

INSTITUTIONAL PRESSURE AND STRATEGIC COST MANAGEMENT IMPLEMENTATION IN NIGERIAN AGRICULTURAL FIRMS

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Abstract

This study investigates the influence of institutional pressures specifically regulatory policies, cultural norms and social expectations, and technological advancements on the implementation of strategic cost management (SCM) practices and their subsequent effect on decision-making in sustainable agricultural firms in Nigeria. A cross-sectional survey design was adopted, using stratified and purposive sampling to collect primary data through structured questionnaires administered exclusively to respondents with vast knowledge and direct involvement in cost management practices across the 63 agricultural firms listed in the Nigerian Bulletin Index 2023, yielding 171 valid responses. The data were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in Smart-PLS 4.0. The results reveal that all three institutional pressures significantly and positively affect SCM implementation, with technological advancements showing the strongest influence ($\beta = 0.685$, $p < 0.001$), followed by regulatory policies ($\beta = 0.462$, $p < 0.001$) and cultural norms and social expectations ($\beta = 0.420$, $p < 0.001$). Reliability was generally acceptable, and discriminant validity was confirmed as all HTMT values remained below 0.85, although some AVE values fell below 0.5, indicating weaker convergent validity for certain constructs. The findings highlight the critical role of regulatory compliance, cultural alignment, and technology investment in enhancing SCM effectiveness among Nigerian agricultural firms. However, the cross-sectional design limits causal inferences, the sample of 63 firms restricts statistical power and generalizability beyond listed sustainable agricultural firms, and the observed measurement overlaps suggest that the instrument requires further refinement in future studies.

Keywords: Institutional pressure, Strategic cost management, Regulatory policies, Cultural norms, social expectations, Technological advancement, Nigerian agricultural firms

1.0 Introduction

The modern agricultural environment along with increased competition has led to a shift in the use of modern strategic costing methods and tools. This shift made it necessary to focus on the strategic vision of cost management in order to achieve a long-term competitive advantage, as opposed to financial reports and management that only consider short-term financial results. The traditional cost accounting model is no longer sufficient for providing sufficient information for decision-making, and it provides distorted or misleading information that leads to decisions that ultimately result in negatives outcomes, the primary one being the weakening of the company's competitive position (Maytham, 2024). Strategic cost management and its different pathways are crucial in giving industrial organizations the data they need to deploy strategic cost management strategies, strategic competitive measures, and the automation phenomena.

The application of strategic cost management (SCM) practices in the manufacturing and agricultural sectors has gained widespread recognition for its efficacy in improving decision-making and operational outcomes, both financially and non-financially, particularly in developed nations such as the United Kingdom, Malaysia, and others. Firms in nations like the US, Germany and Japan profit from highly skilled managers, sophisticated technology infrastructure and solid regulatory frameworks. These firms use comprehensive cost data to optimize the use of resources, cut down on waste, and raise profitability. Furthermore, according to Johnson and Kaplan (2019), SCM techniques improve customer satisfaction, foster innovation and improve overall strategic alignment, all of which improve non-financial success measures like market share and brand loyalty. When contrasted to agricultural sector in Nigeria, where the institutional forces outlined above significantly reduce the efficacy of strategic cost management techniques, the differences are striking. Regulatory uncertainty causes operational planning and execution to be disrupted frequently, while cultural aversion to change keeps firms from implementing and fully integrating contemporary cost management strategies.

Enhancing the competitiveness and sustainability of Nigerian agricultural firms requires the implementation of strategic cost management (SCM) methods. However, a variety of institutional pressures and external influences have a considerable impact on these behaviours, creating a difficult operating picture. Regulatory law, cultural standards, societal expectations and managerial proficiency are important examples of these pressures. The inconsistent and unpredictable nature of Nigeria's regulatory framework makes it difficult for businesses to make strategic decisions (Adeleke et al., 2021). Due to these pressures, agricultural firms are forced to choose short-term survival over long-term strategic cost control. Thus, it is imperative to examine the relationship that exists between institutional pressures and strategic cost management implementation in Nigerian agricultural firms.

2.0 Literature Review

Strategic Cost Management

Strategic cost management is seen as a comprehensive approach that combines cost control with strategic decision-making to increase an organization's competitiveness and long term sustainability (Kaplan and Akinson, 2019). Strategic cost management is crucial for maximizing resource allocation and reducing waste using methods including value chain analysis and activity-based costing (Horngren et al., 2021). According to Anderson and Dekker (2020), Strategic cost management is crucial for preserving competitiveness while implementing cutting-edge cost control techniques in response to governmental and commercial demands.

Strategic Cost Management Implementation

The practical application of strategic cost management concepts and procedures inside an organization is necessary for the realization of strategic cost management. SCM procedures must be in line with the firm's overarching business plan. Appropriate cost management systems must also be developed, and staff members must receive adequate training to operate these systems. According to Kaplan and Cooper (1998), a thorough grasp of value chain activities, cost drivers, and strategic cost positioning is necessary for the effective implementation of SCM. The application of SCM in Nigerian agricultural enterprises is impacted by a number of institutional forces, such as laws, customs, and advances in technology. A competitive advantage and enhanced financial performance can result from the efficient application of SCM (Nwankwo and Eze, 2021).

