et al., 2025; Bulus et al., 2025). Experts have identified that existing frameworks exclude key stakeholders particularly small-scale women farmers who constitute over 75% of crop cultivators thereby undermining government food security objectives (Centre for Social Justice, 2025). This exclusion perpetuates dependency and weakens local market systems (WFP, 2025).

Emerging research suggests that strengthening institutional procurement processes offers transformative potential. Strategic supplier development and sustainable procurement orientation can integrate smallholder farmers into reliable demand channels, reduce post-harvest losses, and stabilize food supplies (World Bank, 2022). The recently launched Nigeria Food Systems Transformation Alliance exemplifies this approach, with 26 major companies committing to increase local sourcing by 80% over ten years (IDH Transforming Markets, 2025). Similarly, the Value Chain Programme in Northern Nigeria which is a \$158 million initiative co-funded by International Fund for Agricultural Development [IFAD] and the French Development Agency aims to enhance market access for 3.1 million households while creating over 30,000 jobs (Federal Government of Nigeria, 2025).

Despite these initiatives, significant research gaps remain. Limited empirical attention has focused on how procurement innovation capability and strategic supplier development shape food security outcomes in fragile agrarian economies (Akinwale & Grobler, 2023; Ikuemonisan, 2024). Furthermore, evidence on whether sustainability-focused procurement practices yield

measurable improvements in availability, accessibility and stability particularly in conflict-affected Northeast Nigeria is scarce. For instance, Ahmad et al. (2019) examined procurement officers' awareness and readiness for sustainability in North-Eastern Nigeria, finding growing conceptual understanding but little empirical data on outcomes such as availability, accessibility and stability of supplies. Similarly, studies on green procurement in Nigeria's corporate and manufacturing sectors demonstrate positive organizational effects (Usman & Attah, 2025; Habila et al., 2024), but these analyses are sector-specific and do not address conflict-affected contexts.

Closing these gaps is essential to accelerating progress toward the United Nations' Sustainable Development Goal 2 (Zero Hunger). Accordingly, this study investigates the role of procurement innovation capability (PIC), evaluates the influence of strategic supplier development (SSD) and examines the impact of sustainable procurement orientation (SPO) on food security performance (FSP) in Northeast Nigeria. By focusing on a region that has faced persistent challenges of conflict, displacement, and agricultural disruption, this research highlights the critical importance of procurement strategies in strengthening food systems and advancing global efforts to eradicate hunger.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Theoretical Framework

This study is anchored on an integrated theoretical framework. It combines insight from the Resource-Based View, Dynamic Capabilities Theory, Institutional Theory and Supply Chain Management, with food security conceptualized using the framework of the Food and Agriculture Organization.

The Resource-Based View (RBV) developed by Barney (1991) posits that firm-specific capabilities drive performance. In this study, procurement innovation capability (PIC), strategic supplier development (SSD) and sustainable procurement orientation (SPO) are treated as strategic resources that enhance food security performance (FSP). However, RBV's static nature limits its ability to explain adaptation in volatile environments (Priem & Butler, 2001). This limitation is addressed by Dynamic Capabilities Theory (Teece et al., 1997), which emphasizes the ability of organizations to reconfigure resources in response to environmental turbulence. This perspective is particularly relevant in Northeast Nigeria, where procurement systems must respond to conflict, insurgency, climate variability and market disruptions.

Furthermore, Institutional Theory explains how regulatory frameworks, norms and external pressures shape procurement practices (DiMaggio & Powell, 1983). It is especially useful in understanding sustainable procurement orientation (SPO), though it has been criticized for overemphasizing conformity at the expense of innovation (Oliver, 1991). Complementarily, Supply Chain Management (SCM) theory highlights the importance of coordination and supplier

relationships in enhancing value chain performance. Strategic supplier development (SSD), in particular, improves supplier capacity and supply stability, although SCM has been critiqued for its firm-centric bias (Carter & Rogers, 2008). Finally, food security performance is conceptualized based on availability, accessibility, utilization and stability (FAO, 2008), though this framework has been noted to underemphasize institutional and market mechanisms (Pinstrup-Andersen, 2009).

Overall, integrating these perspectives provides a comprehensive explanation of how procurement entrepreneurship drives food security performance in fragile contexts.

