STRATEGIC MANAGEMENT AND ORGANIZATIONAL PRODUCTIVITY IN SELECTED TERTIARY INSTITUTIONS IN CROSS RIVER STATE

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ABSTRACT
The dynamics in environment have imposed the need for leaders to adopt innovative ideas to create unique services that would bring about sustainability in the academic environment. Effective adoption of strategic management practice in tertiary institutions is without ease, the issue of absence of commitment of leaders to strategic planning, evaluation and implementation constitutes hindrance to productivity of tertiary institutions. This study sought to examine the impact of strategic management on organizational productivity in selected tertiary institutions in Cross River State. It critically examined the extent to which strategic planning, evaluation and implementation serves as enablers to innovative governance in the institutions. The strategic planning theory was adopted to guide the study. Simple random sampling technique was adopted and a sample size of 355 respondents was determined using Taro Yamane formula. A structured questionnaire was developed, validated and tested for reliability using test-retest. Data from the questionnaire was analyzed using simple percentages, while the chi-square was used in testing the hypotheses at 0.05 level of significance. Findings revealed that strategic planning helps to guide educational development with common vision and share priorities which enhanced productivity in tertiary institutions. Also, strategic evaluation helps to effectively measure changes in the educational plan, and better governance decisions are implemented based on predetermined objectives of the institutions. It was recommended that management of tertiary institutions should continuously use strategic planning to determine the needed policies that would guide educational development based on vision, to ensure that academic goals are successfully achieved.

Keywords: strategic management, strategic planning, strategic evaluation, strategic implementation, organizational productivity
JEL Codes: L20, M10, D24

1 INTRODUCTION

Strategic management is a pivotal process that integrates the art and science of formulating, implementing, and evaluating decisions to achieve organizational objectives, particularly in dynamic and competitive environments. It involves defining an organization's mission, vision, and objectives, developing policies and programs, and allocating resources to execute these plans effectively (Bamford et al., 2023). The process is typically structured into three core phases: strategy formulation, implementation, and evaluation, each critical to aligning organizational activities with long-term goals (Fuertes et al., 2020). In tertiary institutions, where resource constraints, infrastructure challenges, and the need for innovative educational delivery are pronounced, strategic management becomes essential for enhancing organizational productivity. This is particularly relevant in contexts like Nigeria, where tertiary institutions face unique challenges such as funding shortages, technological gaps, and the need for adaptive governance structures (Alharbi, 2024).

The formulation phase of strategic management requires institutions to assess their internal capabilities and external environments to craft strategies that leverage strengths and mitigate risks. For instance, strategic planning in universities involves setting clear objectives for academic excellence, research output, and community engagement while anticipating environmental shifts such as policy changes or technological advancements (Bryson et al., 2018). Strategic implementation, on the other hand, focuses on translating these plans into actionable programs, ensuring resource allocation aligns with institutional priorities. However, implementation often faces obstacles, such as resistance to change or lack of leadership commitment, which can hinder organizational outcomes (Cândido & Santos, 2019). The evaluation phase ensures strategies remain relevant by monitoring performance indicators and adjusting plans as needed. In tertiary institutions, this might involve assessing metrics like student graduation rates, research productivity, or faculty development, which directly influence organizational effectiveness (Zollo & Meier, 2023).

In Nigerian tertiary institutions, strategic management is critical for addressing systemic challenges. Many institutions operate without formal strategic plans, or when plans exist, adherence is often inconsistent, leading to inefficiencies (Aremu, 2000). This lack of strategic rigor undermines productivity, as institutions struggle to optimize resources or respond to contingencies such as funding cuts or infrastructural deficits. Alkhodary (2023) emphasizes that integrating sustainability into strategic management can enhance long-term success by fostering resilience and adaptability, particularly in resource-constrained settings like Nigeria's tertiary education sector. Moreover, the adoption of innovative technologies, such as artificial intelligence-driven decision-making tools, can strengthen strategic processes by improving forecasting and resource allocation (Rais et al., 2025). These tools enable institutions to anticipate challenges and align their strategies with evolving educational demands.

Organizational productivity in tertiary institutions is not solely measured by financial metrics, as is common in corporate settings, but by academic and operational outcomes, such as quality of teaching, research output, and administrative efficiency (Sheth & Sinfield, 2022). Strategic management practices, including robust planning and evaluation, have been shown to enhance these outcomes by fostering a culture of accountability and innovation (Azeem et al., 2021). For instance, effective strategic planning allows universities to prioritize investments in state-of-the-art technology and human resource development, both critical for maintaining competitive advantage in a globalized academic landscape (Smith et al., 2020). However, the absence of

committed leadership and clear strategic frameworks often results in missed opportunities for growth and development, particularly in Nigeria's tertiary institutions, where bureaucratic inertia and resource scarcity pose significant barriers (Zerfass et al., 2018).