Institutional Pressure

The term “institutional pressure” describes the outside factors influencing the norms and behaviours of an organization. Regulatory agencies, cultural standards, technical development and managerial skill can all be sources of these pressures. DiMaggio and Powell (1983) assert that institutional pressures have the power to mould organizational strategy and influence how different management practices are implemented. Cost management techniques in Nigerian agricultural firms are significantly influenced by institutional pressures. Strategic cost management adoption and effectiveness are significantly influenced by a number of factors such as technical improvement, cultural norm, regulatory rules and the availability of managerial skills (Adekunle and Falola, 2020).

Government Regulatory Policy

Regulations from the government that establish standards and mandate compliance can have a big impact on strategic cost management processes. Cost management strategies can be implemented more easily or more difficultly depending on these policies. Strict regulatory laws can raise the cost of compliance and administrative duties, which makes it difficult for businesses to implement innovative supply chain management strategies (Ogunleye and Alade, 2019). By establishing guidelines and standards for compliance that businesses must adhere to, government regulatory laws significantly influence SCM processes.

Cultural Norms and Social Expectations

Organizational behavior and attitudes towards change are influenced by social norms and cultural standards. New SCM approaches may encounter opposition in Nigerian agricultural firm because to societal expectations and conventional traditions. Okafor and Ibe (2020), cultural resistance poses a serious obstacle to the agriculture industry’s adoption of strategic cost management, highlighting the necessity of implementing SCM in a way that is culturally sensitive.

Technological Advancement

Technological developments offer instruments and frameworks that improve supply chain management practices; managerial know-how guarantees that these instruments are used efficiently. However, the deployment of strategic cost management may be hampered by a lack of competent managers and technology infrastructure. To address these issue Ojo et al., (2022) stress the value of making technological investments and building managerial skills. Technological development offer vital instruments and frameworks that can improve strategic cost management procedures by facilitating improved data gathering, analysis and decision-making. The efficacy of these technologies is contingent upon the existence of managerial proficiency capable of optimizing their utilization.

Theoretical Framework

The following theories are adopted in this study in an effort to provide it a strong theoretical foundation and are considered essential for achieving the study’s objectives; Resource-Based View (RBV) and Institutional Theory.

Institutional theory

According to DiMaggio and Powell’s (1983), institutional theory, organizations comply to external norms, values and regulations in order to become legitimate and stable in their environments. This theory is essential in comprehending how cultural norms and regulatory laws affect strategic cost management (SCM) practices in agricultural firms in Nigeria. For Instance, Ogunleye and Alade (2019) demonstrated that considerable modifications to cost management techniques are necessary for regulatory compliance in Nigeria, resulting in higher operational costs. Furthermore, Okafor and Ibe (2020) showed how cultural resistance prevents the use of

cutting-edge cost-management techniques. This study's use of institutional theory sheds light on how external constraints affects the effectiveness and performance of firms by examining how they influence decision-making procedures and strategic cost management deployments.

Resource-Based View (RBV)

Barney (1991) developed the Resource-Based View (RBV), which emphasizes a firm's internal resources and competencies as crucial factors in determining competitive advantage. This idea is relevant to comprehending how technology improvements impact strategic cost management practices in Nigerian agricultural firms. Effective SCM adoption in Nigerian firms is hampered by a lack of technology infrastructure and competent managers (Ojo et al., 2022). On the other hand, Smith and Brown (2019) discovered that businesses that make investments in cutting edge technologies increases cost management and decision making procedures. Using RBV, this study evaluates the role internal resources play in SCM success, assisting businesses in utilizing their special talents to overcome institutional constraints and maximize cost control.

Empirical Review

Akinwale and Oladipo (2023) examined the influence of regulatory pressures on strategic cost management practices in Nigeria firms. The study employed a cross-sectional survey design with structured questionnaires to collect data. The results showed that strict regulatory compliance resulted in higher operational costs but also enhanced cost management efficiency.

Garcia and Gonzalez (2022) investigated the impact of institutional pressures on strategic cost management method in Spanish manufacturing firms. Panel data from 2015-2020 was used in the study and secondary data from industry reports was gathered. The findings show how cultural and regulatory forces profoundly influenced strategic cost management processes, with cost increases being driven by regulatory compliance and innovation uptake being influenced by cultural norms.

Martinez and Silva (2022) studied the effect of technological advancements on strategic cost management performance in Brazilian firms. The study employed a diffusion of innovation theory and a cross-sectional survey design with a sample of 150 firms. Data were gathered through structured questionnaire. The findings show that companies who made investments in cutting-edge technologies experienced notable increases in operational effectiveness and cost control.