2.2 Procurement Entrepreneurship and Food Security Performance

Entrepreneurial orientation in supply chain management, according to Cortes et al. (2021), is the capacity of businesses to manage effective and efficient supply chains while continuing to be creative, proactive and opportunity-driven. Expanding on this viewpoint, procurement entrepreneurship is the application of entrepreneurial skills like creativity, taking calculated risks, spotting opportunities and strategic supplier cooperation to procurement operations in order to increase organizational competitiveness and value generation. Procurement has in recent times been incorporated into a strategic organizational function which is capable of driving innovation, supply chain resilience and sustainability. Modern procurement systems extend beyond traditional purchasing activities to include strategic sourcing, supplier collaboration and technology-enabled coordination mechanisms that enhance organizational performance (Monczka et al., 2020; Handfield et al., 2022). Procurement capabilities have been recognized as important determinants of operational efficiency, cost optimization and value creation within supply chain management literature especially in complex and volatile business environments (Olaleye et al., 2024).

Procurement practices in the context of agricultural systems play significant role in shaping food supply chains by influencing the sourcing of agricultural inputs, coordination with the suppliers and distribution of food commodities. Buttressing this argument, Reklitis et al. (2021) employed a survey approach involving 300 Greek agri-food businesses and found that information exchange and supplier collaboration significantly enhanced profitability, flexibility and competitive advantage. Similarly, Puška et al. (2019) used structural equation modeling (SEM) in the Bosnian agro-food industry to demonstrate that procurement-related practices such as customer relationships and supplier partnerships directly improved supply chain agility, innovation and performance. These conclusions are further supported by evidence from Nigeria. In order to improve food accessibility and nutritional security, Hammed (2022) used a survey design with structured questionnaires given to 80 farmers in Northwestern Nigeria. The results demonstrated the importance of procurement practices, particularly honesty among supply chain participants, efficient storage facilities, and high-quality seed sourcing. However, in many developing economies, Pingali et al. (2019) used a Food Systems Approach (FSA), combining secondary data analysis, policy review and comparative case studies observed that weak

procurement systems, infrastructural challenges and fragmented agricultural value chains often undermine food system performance and increase food insecurity.

Food security performance manifests in the capacity of food systems to ensure the availability, accessibility, utilization and stability of food supplies over time (FAO, 2023b). These four cardinal pillars reflect the general nature of food security, underscoring that effective coordination across production, procurement and distribution processes is vital to guarantee sustainable food supply. Recent study utilizing mixed method increasingly recognizes the importance of supply chain innovation and strategic procurement practices in strengthening food systems and enhancing agricultural resilience (Reardon et al., 2020).

2.3 Procurement Innovation Capability and Food Security Performance

The increasing digitalization of procurement systems has significantly changed traditional purchasing functions, enabling organizations to use digital platforms, data analytics and automation to enhance sourcing decisions and supply chain coordination (Handfield et al., 2022). Procurement innovation capability refers to an organization's ability to adopt new technologies, innovative sourcing methods and advanced procurement processes that enhance supply chain performance. The importance of innovation capabilities in improving supply chain performance have been emphasized by previous studies. For instance, Kwak et al. (2018) adopted a survey research design involving firms and professionals engaged in supply chain operations. Data collected from managers and supply chain professionals were analyzed using regression analysis and Structural Equation Modelling (SEM). The study found that supply chain innovation positively influences organizational performance by enabling firms to react effectively to environmental uncertainty. More so, Saberi et al. (2019) employed a systematic literature review design to examine the role of digital and technological innovations in supply chain management. The study reviewed relevant scholarly articles and industry reports, while qualitative content analysis and thematic synthesis were used for data analysis. Results showed that digital and technological innovations in supply chain processes significantly improve efficiency and sustainability outcomes.

In agricultural supply chains, procurement innovation can enhance food security by improving the efficiency and transparency of sourcing processes. In line with this, Reardon et al. (2020) stated that digital procurement platforms allow producers and buyers to connect seamlessly. Organizations that initiate and develop strong procurement innovation capabilities are therefore better positioned to enhance supply chain efficiency and strengthen food supply system. On this note, it is hypothesized that:

H₁: Procurement innovation capability has a significant positive effect on food security performance in Northeast Nigeria.

