

The Impact of Innovativeness on the Performance of Agribusiness in South-West Nigeria

Yinka Christian Ajomale,¹ Mathew Olusola Ebire, PhD.,² Prof. Adeduro Joseph Adegeye,³
& Adeyemi Busayo Adebuseye, PhD.⁴

¹Corresponding author. Email: neoyinka@yahoo.com

²Global Affairs and Sustainable Development Institute (GASDI), Osun State University,
Osogbo, Nigeria. Email: isoleb2005@gmail.com

^{1, 3, & 4.} Joseph Ayo Babalola University (JABU),
Ikeji-Arakeji, Osun State, Nigeria.

Abstract:

Agribusiness plays a vital role in promoting food security, employment generation, and economic development in Nigeria. However, many agribusiness enterprises continue to face challenges related to low productivity, inadequate technological adoption, climate variability, poor market access, and increasing competition. These challenges underscore the importance of innovativeness as a strategic capability for enhancing organizational performance. This study examined the impact of innovativeness on the performance of agribusiness enterprises in South West Nigeria. Specifically, the study investigated how product, process, technological, marketing, organizational, and digital innovations influence agribusiness performance. A quantitative research approach employing a cross-sectional survey design was adopted. Primary data were collected from owners and managers of agribusiness enterprises operating across the six states of South West Nigeria using a structured questionnaire. Data were analyzed using descriptive statistics and Partial Least Squares Structural Equation Modeling (PLS-SEM). The study was anchored on the Resource-Based View, Dynamic Capabilities Theory, and Diffusion of Innovation Theory, which collectively explain how innovation capabilities contribute to organizational competitiveness and superior performance. The findings are expected to demonstrate that innovativeness significantly improves agribusiness performance by enhancing operational efficiency, increasing productivity, promoting value addition, improving product quality, expanding market opportunities, and strengthening business sustainability. The study concludes that innovativeness is a strategic driver of agribusiness competitiveness and recommends increased investment in digital agriculture, agricultural research and development, innovation financing, capacity building, and supportive government policies to encourage the adoption of innovative technologies among agribusiness enterprises in South West Nigeria.

Keywords: Innovativeness, Agribusiness Performance, Entrepreneurial Orientation, Digital Innovation, South West Nigeria, Innovation Capability, PLS-SEM.

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1. INTRODUCTION

Agribusiness has become a critical driver of economic development, food security, employment generation, and poverty reduction across developing economies, particularly in Sub-Saharan Africa (Food and Agriculture Organization [FAO], 2022; World Bank, 2024). In Nigeria, agribusiness encompasses a broad spectrum of activities extending beyond primary agricultural production to include input supply, mechanized farming, processing, storage, packaging, transportation, distribution, and marketing of agricultural commodities (Adelekan et al., 2023). The sector contributes substantially to national Gross Domestic Product (GDP), provides employment opportunities for over one-third of the country's labor force, and serves as an important source of raw materials for manufacturing industries (National Bureau of Statistics [NBS], 2024; World Bank, 2024). In South West Nigeria, comprising Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo States, agribusiness remains an important catalyst for regional economic growth because of the region's favorable agroecological conditions, relatively developed transportation infrastructure, expanding urban markets, and increasing private-sector investment in agriculture (Akinwale & Adeyemo, 2022).

Despite its economic significance, agribusinesses in South West Nigeria continue to experience numerous operational challenges that constrain productivity and long-term competitiveness. These challenges include inadequate access to improved technologies, high post-harvest losses, limited access to finance, poor market integration, climate variability, inadequate storage and processing facilities, weak extension services, and inconsistent agricultural policies (FAO, 2022; International Food Policy Research Institute [IFPRI], 2023). These constraints reduce production efficiency, increase operational costs, and limit the ability of agribusiness enterprises to compete effectively in domestic and international markets (OECD & FAO, 2023). Consequently, policymakers, researchers, and practitioners increasingly recognize innovation as a strategic mechanism for transforming agribusiness and achieving sustainable agricultural development (World Bank, 2024).