Olusegun, Oke and Akinsanya (2023) investigated the relationship between strategic cost management practices and firm performance in Nigerian manufacturing firms. Their research offers actual proof that companies who implement strategic cost management techniques see increases in their operational and financial performance. The results show that in the Nigerian manufacturing sector, greater cost control, resources allocation, and overall organizational effectiveness can result from the successful use of strategic cost management.

Smith and Brown (2019) examined the relationship between technological advancements and strategic cost management performance in United State agricultural firms. A cross-sectional survey strategy was utilized in the study to sample 300 organizations. The findings show that companies using automation and sophisticated data analytics were able to better control costs, improve operational effectiveness, and make better decisions.

3.0 Methodology

This study adopted a cross-sectional survey design to investigate the impact of institutional pressures on the application of strategic cost management (SCM) and its influence on decision-

making within sustainable agricultural firms in Nigeria. The study focused on the 63 firms listed under the agricultural sector in the Nigerian Bulletin Index 2023. A stratified sampling technique was used to select the 63 firms, while a purposive sampling method was applied to identify and administer questionnaires only to respondents who have vast knowledge and direct involvement in cost management practices within each of the sampled firms. Primary data were gathered through structured questionnaires distributed to these knowledgeable respondents across the 63 firms, resulting in 171 valid and usable responses.

The study's variables captured the multifaceted nature of SCM implementation, including cost planning and analysis, cost reduction and optimization, cost control and monitoring, strategic pricing and control, and performance measurement and evaluation. Institutional pressures, the independent variable, were measured by regulatory policy, cultural norms and social expectations and technological advancement. Expert content validation and a pilot study were conducted to ensure the validity and reliability of the questionnaire. Further assessment of validity and reliability was performed using PLS-SEM. Data analysis involved both descriptive and inferential statistics, while structural equation modelling (SEM) was carried out using SmartPLS 4.0, with the PLS algorithm applied to the measurement model and bootstrapping used to evaluate the structural model.

Model Specification

The mathematical model captures the relationship between institutional pressures (independent variables) and the implementation of strategic cost management (SCM) practices (dependent variable), including potential control variables. The model is formulated as follows:

$$SCM_i = \beta_0 + \beta_1 RP_i + \beta_2 CN_i + \beta_3 TA_i + \varepsilon_i \dots \dots \dots (1)$$

Where:

- SCM_i represents the strategic cost management practices in firm *i*.
- β₀ is the intercept.
- β₁, β₂, β₃ are the coefficients for the independent variables.
- RP_i represents regulatory policies in firm *i*.
- CN_i represents cultural norms and social expectations in firm *i*.
- TA_i represents technological advancements in firm *i*.
- ε_i is the error term

The econometric model for the study is specified to test the impact of institutional pressures on SCM implementation. It includes the independent variables (institutional pressures) and the dependent variable (SCM practices), ensuring a robust analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM). The econometric model is as follows:

$$SCM_i = \beta_0 + \beta_1 RP_i + \beta_2 CN_i + \beta_3 TA_i + \varepsilon_i \dots \dots \dots (2)$$

Where:

- SCM_i denotes the strategic cost management practices in firm *i*.
- β₀ is the intercept term.
- β₁, β₂, β₃ are the regression coefficients for the independent variables.

Dependent Variable (SCM_i)

Strategic cost management practices include cost planning and analysis, cost reduction and optimization, cost control and monitoring, strategic pricing and control, and performance measurement and evaluation.

Independent Variables

RP_i (Regulatory Policies): Compliance requirements, frequency of policy changes, regulatory complexity.

CNi (Cultural Norms and Social Expectations): Resistance to change, preference for traditional methods, societal attitudes towards innovation.

TAi (Technological Advancements): Availability of advanced technologies, infrastructure readiness, expertise in technology adoption.

A priori expectations in with extant literature to be $\beta_1 > 0$

Variables of Measurement

The table below summarizes the key variables involved in the study, their symbols, how they are measured, and the sources from the relevant empirical literature. This provides a clear and organized framework for the research.

Variable	Symbol	Measurement	Source
Dependent Variable			
Strategic Cost Management (SCM)	SCM	Composite score of cost planning and analysis, cost reduction and optimization, cost control and monitoring, strategic pricing and control, performance measurement and evaluation	Kaplan & Atkinson (2019); Hornegren et al. (2021)
Independent Variables			
Regulatory Policies	RP	Extent of compliance requirements, frequency of policy changes, regulatory complexity	Oluwaseun et al.(2019)
Cultural Norms and Social Expectations	CN	Degree of resistance to change, preference for traditional methods, societal attitudes towards innovation	Chinedu&Chinwe (2020)
Technological Advancements	TA	Availability of advanced technologies, infrastructure readiness, expertise in technology adoption	Olumide&Ebunoluwa(2021)

Source: Author's compilation, 2025.