2.4 Strategic Supplier Development and Food Security Performance

Strategic supplier development encompasses a deliberate organizational initiatives targeted at improving supplier capabilities through collaborative relationships, knowledge sharing, training programmes and long-term partnerships (Krause et al., 2007). Supplier development initiatives strengthen relationships among organizations and enhance supply chain performance by improving suppliers' operational efficiency and product quality.

Previous studies demonstrate that strategic supplier partnerships contribute significantly to supply chain performance. For instance, Li et al. (2006) conducted a quantitative cross-sectional survey among manufacturing firms in the United States. The study targeted managers and supply chain executives from selected manufacturing organizations, while data were analyzed using Structural Equation Modelling (SEM) and regression analysis. Findings revealed that collaborative supply chain practices positively influence organizational competitiveness and operational performance. Furthermore, Prajogo et al. (2016) carried out a quantitative survey research design involving manufacturing firms in Australia. The study focused on supply chain managers, procurement managers, and operations executives from participating firms. Data analysis was conducted using Structural Equation Modelling (SEM) and path analysis. The findings showed that strategic supplier integration significantly improves supply chain responsiveness and operational performance.

In agricultural supply chains, strong relationships between buyers and suppliers are essential because, agricultural production usually involve networks of smallholder farmers and local suppliers. Studies revealed that supplier development initiatives in form of training programmes, technical assistance and strategic contracts improve farmers' productivity and facilitate supply chain stability (Selorm et al., 2023; Zhang et al., 2023). Organizations can enhance the reliability and quality of food supply chains by strengthening supplier capabilities and fostering collaborative partnerships. In developing regions where agricultural supply networks are often fragmented and vulnerable to disruptions, improvements in these initiatives are particularly important. Thus, the second hypothesis is formulated as:

H₂: Strategic supplier development has a significant positive effect on food security performance in Northeast Nigeria.

2.5 Sustainable Procurement Orientation and Food Security Performance

The integration of environmental, social and economic concerns into procurement decision-making processes is termed sustainable procurement orientation. Walker and Brammer (2009) averred that sustainable procurement practices encourage responsible sourcing, support local suppliers and promote environmentally friendly production systems. Due to the increasing emphasis on sustainability in supply chain management, sustainable procurement practices have therefore become a critical mechanism for promoting responsible business conduct and improving supply chain resilience (Beske & Seuring, 2014).

Previous empirically studies demonstrate that sustainable-oriented procurement practices enhance supply chain performance. Tate et al. (2014) adopted a qualitative multiple-case study design involving organizations engaged in sustainable sourcing practices in the United States. The study focused on procurement and supply chain managers from selected firms, while qualitative thematic analysis was used to analyze the data collected through interviews and organizational documents. The findings revealed that sustainable sourcing initiatives improve supply chain transparency and strengthen supplier relationships. In the same vein, Saberi et al. (2019) employed a systematic literature review design to examine sustainability-oriented supply chain practices across different countries and industries. The study reviewed relevant scholarly articles and industry reports, while qualitative content analysis and thematic synthesis were used as analytical techniques. Findings indicated that sustainability-oriented supply chain practices significantly contribute to environmental sustainability and operational performance. In alignment with sustainable development theory, sustainable procurement integrates organizational practices with broader societal objectives, including poverty reduction, environmental protection and food security (World Commission on Environment and Development [WCED], 1987). Therefore, organizations that integrate sustainability considerations into procurement decisions are more likely to rewarding food system outcomes. Based on these scholarly insights, the third hypothesis is thus formulated as:

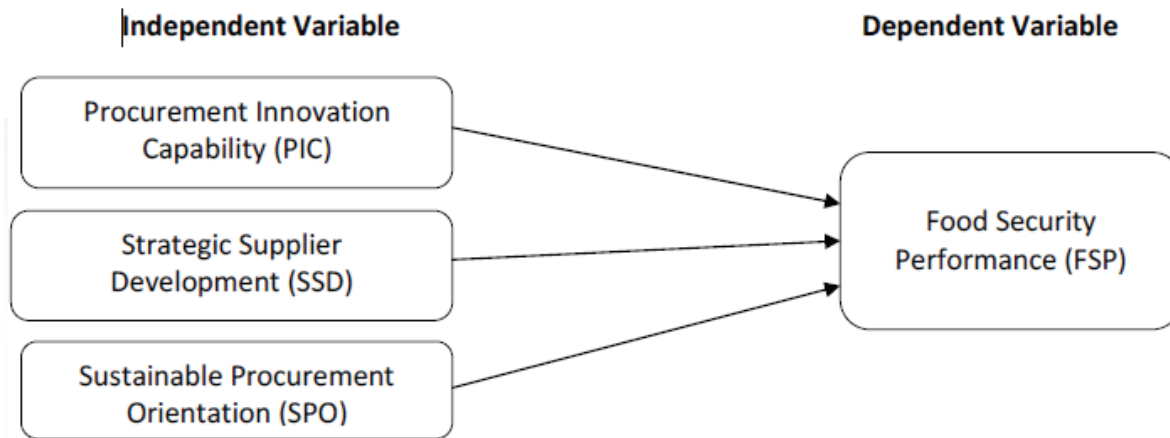
H₃: Sustainable procurement orientation has a significant positive influence on food security performance in Northeast Nigeria.

2.6 Conceptual Framework

In this study, the conceptual framework suggests that procurement entrepreneurship practices enhance food security performance by improving supply chain coordination, strengthening supplier relationships and propagating sustainable sourcing practices with the agri-food ecosystem. As illustrated in Figure 1, the model identifies procurement entrepreneurship as the independent variable, measured through Procurement Innovation Capability (PIC), Strategic Supplier Development (SSD) and Sustainable Procurement Orientation (SPO). These dimensions are hypothesized to influence the dependent variable, Food Security Performance (FSP), which is measured using the four cardinal pillars of food security: availability, accessibility, utilization and stability.

Figure 1

Conceptual framework showing the linkage between procurement entrepreneurship and food security performance in Northeast Nigeria.



Source: Researchers' conceptualization (2026).

The framework assumes that innovative procurement practices, strong supplier partnerships and sustainability-oriented sourcing collectively strengthen agricultural supply chains and improve food system performance.

3. METHODOLOGY

3.1 Research Design

This study employs a cross-sectional survey research design, which is well-suited for collecting data from a large sample at a single point in time and for empirically testing relationships among variables (Hunziker & Blankenagel, 2024; Sedgwick, 2014).

3.2 Study Area

The study focused on Borno and Adamawa State, located in Northeast Nigeria. These states were selected because they are among the regions most affected by food insecurity and humanitarian challenges linked with the SDG 2. Despite the challenges, both states have robust agricultural potential and active agribusiness ecosystems which make them suitable contexts for examining how procurement entrepreneurship can improve food security performance.

3.3 Target Population

The target population consisted of organizations involved in agricultural procurement, food supply and agribusiness value chains within Borno and Adamawa States in Northeast, Nigeria. The National Bureau of Statistics (NBS, 2022) SME survey indicates that there are roughly 538 agribusiness SMEs in Borno State and 734 in Adamawa State, totaling 1,272

businesses in both states. Furthermore, the Adamawa State Ministry of Agriculture (2024) revealed that more than 400 agricultural cooperative societies have been registered, and Borno State's agricultural development initiatives maintain comparable cooperative figure of 375 (The Borno State Ministry of Commerce, Industry and Cooperative Development (2023) and the Borno State Agricultural Development Programme (ADP, 2023). Key respondents were agribusiness SMEs owners/managers, procurement officers in government ministries, departments and agencies (MDAs) and finally, leaders of farmers' cooperative societies and agricultural associations. It is believed that these respondents possess the requisite knowledge of procurement processes, supplier relationship and food supply performance.

Table 1: Population Distribution

State	Agribusiness SMEs	Cooperatives	Govt procurement officers	Total
Borno	538	400	31	969
Adamawa	734	375	30	1139
Total	1272	775	61	2,108

Source: Researchers' compilation (2026)

3.4 Sampling Frame

The sampling frame was drawn from: (a) Registered agribusiness SMEs in the selected states duly obtained from State Ministries of Commerce and Industry (b) Farmers' cooperative societies registered with State Ministries of Agriculture and (c) Procurement units of government agencies responsible for agricultural and food procurement.