Innovativeness has emerged as one of the most influential dimensions of entrepreneurial orientation and organizational competitiveness. Miller (1983) conceptualized innovativeness as an organization's tendency to engage in creativity, experimentation, and the introduction of new products and services, while Lumpkin and Dess (1996) described it as the firm's willingness to support new ideas, experimentation, and creative processes that lead to technological advancement. More recently, Covin and Wales (2019) argued that innovativeness represents an organizational capability that enables firms to identify opportunities, create value, and sustain competitive advantage in rapidly changing business environments. Within agribusiness, innovativeness may involve adopting improved crop varieties, precision agriculture, mechanization, climate-smart farming practices, digital extension platforms, mobile payment systems, value-added processing technologies, innovative packaging, e-commerce, and data-driven supply chain management (AATF, 2023; FAO, 2022).

The rapid advancement of digital agriculture has further strengthened the role of innovativeness in improving agribusiness performance. Emerging technologies such as artificial intelligence (AI), the Internet of Things (IoT), blockchain, geographic information systems (GIS), drones, remote sensing, machine learning, cloud computing, and big data analytics are transforming agricultural production systems by enabling real-time monitoring, precision resource management, market forecasting, and improved supply chain coordination (OECD & FAO, 2023; World Bank, 2024). These digital technologies facilitate informed decision-making, improve production efficiency, reduce waste, enhance product traceability, and strengthen market competitiveness (AATF, 2023). Consequently, agribusiness enterprises that embrace technological innovation are generally more resilient and better positioned to respond to environmental uncertainties and changing consumer demands than firms relying primarily on conventional production methods.

The relationship between innovativeness and organizational performance has received considerable attention in entrepreneurship and strategic management literature. The Resource-Based View (RBV) proposed by Barney (1991) argues that organizations achieve sustainable competitive advantage by possessing valuable, rare, inimitable, and non-substitutable resources. Innovativeness constitutes one of these strategic resources because it enables firms to continuously develop new capabilities, improve operational processes, and differentiate themselves from competitors (Barney, 1991). Similarly, Dynamic Capabilities Theory suggests that organizations improve performance by integrating, building, and reconfiguring internal and external competencies to address rapidly changing business environments (Teece, Pisano, & Shuen, 1997; Teece, 2018). The Diffusion of Innovation Theory also explains that the successful adoption of innovations depends on organizational characteristics, communication channels, perceived usefulness, and environmental conditions (Rogers, 2003). Collectively, these theories suggest that organizations possessing stronger innovation capabilities are more likely to achieve superior organizational performance.

Agribusiness performance extends beyond profitability to include operational efficiency, productivity, customer satisfaction, market expansion, environmental sustainability, and long-term organizational resilience (Kaplan & Norton, 1996). Financial indicators such as sales growth, return on investment, profit margins, and market share remain important measures of business success. However, non-financial indicators including product quality, production efficiency, customer retention, innovation capability, employee productivity, digital transformation, and supply chain effectiveness have become equally important in assessing organizational performance in today's highly competitive business environment (Covin & Wales, 2019). Innovative agribusiness enterprises frequently outperform their competitors by reducing production costs, improving product quality, increasing value addition, expanding market access, and strengthening customer loyalty (OECD & FAO, 2023).

In Nigeria, government agencies, agricultural research institutions, universities, development partners, and private agritech companies have implemented several

initiatives aimed at promoting agricultural innovation. These include digital extension services, improved seed technologies, mechanization programmes, agricultural financing schemes, precision farming solutions, mobile advisory services, and climate-smart agricultural practices (Federal Ministry of Agriculture and Food Security, 2024; AATF, 2023). Nevertheless, the adoption of innovative practices among many agribusiness enterprises remains relatively low because of financial constraints, poor infrastructure, inadequate digital literacy, limited technical expertise, weak research-extension linkages, and policy inconsistency (IFPRI, 2023; World Bank, 2024). Small and medium-sized agribusiness enterprises are particularly affected because they often lack the financial and technological resources necessary to implement innovation-driven business strategies.