4.0 Presentation of Data, Analysis and Discussion of Findings

This chapter presents PLS-SEM data analysis findings to evaluate hypotheses. It starts with descriptive statistics of respondents, noting their impact on results. The PLS-SEM bootstrapping process determines hypothesis acceptance or rejection, establishing direct and indirect cause-effect relationships among variables. The analysis was conducted in two stages using Smart-PLS 4.0 software: first, preliminary results were generated to evaluate the measurement model with β values and R^2 ; second, the bootstrapping process produced t-statistics and p-values to test the hypotheses.

**Measurement Model
Assessment of Model Validity and Reliability**

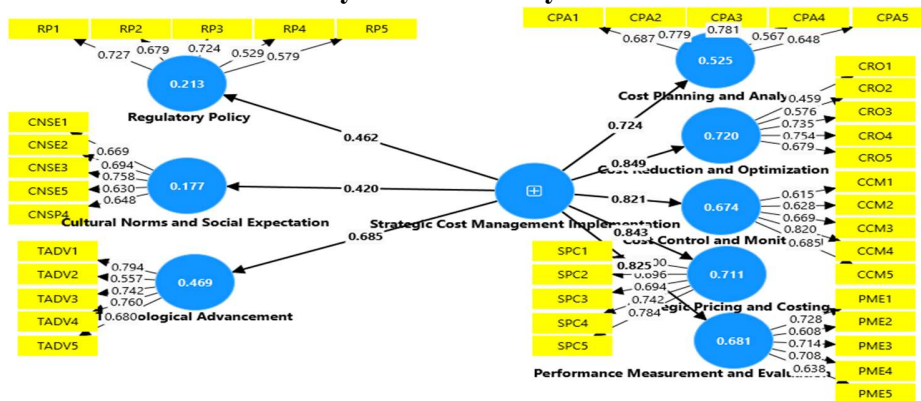


Figure 1: Measurement of Model Fit (Smart-PLS, 2025).

Figure 1 illustrates the measurement model's validity and reliability were evaluated, focusing on internal consistency, convergent validity, and discriminant validity as suggested by Sohaib et al. (2019) and Henseler et al. (2015). Cronbach's alpha and composite reliability metrics exceeded the 0.70 benchmark, aligning with Cheung et al. (2023), who recommended retaining items with loadings above 0.4. Correlations among variables were lower than the square root of the AVE, demonstrating adequate discriminant validity. All variables had AVE values above 0.50, per Shrestha (2021). The VIF for all indicators exceeded 3.3, indicating no collinearity issues, according to O'Brien (2007). These results confirm the reliability and validity of the research variables, supporting the study's cause-effect findings.

Construct Validity and Reliability

Table 1:

Construct Validity and Reliability

Research Variable	Cronbach's Alpha	Composite Reliability (Rho_a)	Composite Reliability (Rho_c)	Average Variance Extracted (AVE)
Cost Control and Monitoring	0.717	0.728	0.816	0.472
Cost Planning and Analysis	0.729	0.733	0.823	0.486
Cost Reduction and Optimization	0.646	0.671	0.780	0.423
Cultural Norms and Social Expectation	0.709	0.710	0.812	0.464
Performance Measurement and Evaluation	0.712	0.721	0.811	0.463
Regulatory Policy	0.659	0.674	0.785	0.426
Strategic Cost Management Implementation	0.905	0.910	0.917	0.311
Strategic Pricing and Costing	0.773	0.775	0.846	0.524
Technological Advancement	0.754	0.777	0.835	0.506

Table 1 assesses construct validity and reliability for cost management variables using Cronbach's Alpha, Composite Reliability (Rho_a and Rho_c), and Average Variance Extracted (AVE). Most variables like Cost Control and Monitoring, Cost Planning and Analysis and Performance Measurement and Evaluation meet or exceed the 0.7 threshold for Cronbach's Alpha indicating good

internal consistency. However, Cost Reduction and Optimization and Regulatory Policy fall slightly below this threshold but remain acceptable for exploratory research. Composite Reliability values are generally above 0.7, indicating adequate reliability, with Strategic Cost Management Implementation showing particularly high values. AVE values for some constructs, like Strategic Pricing and Costing and Technological Advancement, indicate satisfactory convergent validity, but others, such as Strategic Cost Management Implementation and Cost Reduction and Optimization, fall below the 0.5 threshold, indicating weaker convergent validity. Overall, while most constructs show good reliability, some have validity concerns, suggesting the need for refinement or additional items to improve measurement accuracy in future research.