3.5 Sampling Technique and Sample Size

A multi-stage sampling technique was employed. First, two states in Northeast Nigeria - Borno and Adamawa were purposively selected due to their strategic importance in agricultural production and food security interventions. In the second stage, the study population was stratified into three major categories: 1) Agribusiness SMEs. 2) Farmers' cooperatives. 3) Government procurement units. Then, within each stratum, a simple random sampling technique was employed to select respondents who were directly involved in procurement and supply chain decision-making, ensuring that every eligible participant had an equal and independent chance of being selected. Using Taro Yamane's formula at 5% level of precision, the sample size for the study population of 2,108 is approximately 336 respondents. The sample was further proportionately allocated across states and strata using Bowley's proportional allocation technique to ensure fair representation of each subgroup in line with their population size.

The table below shows the sample size distribution.

Table 2: Sample Size Distribution

			Govt	
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State	Agribusiness SMEs	Cooperatives	procurement officers	Total
Borno	86	64	5	154
Adamawa	117	60	5	182
Grand Total	203	124	10	336

Source: Researchers' compilation (2026)

3.6 Data Collection Instrument

Data were collected using a five-point Likert scale questionnaire ranging from: 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree and 5 = Strongly Agree. The questionnaire contained sections measuring procurement entrepreneurship practices and food security performance.

3.7 Measurement of Variables

Procurement entrepreneurship as independent variable was operationalized using three dimensions: (i) Procurement innovation capability (PIC) with five items adapted from Hult et al. (2004) and Azadegan & Dooley (2010). (ii) Strategic supplier development (SSD), five items adapted from Krause (2000) and Krause et al. (2007). (iii) Sustainable procurement orientation (SPO), five items adapted from Lindgreen et al. (2009) and Tate et al. (2014). While food security performance (in terms of food availability, food accessibility, food utilization and food stability) being the dependent variable was treated as a one-dimensional construct and question six items adapted from Food and Agriculture Organization food security framework (FAO, 2023b).

3.8 Data Analysis Techniques

Collected data were analyzed using descriptive and inferential statistics. Descriptive statistics such as frequency, mean and standard deviation were used to summarize respondents' demographic characteristics and provide an overview of procurement practices within the study area. Multiple regression analysis was used to test the hypothesized relationships between procurement entrepreneurship dimensions and food security performance. The reliability of the measurement scales was assessed using Cronbach's Alpha, with a threshold value of 0.70 considered acceptable. While construct validity was established through statistical evaluation of the measurement scales to ensure that the indicators appropriately represented the underlying theoretical constructs, such as Procurement Innovation Capability (PIC), Strategic Supplier Development (SSD), Sustainable Procurement Orientation (SPO) and Food Security Performance (FSP), content validity was ensured by subjecting the research instrument to expert review by scholars in procurement, supply chain management, and research methodology at the Nigerian Army University Bui to confirm that the items adequately captured all aspects of procurement entrepreneurship and food security performance.

4. RESULTS AND DISCUSSION

4.1 Response Rate

Out of the 336 questionnaires distributed, 282 were successfully returned, representing a response rate of 84%, while 54 questionnaires (16%) were not returned. This high response rate indicates strong participation from the respondents and suggests that the data collected are adequate and reliable for the analysis.

4.2 Demographic Profile of Respondents

The demographic profile shows that the majority of the respondents were drawn from agribusiness SMEs (51.4%), followed by farmers' cooperatives (30.9%), while government procurement units accounted for 17.7%, indicating that private agribusiness actors constituted the largest share of the sample. In terms of position, most respondents were owners or managers (51.4%), while cooperative leaders represented 30.9% and procurement officers 17.7%, suggesting that individuals with decision-making responsibilities largely participated in the study. Regarding organizational experience, 34.0% of the organizations had operated for 11-15 years, followed by 28.4% with 5-10 years of existence, indicating that many of the organizations had moderate operational experience. The geographical distribution shows that 52.8% of respondents operated in Borno State, while 47.2% were from Adamawa State, reflecting a fairly balanced representation across the two states. Finally, the majority of the organizations had fewer than 10 employees (51.1%), while 34.0% had between 10 and 49 employees, indicating that most of the sampled organizations fall within the small-scale enterprise category.

4.3 Descriptive Statistics of the Study Variables

Table 3: Descriptive statistics of procurement entrepreneurship and food security performance

PE Dimensions/ FSP Variables	Mean	Standard Deviation	Cronbach's Alpha
PIC	3.0124	.93120	0.926
SSD	3.0015	.88310	0.914
SPO	3.2004	.95887	0.911
FSP	3.0566	.90028	0.925

Source: SPSS Output (2026).