2. METHODS

2.1 Research design

This study adopted a quantitative research approach using a cross-sectional survey design. The quantitative approach was considered appropriate because it facilitates the collection of standardized data from a large number of respondents and enables the use of statistical techniques to examine relationships among variables (Creswell & Creswell, 2018). A cross-sectional design was selected because data were collected from agribusiness operators at a single point in time to assess the influence of innovativeness on organizational performance. This design has been widely employed in entrepreneurship and agribusiness studies investigating the effects of organizational capabilities on firm performance (Hair et al., 2022).

2.2 Study area

The study was conducted in South West Nigeria, which comprises Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo States. The region occupies a strategic position in Nigeria's agricultural economy owing to its favorable climatic conditions, fertile soils, relatively developed infrastructure, and access to major domestic and export markets. Agribusiness activities in the region include crop production, livestock farming, fisheries, agro-processing, input supply, agricultural marketing, warehousing, logistics, and value-added processing. Major agricultural commodities produced include cocoa, cassava, maize, rice, yam, oil palm, vegetables, poultry products, and aquaculture products (Federal Ministry of Agriculture and Food Security [FMAFS], 2024). The concentration of agribusiness enterprises across these value chains makes South West Nigeria an appropriate setting for examining the role of innovativeness in improving business performance.

2.3 Population of the study

The target population comprised registered agribusiness enterprises operating within the six states of South West Nigeria. These enterprises included firms involved in agricultural input supply, crop and livestock production, agro-processing, storage, transportation, packaging, distribution, and agricultural marketing. Owners, managers, and senior

administrative personnel constituted the unit of analysis because they possess adequate knowledge of their firms' innovation practices and organizational performance.

2.4 Sample size and sampling technique

A multi-stage sampling procedure was employed. In the first stage, the six states in South West Nigeria were purposively selected because of their significant contribution to agricultural production and agribusiness development. In the second stage, major agribusiness clusters and commercial agricultural zones within each state were identified with the assistance of state ministries of agriculture and relevant agribusiness associations. In the final stage, respondents were selected using stratified random sampling to ensure adequate representation of different agribusiness subsectors.

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The sample size was determined using Cochran's (1977) sample size determination formula for large populations:

$$n = \frac{z^2 pq}{\varepsilon^2}$$

Where n is the required sample size, Z is the standard normal variate at the 95% confidence level (1.96), p is the estimated proportion of the target population possessing the characteristic of interest (0.50), $q = 1 - p$, and ε is the acceptable margin of error (0.05). An additional allowance was made for non-response to ensure an adequate number of usable questionnaires.

2.6 Data collection

Primary data were collected using a structured questionnaire administered to owners and managers of agribusiness enterprises. The questionnaire consisted of three sections. The first section elicited respondents' demographic and firm characteristics, including age, educational qualification, and years of business operation, firm size, and agribusiness subsector. The second section measured innovativeness, while the third section assessed organizational performance.

Responses were measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The Likert scale is widely accepted for measuring perceptions, attitudes, and organizational capabilities because it provides reliable quantitative data for multivariate statistical analysis (Hair et al., 2022).

2.7 Measurement of variables

2.7.1 Innovativeness

Innovativeness served as the independent variable and was operationalized using six dimensions adapted from established entrepreneurial orientation and innovation literature (Lumpkin & Dess, 1996; Covin & Wales, 2019). These dimensions included:

- (a) Product innovation
- (b) Process innovation
- (c) Technological innovation
- (d) Marketing innovation
- (e) Organizational innovation
- (f) Digital innovation

Respondents were asked to indicate the extent to which their organizations had introduced new products, adopted improved production technologies, implemented digital business solutions, improved organizational processes, developed innovative marketing strategies, and embraced modern management practices.

2.7.2 Agribusiness performance

Agribusiness performance constituted the dependent variable. Performance was measured using both financial and non-financial indicators, consistent with previous organizational performance studies (Kaplan & Norton, 1996; Venkatraman & Ramanujam, 1986). The performance indicators included:

- a. Profitability
- b. Sales growth
- c. Market share
- d. Productivity
- e. Customer satisfaction
- f. Operational efficiency
- g. Business sustainability

The use of subjective performance measures is appropriate because managers are generally knowledgeable about their firms' competitive position and because subjective measures have been shown to correlate strongly with objective performance indicators (Dess & Robinson, 1984).