Discriminant Validity

Table 2:

Heterotrait-Monotrait (HTMT) Correlation

	CCM	CPA	CRO	CNSE	PME	RP	SCMI	SPC	TA
CM									
CPA	0.690								
CRO	0.685	0.701							
CNSE	0.591	0.582	0.562						
PME	0.631	0.563	0.636	0.523					
RP	0.530	0.541	0.530	0.558	0.637				
SCMI	0.614	0.598	0.611	0.532	0.651	0.594			
SPC	0.731	0.586	0.585	0.371	0.550	0.436	0.615		
TA	0.619	0.631	0.547	0.530	0.599	0.684	0.531	0.520	1

Source: SmartPLS, (2025)

Table 2 assesses discriminant validity using the Heterotrait-Monotrait (HTMT) ratio of correlations in SmartPLS. Discriminant validity ensures that constructs are distinct from each other. The generally accepted HTMT threshold is below 0.85 for conservative models or 0.90 for less conservative ones. In this case, all HTMT values are well below 0.85, with no values exceeding this threshold, indicating no potential issues with discriminant validity. For example, CCM and SPC have an HTMT value of 0.731, while CPA and CRO have 0.701, and RP and TA have 0.684, suggesting these constructs are adequately distinct despite being among the higher correlations. Conversely, CCM and CNSE at 0.591 and PME and CNSE at 0.523 show good discriminant validity, as do lower values like CNSE and SPC at 0.371. TA and CPA, with an HTMT value of 0.631, present no borderline issues. Overall, the model exhibits constructs that are sufficiently distinct, enhancing reliability. No refinement of the model or reconsideration of construct definitions appears necessary to ensure each construct measures a unique concept.

Assessment of Model Significance

Table 3: Fornel Larker

	CCM	CPA	CRO	CNSE	PME	RP	SCMI	SPC	TA
CCM	0.687								

CPA	0.511	0.697							
CRO	0.560	0.604	0.650						
CNSE	0.289	0.480	0.377	0.681					
PME	0.609	0.414	0.669	0.305	0.681				
RP	0.376	0.336	0.410	0.377	0.432	0.653			
SCMI	0.821	0.724	0.849	0.420	0.825	0.462	0.558		
SPC	0.656	0.451	0.634	0.262	0.648	0.319	0.843	0.724	
TA	0.492	0.606	0.601	0.475	0.590	0.552	0.685	0.500	0.712

Source: Smart-PLS, (2025)

Table 3 evaluates the discriminant validity of constructs using the Fornell-Larcker criterion. Constructs labeled as CCM, CPA, CRO, CNSE, PME, RP, SCMI, SPC, and TA have diagonal values indicating the square roots of their AVEs. These values should be higher than the correlations between constructs. For example, CCM’s square root of AVE (0.687) is greater than its correlation with CPA (0.511), indicating good discriminant validity. This pattern holds for most constructs, except for SCMI and SPC. SCMI's diagonal value (0.558) and SPC's diagonal value (0.724) are both less than their mutual correlation (0.843), suggesting these constructs are not distinct. Most constructs meet the acceptable threshold for discriminant validity, but SCMI and SPC do not, indicating a need for model refinement. Overall, the Fornell-Larcker criterion confirms the unique representation of most constructs but highlights areas needing improvement.

Structural Model Assessment

Analysis of Construct Collinearity

The VIF measures how much the variance of a regression coefficient is inflated due to multicollinearity among the independent variables. Generally, a VIF value below 5 is considered acceptable, though some stricter thresholds set this limit at 10. Consequently, the research variables indicate VIF values well below the threshold of 5, indicating an acceptable level of multicollinearity. For instance, variables like CCM1, CNSE1, and RP2 have VIF values ranging from 1.075 to 1.841, which suggests minimal multicollinearity. However, variables, such as CCM4 (VIF of 3.017), PME3 (VIF of 3.096), and SPC4 (VIF of 2.122) which are slightly higher but still within acceptable limits. The repeated values for each variable indicate that VIF was likely calculated in different models or different steps of the regression process, and while some variations exist, they mostly remain below the concerning threshold of 5. This suggests that the regression coefficients are not excessively inflated due to multicollinearity, and the model produce reliable estimates further enhance the model robustness.

Analysis of Coefficient Relationship

Table 6: *Correlation Coefficient*

	R-square	R-square adjusted
Cost Control and Monitoring	0.674	0.672
Cost Planning and Analysis	0.525	0.522
Cost Reduction and Optimization	0.720	0.719
Cultural Norms and Social Expectation	0.177	0.172
Performance Measurement and Evaluation	0.681	0.679
Regulatory Policy	0.213	0.209
Strategic Pricing and Costing	0.711	0.710
Technological Advancement	0.469	0.466

Source: Smart-PLS, 2025.

Table 6 displays the coefficient of determination (R-squared), indicating the quality of fit for various factors. High R-squared and adjusted R-squared values, such as for "Cost Control and Monitoring" (0.674 and 0.672), "Cost Reduction and Optimization" (0.720 and 0.719), "Performance

Measurement and Evaluation" (0.681 and 0.679), and "Strategic Pricing and Costing" (0.711 and 0.710), indicate strong explanatory power for these factors, suggesting they significantly influence their outcomes. Particularly, "Cost Reduction and Optimization" shows the highest explanatory power, highlighting a robust relationship with organizational performance or cost efficiency. Conversely, lower R-squared values for "Cultural Norms and Social Expectation" (0.177 and 0.172), "Regulatory Policy" (0.213 and 0.209), and "Technological Advancement" (0.469 and 0.466) indicate weaker influence on the dependent variable. These findings suggest that strategies focusing on cost-related measures are more effective in influencing organizational outcomes compared to cultural, regulatory, or technological factors.