The descriptive statistics show that all the study variables recorded moderate mean scores slightly above 3.0, indicating that respondents generally agreed that procurement entrepreneurship practices are present within their organizations. Specifically, sustainable procurement orientation (SPO) recorded the highest mean score ($M = 3.2004$), followed by food security performance (FSP) ($M = 3.0566$), procurement innovation capability (PIC) ($M = 3.0124$), and strategic supplier development (SSD) ($M = 3.0015$). The standard deviation values,

ranging from 0.88310 to 0.95887, indicate a reasonable level of variability in respondents' opinions. Furthermore, the Cronbach's alpha coefficients, which range from 0.911 to 0.926, exceed the recommended threshold of 0.70, demonstrating that the measurement items for all constructs exhibit high internal consistency and reliability for subsequent analysis.

4.4 Regression Analysis

Table 4: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.794a	.630	.626	.55059	.630	157.767	3

a. Predictors: (Constant), SPO, PIC, SSD.

The model summary results indicate a strong relationship between procurement entrepreneurship practices and food security performance. The correlation coefficient ($R = 0.794$) shows a strong positive association between procurement entrepreneurship (procurement innovation capability, strategic supplier development and sustainable procurement orientation) and food security performance. The R^2 value of 0.630 implies that approximately 63% of the variation in food security performance is explained by these predictors, while the remaining 37% may be attributed to other factors not included in the model. Furthermore, the adjusted R^2 of 0.626 confirms that the model maintains strong explanatory power even after adjusting for the number of predictors, indicating that the model provides a good fit for the data.

Table 5: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.479	3	47.826	157.767	.000 ^b
	Residual	84.275	278	.303		
	Total	227.754	281			

a. Dependent Variable: FSP

b. Predictors: (Constant), SPO, PIC, SSD

The ANOVA results show that the regression model is statistically significant in explaining the relationship between procurement entrepreneurship practices and food security performance. The model produced an F-value of 157.767 with a significance level of $p = 0.000$, which is below the conventional threshold of 0.05, indicating that the overall regression model is statistically significant. This means that procurement innovation capability (PIC), strategic supplier development (SSD), and sustainable procurement orientation (SPO) jointly have a significant

effect on food security performance (FSP). Therefore, the model provides sufficient evidence that the independent variable dimensions collectively contribute to explaining variations in food security performance.

Table 6: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.443	.125		3.551	.000
PIC	.243	.065	.251	3.754	.000
SSD	.244	.069	.239	3.550	.000
SPO	.359	.051	.383	7.062	.000

a. Dependent Variable: FSP

The regression coefficients results indicate that all the independent variables have a positive and statistically significant effect on food security performance (FSP). Specifically, procurement innovation capability (PIC) has a positive influence on FSP ($\beta = 0.251$, $p < 0.05$), indicating that improved innovative procurement practices contribute to better food security outcomes. Similarly, strategic supplier development (SSD) also shows a significant positive effect on FSP ($\beta = 0.239$, $p < 0.05$), suggesting that stronger collaboration and support for suppliers enhance food security performance. Among the predictors, sustainable procurement orientation (SPO) recorded the strongest effect ($\beta = 0.383$, $p < 0.05$), implying that organizations that integrate sustainability considerations into procurement decisions are more likely to achieve improved food security outcomes. Overall, the findings confirm that procurement entrepreneurship practices significantly influence food security performance.

4.5 Hypotheses Testing

The regression results were used to test the formulated hypotheses of the study. The findings reveal that procurement innovation capability (PIC) has a positive and significant effect on food security performance ($\beta = 0.251$, $p < 0.05$), thus supporting H₁. Similarly, strategic supplier development (SSD) shows a positive and statistically significant influence on food security performance ($\beta = 0.239$, $p < 0.05$), thereby supporting H₂. Furthermore, sustainable procurement orientation (SPO) demonstrates the strongest positive and significant effect on food security performance ($\beta = 0.383$, $p < 0.05$), leading to the acceptance of H₃. Overall, the results confirm that procurement entrepreneurship practices significantly contribute to improving food security performance.