2.8 Validity and reliability of the instrument

Content validity was established through expert review by specialists in entrepreneurship, agribusiness management, and research methodology. Their observations were incorporated into the final version of the questionnaire to improve clarity, relevance, and adequacy of the measurement items.

Construct validity was assessed through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Factor loadings of 0.70 and above were considered acceptable, while the Kaiser Meyer Olkin (KMO) measure and Bartlett's Test of Sphericity were used to determine sampling adequacy and the suitability of the data for factor analysis (Hair et al., 2022).

Reliability was evaluated using Cronbach's Alpha and Composite Reliability (CR). Cronbach's Alpha values of 0.70 or higher were considered evidence of satisfactory internal consistency (Nunnally & Bernstein, 1994). Composite Reliability values greater than 0.70 and Average Variance Extracted (AVE) values exceeding 0.50 were used to establish convergent validity (Fornell & Larcker, 1981).

2.9 Ethical considerations

Ethical standards were observed throughout the study. Participation was voluntary, and respondents were informed of the purpose of the research before completing the questionnaire. Confidentiality and anonymity were assured, and respondents were informed that the information collected would be used solely for academic purposes. Informed consent was obtained from all participants before data collection commenced.

3. DATA ANALYSIS

Data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 29 and SmartPLS version 4. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondents' demographic characteristics and describe the study variables.

The measurement model was evaluated by examining indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), the Heterotrait–Monotrait (HTMT) ratio, and variance inflation factors (VIF) were used to assess the adequacy of the measurement model (Hair et al., 2022).

The structural model was subsequently evaluated to test the hypothesized relationship between innovativeness and agribusiness performance. Path coefficients (β), coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and bootstrapping procedures with 5,000 resamples were employed to determine the magnitude and statistical significance of the relationships among the constructs. Statistical significance was determined at the 5% level ($p < .05$). Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected because it is appropriate for predictive studies involving latent constructs, complex causal relationships, and non-normally distributed data (Hair et al., 2022).

The hypothesized relationship was specified as follows:

$$\text{Agribusiness Performance} = \beta_0 + \beta_1(\text{innovativeness}) + \varepsilon$$

Where:

- Agribusiness Performance = Dependent variable;
- Innovativeness = independent variable;
- β_0 = intercept;
- β_1 = regression coefficient measuring the effect of innovativeness on agribusiness performance; and
- ε = random error term.

The null hypothesis stating that innovativeness has no significant effect on the performance of agribusiness enterprises in South West Nigeria was tested using the estimated path coefficient and its associated *t*-statistic and *p*-value.

4. CONCLUSION

This study examined the impact of innovativeness on the performance of agribusiness enterprises in South West Nigeria within the context of an increasingly competitive and technology-driven agricultural economy. The review of relevant literature and the methodological framework demonstrate that innovativeness is a fundamental organizational capability that enables agribusiness firms to improve productivity, operational efficiency, profitability, customer satisfaction, market competitiveness, and long-term sustainability. By embracing product, process, technological, marketing, organizational, and digital innovations, agribusiness enterprises can respond more effectively to changing consumer demands, environmental uncertainties, and evolving market conditions.

The theoretical perspectives underpinning this study namely the Resource-Based View, Dynamic Capabilities Theory, and Diffusion of Innovation Theory provide strong support for the proposition that firms possessing superior innovation capabilities are more likely to achieve sustainable competitive advantage and improved organizational performance. Consequently, innovativeness should not be viewed merely as the introduction of new technologies but as a continuous organizational culture that encourages creativity, learning, adaptation, and value creation across the entire agribusiness value chain.

From a practical standpoint, agribusiness managers should prioritize investments in modern production technologies, digital agricultural solutions, research and development, employee training, and collaborative innovation with research institutions and extension agencies. Likewise, policymakers should strengthen innovation ecosystems by improving access to finance, expanding digital infrastructure, promoting technology

transfer, supporting agricultural research, and implementing consistent policies that encourage innovation-driven agribusiness development. Such interventions will enhance the competitiveness and resilience of agribusiness enterprises while contributing to sustainable agricultural transformation, food security, employment generation, and inclusive economic growth in South West Nigeria.

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