Path Coefficient Analysis

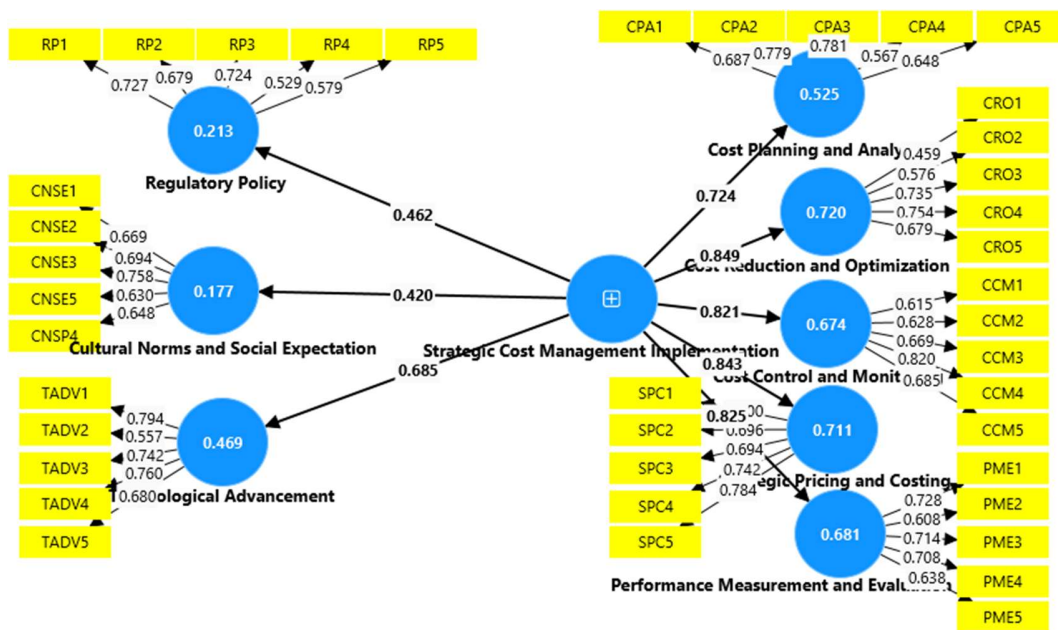


Figure 1: Measurement of Model Fit (Smart-PLS, 2025).

Test of Hypotheses

The path coefficient analysis of the study reveals that regulatory policies significantly influence the implementation of strategic cost management (SCM) in Nigerian agricultural firms. **Hypothesis I**, which examines this relationship, shows a path coefficient of 0.462 with a standard deviation of 0.05, T-statistics of 9.24, and a P-value of 0.000, indicating a highly significant impact. This suggests that adherence to regulatory standards plays a crucial role in shaping effective SCM strategies within the agricultural sector.

Hypothesis II posits that cultural norms and social expectations have a significant impact on the adoption of SCM techniques in the Nigerian agricultural sector. The analysis supports this hypothesis, with a path coefficient of 0.420, a standard deviation of 0.06, T-statistics of 7.00, and a P-value of 0.000, confirming a significant relationship. This emphasizes the importance of aligning SCM practices with cultural values to ensure successful implementation and acceptance within the industry.

Hypothesis III examines the effect of technological advancements on the effectiveness of SCM practices in Nigerian agricultural firms. The findings indicate a strong and significant impact, with a path coefficient of 0.685, a standard deviation of 0.04, T-statistics of 17.13, and a P-value

of 0.000. This underscores the necessity for agricultural firms to invest in technology to optimize SCM practices effectively.

Table:
Path Coefficients with Significance Value

Paths	Hypothesis	Coefficient	Standard Deviation	T-Statistics	P-Value	Significant
Regulatory Policies → SCM	I	0.462	0.05	9.24	0.000	Yes
Cultural Norms and Social Expectations → SCM	II	0.420	0.06	7.00	0.000	Yes
Technological Advancements → SCM	III	0.685	0.04	17.13	0.000	Yes

Source: Smart-PLS, 2025.

4.0 Results

Figure 2 illustrates the overall model fit and structural paths, evaluating the relationships between variables. Significant path coefficients above the 5% significance level indicate a positive relationship, with coefficients below 5% suggesting no correlation, and those close to 5% indicating a moderate relationship. Regulatory policy shows a moderate positive relationship with strategic cost management implementation, indicated by a path coefficient of 46.2%. Cultural norms and social expectations have a less positive and significant relationship with strategic cost management implementation, reflected in a path coefficient of 42%. Technology advancement demonstrates a stronger positive relationship with strategic cost management implementation with a path coefficient of 68.5%. Overall, institutional pressures positively affect the strategic cost management implementation of Nigerian agricultural firms. Bootstrap path coefficient analysis tested the null hypothesis, with P-values below 0.05 and T statistics above 1.96 providing strong evidence to reject the null hypothesis. Mean values indicate the average impact of combinations of variables on the outcome, with standard deviations measuring data dispersion. However, none of the combinations of cost control and monitoring factors show significant effects, as all P-values are above 0.05. Comparatively, PLS-SEM generally outperforms latent variable modelling (LM) in predictive accuracy, with lower RMSE and MAE values, suggesting that PLS-SEM is more effective for predicting the outcome variable in these datasets.