4.6 Discussion of Findings

The results demonstrate that procurement entrepreneurship dimensions - PIC, SSD and SPO significantly influence FSP, providing strong empirical support for the study's integrated theoretical framework. First, the positive effect of PIC on FSP is consistent with prior studies emphasizing the role of innovation in supply chain performance. Kwak et al. (2018) demonstrated that supply chain innovation enhances responsiveness under uncertainty, while Saberi et al. (2019) emphasized the role of digital technologies in improving transparency and sustainability. In line with these studies, the present result confirms that innovation-driven procurement strengthens sourcing efficiency and resilience within fragile agricultural systems. However, unlike most existing studies (e.g., Reardon et al., 2020; Benchekroun et al., 2024; Hosseini et al., 2025), conducted in stable or industrialized contexts, this study extends the literature by demonstrating that procurement innovation remains effective even in conflict-affected environments, thereby reinforcing the adaptability argument of innovation literature.

More so, the significant influence of SSD on FSP corroborates findings from Li et al. (2006) and Prajogo et al. (2016), who established that supplier integration and collaboration enhance operational performance. Similarly, Krause et al. (2007) found that supplier development improves quality and reliability within supply chains. While these studies primarily focus on manufacturing and formal supply networks, the current study contrasts by showing that SSD is equally critical in informal, agriculture-based systems, where strengthening local farmer capacity directly improves food availability and stability. This highlights an important contextual contribution that SSD is not only a performance tool but also a development mechanism in fragile economies.

Finally, SPO emerged as the strongest predictor of FSP, aligning with Tate et al. (2014) and Saberi et al. (2019), who found that sustainability-oriented procurement enhances supply chain transparency, efficiency and long-term performance. This result strongly supports the propositions of Sustainable Development Theory, which emphasize that integrating environmental and social considerations into organizational practices yields broader societal outcomes. However, the finding contrasts with some earlier studies (Zhu & Sarkis, 2007; Carter & Rogers, 2008; Seuring & Müller, 2008) that treat sustainability as a compliance-driven or secondary objective; instead, this study demonstrates that SPO is a primary driver of performance in food systems, particularly where environmental degradation and social vulnerability are pronounced.

Overall, while prior studies have largely examined procurement practices in isolation or within stable economies, this study contributes to the literature by providing a context-specific, integrated model linking procurement entrepreneurship to food security outcomes in a fragile setting. The findings affirm that combining innovation, supplier development, and sustainability creates synergistic effects that enhance resilience, reduce supply disruptions, and improve food system performance, thereby advancing progress toward SDG 2.

5. CONCLUSION AND RECOMMEDATIONS

The study concludes that strengthening procurement entrepreneurship practices is vital for enhancing food security performance and building sustainable agricultural supply systems in developing contexts such as Nigeria. By fostering innovation in procurement processes, strategically developing supplier relationships and embedding sustainability principles into procurement decisions, organizations can achieve greater efficiency, transparency and resilience across agricultural value chains. These entrepreneurial procurement capabilities not only serve as strategic resources that drive competitive advantage but also align with broader sustainable development goals, ensuring that food systems remain responsive to social, environmental and ethical imperatives. Collectively, the findings underscore that embedding procurement entrepreneurship into agribusiness and public procurement structures is essential for advancing both food security and long-term agricultural sustainability in resource-constrained environments.

Based on these findings, several recommendations are proposed.

- i. Agribusiness SMEs involved in agricultural supply chains should invest in innovative procurement practices, including the adoption of digital platforms and technology-driven solutions, to improve sourcing efficiency and supply chain responsiveness. More so, firms should strengthen strategic supplier development initiatives by providing training, technical assistance and collaborative programs to enhance the capacity of local farmers and suppliers, which in turn promotes stability and productivity across the supply chain.
- ii. Furthermore, it is critical for agribusiness firms and cooperative leaders to adopt sustainability-oriented procurement strategies, ensuring that environmental, social and ethical considerations are embedded in decision-making processes to support both operational efficiency and societal objectives.
- iii. Finally, policymakers and development agencies should encourage and support procurement entrepreneurship practices among SMEs and cooperatives through capacity-building programs, incentives, and policy frameworks that promote innovation, collaboration, and sustainability, thereby contributing meaningfully to achieving Sustainable Development Goal 2 (Zero Hunger).

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