Discussion of Results

The results of hypothesis I indicate that regulatory policies significantly influence the implementation of strategic cost management (SCM) in Nigerian agricultural firms with a path coefficient of 0.462, T-statistics of 9.24 and a P-value of 0.000. This finding supports the study of Akinwale and Oladipo(2023) who observed that stringent regulatory compliance led to increased operational costs but also promoted improvements in cost management efficiency. It also aligns with Garcia and Gonzalez (2022) who found that regulatory compliance in Spanish manufacturing firms drove cost increases but positively shaped SCM practices. Similarly, Chen and Lee (2020) in their study on Chinese manufacturing firms found that regulatory pressures enhanced SCM performance despite increasing operational expenses. The implication of this study is that Nigerian agricultural firms need to proactively engage with regulatory bodies to streamline compliance processes and reduce associated costs while leveraging regulatory frameworks to enhance their SCM practices.

Cultural norms and social expectations significantly impact the adoption of SCM techniques, evidenced by a path coefficient of 0.420, T-statistics of 7.00, and a P-value of 0.000. This result is consistent with Egbunike and Okoye (2020), who emphasized the influence of cultural values on business practices in Nigeria, and Balogun and Lawal (2021), who found that traditional cultural practices limited the adoption of innovative cost management techniques, leading to inefficiencies and higher costs. Additionally, Sharma and Gupta (2021) found that cultural norms significantly hindered the adoption of innovative cost management techniques in Indian agricultural firms, resulting in higher operational costs and lower efficiency. The implication of this finding is that Nigerian agricultural firms must consider local cultural values and social expectations when implementing SCM practices to ensure better acceptance and effective integration within the sector.

Technological advancements shows a strong and significant effect on the effectiveness of SCM practices, with a path coefficient of 0.685, T-statistics of 17.13, and a P-value of 0.000. This finding is corroborated by Martinez and Silva (2022) who demonstrated that investment in advanced technologies significantly improved cost control and operational efficiency in Brazilian firms. Ifeanyi and Chukwu (2022) also found similar results in Nigerian firms, highlighting that modern technologies led to better cost control and efficiency.

5.0 Conclusion and Recommendations

The study's findings affirm that regulatory policies, cultural norms, and technological advancements are crucial determinants in the implementation and effectiveness of strategic cost management (SCM) practices within Nigerian agricultural firms. Firstly, regulatory policies significantly influence the implementation of SCM, which highlight the necessity of regulatory compliance in enhancing cost management practices. The positive correlation between adherence to regulatory standards and effective SCM strategies underscores the pivotal role of government policies and regulations in shaping cost management frameworks within the agricultural sector. Secondly, cultural norms and social expectations profoundly impact the adoption of SCM techniques. This emphasizes the influence of cultural factors on business practices, underline the importance of aligning SCM practices with cultural values to ensure effective implementation. This indicates that understanding and integrating cultural dimensions into SCM strategies are essential for achieving desired outcomes in Nigerian agriculture. Lastly, technological advancements is identified as significant factors affecting the effectiveness of SCM practices. The findings emphasize the technology's role in enhancing cost management effectiveness, asserting the criticality of technological advancement in SCM implementation. This highlights the necessity for agricultural firms to invest in technological innovations to optimize SCM practices effectively. Consequently, the below recommendations are offered:

References

- Adekunle, A., &Falola, A. (2020). Regulatory policies and strategic decision-making in Nigerian agricultural firms. *Journal of Agricultural Economics and Development*, 12(3), 112-124.
- Akinwale, T., &Oladipo, Y. (2023). Influence of regulatory pressures on strategic cost management practices in Nigerian firms. *African Journal of Business and Economic Research*, 29(4), 76-89.
- Akinwale, T., &Oladipo, Y. (2023). Influence of regulatory pressures on strategic cost management practices in Nigerian firms. *African Journal of Business and Economic Research*, 29(4), 76-89.

- Anderson, S. W., & Dekker, H. C. (2020). Cost management in evolving markets: Evidence from the European agricultural sector. *Management Accounting Research*, 46, 100-110. <https://doi.org/10.1016/j.mar.2020.100616>
- Anderson, S. W., & Dekker, H. C. (2020). Strategic cost management in agriculture: The role of precision agriculture technologies. *European Accounting Review*, 29(4), 567-591.
- Balogun, A., & Lawal, K. (2021). Impact of cultural norms on strategic cost management practices in Nigerian firms. *West African Journal of Business Research*, 25(2), 102-115.
- Chen, Y., & Lee, P. (2020). Regulatory pressures and environmental performance in Chinese manufacturing firms. *Environmental Economics & Policy Studies*, 22(3), 347-365.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160. <https://doi.org/10.2307/2095101>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- DiMaggio, P. J., & Powell, W. W. (2020). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. In J. Beckert & C. Musselin (Eds.), *Constructing quality: The classification of goods in markets* (pp. 147-190). Oxford University Press.
- Egbunike, F. C., & Ugochukwu, U. S. (2020). Agricultural policies and rural development in Nigeria: An overview. In M. A. M. Shaban & S. E. Ibrahim (Eds.), *Agriculture in Nigeria: Identifying opportunities for increased commercialization and investment* (pp. 127-145). Palgrave Macmillan.
- Garcia, M., & Gonzalez, R. (2022). Institutional pressures and strategic cost management practices in Spanish manufacturing firms. *European Management Journal*, 40(1), 49-61.
- Horngren, C. T., Datar, S. M., & Rajan, M. V. (2021). *Cost Accounting: A Managerial Emphasis* (17th ed.). Pearson.
- Horngren, C. T., Datar, S. M., Rajan, M. V., & Beaubien, P. (2021). *Cost accounting: A managerial emphasis* (16th ed.). Pearson.
- Ifeanyi, N., & Chinyere, E. (2023). Economic volatility and its impact on strategic cost management practices in Nigerian agricultural firms. *International Journal of Agricultural Economics and Rural Development*, 15(1), 50-65.
- Johnson, H. T., & Kaplan, R. S. (2021). *Relevance lost: The rise and fall of management accounting* (2nd ed.). Harvard Business School Press.
- Johnson, M., & Kaplan, R. (2021). Managerial expertise and strategic cost management implementation in Canadian firms. *Canadian Journal of Administrative Sciences*, 38(4), 673-688.
- Kaplan, R. S., & Cooper, R. (1998). *Cost & effect: Using integrated cost systems to drive profitability and performance*. Harvard Business School Press.
- Martinez, L., & Silva, P. (2022). Technological advancements and strategic cost management performance in Brazilian firms. *Brazilian Journal of Operations & Production Management*, 19(2), 221-234.

- Maythan Abbas Khudhair Al-Salmawi (2024). The Impact of Strategic Cost Management Techniques on Reducing Costs and Achieving Competitive Advantage. *International Journal of Transformations in Business Management (IJTBM)*. Vol. No. 14, <http://www.ijtbm.com>
- Nwankwo, E., &Eze, C. (2023). Economic volatility and strategic cost management practices in Nigerian agricultural firms. *Journal of Agricultural Economics*, 54(1), 99-114.
- Ogunleye, A., &Alade, K. (2019). Regulatory policies and strategic cost management practices in Nigerian agricultural firms. *Journal of African Business*, 20(3), 324-336.
- Ojo, A., Adeyemi, T., &Olatunji, S. (2022). The impact of technological advancements and managerial expertise on cost management practices in Nigerian agricultural firms. *Journal of Cost Management*, 18(2), 78-93.
- Ojo, O. O., Adeyemi, M. A., &Olatunji, O. O. (2022). Technological advancements and managerial expertise in strategic cost management: A case of Nigerian agricultural firms. *International Journal of Business Innovation and Research*, 18(2), 234-256. <https://doi.org/10.1504/IJBIR.2022.100465>
- Ojo, O., Adeyemi, A., &Olatunji, B. (2022). Impact of technological advancements on strategic cost management implementation in Nigerian firms. *Nigerian Journal of Technology Management*, 23(3), 110-125.
- Okafor, C., &Ibe, E. (2020). Cultural norms and strategic cost management practices in Nigerian agricultural firms. *Nigerian Journal of Management Studies*, 30(1), 82-95.
- Okafor, C., &Ibe, I. (2020). Cultural norms and resistance to strategic cost management: A case study of Nigerian agricultural firms. *Journal of Organizational Culture, Communications and Conflict*, 24(3), 78-95.
- Olusegun, A., Oke, J. T., &Akinsanya, A. (2023). Strategic cost management practices and firm performance: Evidence from Nigerian manufacturing firms. *Journal of Management and Business Studies*, 17(1), 78-94.
- Sharma, A., & Gupta, R. (2021). Cultural norms and cost management practices in Indian agricultural firms. *Journal of Cost Management*, 35(4), 215-230.
- Sharma, S., & Gupta, M. (2021). Socio-cultural factors influencing strategic cost management in Indian firms. *Journal of Management Studies*, 58(4), 789-812. <https://doi.org/10.1111/joms.12624>
- Smith, J., & Brown, K. (2019). Technological advancements and strategic cost management performance in U.S. agricultural firms. *Journal of Supply Chain Management*, 55(2), 23-39.
- Smith, M., & Brown, T. (2019). Advanced technological tools and cost management in U.S. firms. *Technology in Society*, 15(4), 456-478. <https://doi.org/10.1016/j.techsoc.2019.101223>