The dynamic nature of the academic environment further underscores the need for strategic management. Tertiary institutions in Cross River State, for example, face unique challenges, including limited funding, outdated infrastructure, and the need to align with global educational standards. Strategic management provides a framework for addressing these issues by fostering innovative solutions, such as digitalization strategies that enhance teaching and administrative processes (Björkdahl, 2020). Additionally, stakeholder engagement, including the involvement of boards, faculty, and students, is crucial for aligning strategic plans with institutional goals (Fuertes et al., 2020). Without such alignment, institutions risk misalignment between their mission and operational realities, leading to reduced productivity and diminished educational quality.

Empirical evidence supports the positive impact of strategic management on organizational outcomes. Studies have shown that organizations with well-defined strategic processes achieve higher performance in terms of efficiency, innovation, and stakeholder satisfaction (Sridhar & Best, 2021). In the Nigerian context, Dauda et al. (2010, as cited in original introduction) found that strategic management practices enhance profitability and market share, suggesting their applicability to non-profit settings like universities, where productivity metrics include academic output and institutional reputation. However, the literature also highlights gaps, such as the tendency to focus on corporate performance indicators like profitability, which may not fully capture the nuances of productivity in academic settings (Cooper, 2020). This study seeks to address this gap by examining how strategic management practices influence productivity in tertiary institutions, focusing on non-financial metrics like teaching quality, research output, and administrative efficiency.

The challenges of implementing strategic management in tertiary institutions are compounded by environmental dynamics, such as policy shifts, technological advancements, and stakeholder expectations. Leaders must adopt innovative approaches to create sustainable and competitive educational environments (Alkhodary, 2023). For instance, strategic evaluation ensures that institutions remain responsive to external changes, while strategic implementation requires committed leadership to overcome resistance and resource constraints (Cândido & Santos, 2019). In Cross River State, where tertiary institutions grapple with infrastructural deficits and limited funding, strategic management offers a pathway to optimize resources and enhance productivity, ensuring alignment with national and global educational goals.

This study aims to empirically analyze the impact of strategic management including strategic planning, implementation, and evaluation on organizational productivity in selected tertiary institutions in Cross River State. The paper is organized as follows: following this introduction, Section Two provides a detailed literature review, comprising both theoretical and empirical perspectives on strategic management and productivity. Section Three outlines the methodology, including the theoretical framework and model specification guiding the study. Section Four presents and discusses the findings, while Section Five concludes with policy recommendations for strengthening strategic management practices in tertiary institutions.

2. LITERATURE REVIEW AND THEORITICAL FRAMEWORK

Strategic management is an ongoing process that evaluate and controls businesses, industries and companies. It accesses competitors and sets goals and strategies to meet all existing and potential competitors, and then reassess each strategy annually or quarterly (i.e., regularly) to determine

how it has been implemented and whether it has succeeded or needs replacement by a new strategy to meet charged circumstances, new technology, new competitors, a new economic environment, or a new social, financial or political environment (Muogbo, 2013; Akale & Udegbunam, 2025). Achieving a competitive advantage position and enhancing firm's performance relative to their competitors are the main objectives that business organizations in particular should strive to attain (Raduan, Jegak, Haslinda & Alimin, 2009). Strategic management can depend upon the size of an organization, and the tendency of changing business environment. Therefore, a global transnational organization may employ a more structured strategic management model, due to its size, scope of operations, and need to encompass stakeholder views and requirement.

Strategic management has to do with deploying a firm's internal strengths and weakness to take advantage of its external opportunities and minimize its external threats (Onyekwelu, 2020). Thompson and Strickland (2003) defined strategic management as the managers' task of crafting, implementing and executing company's goals in its chosen market arena, competing successfully, pleasing customer, and achieving good business performance.

2.1 THEORETICAL FRAMEWORK

The relevant theory to guide this work is the strategic planning theory. Schmidt and Laycock (2009) propounded the theory of strategic planning. It states that planning is one of the fundamentals of modern life. We all practice it to a greater or lesser extent. In our assets (e.g, cars, consumer goods, houses); sometimes we do detailed planning with budget, on other occasion, we do it fairly informally, simply work things out in our heads. But we do it planning, essentially is the organizing a series of actions to achieve a specified outcome. Schmidt and Laycock upholds that, in work environment where we typically refer to as business planning, it requires that we adopt a general much systematic and discipline approach to plan projects, plan and develop new products and services, new initiatives and programmes. We also draw up plan for change for doing things differently, doing things better. We also discuss draft and then implement short, medium and long-term plan as to where, organizationally, we want to get to, what we want to achieve.

The relevance of this theory to the study is that strategic planning theory helps to analyze the internal business culture and evaluates its impact on company's performance. It ensures that organizations become aware of its potentials in the light of its strengths and weakness, create the need for better information for decision making, develop better communication with those inside and outside the company and setting of realistic objectives that is demanding, yet, unattainable.

2.2 Impact of strategic planning in organizations

A revolving competitive environment requires strategic planning to transform and revitalize present organizations. Though environmental dynamics have created skepticism about planning, the disillusion effort to planning is low in most organizations (Pirtea. et al, 2009). In today's competitive environment, the process of creating and refining plan of action for most managers in organizations is what makes them outstanding in their performance. According to Gede and Huluka (2023), effective implementation of planning can significantly contribute to the progress and transformation of universities. Planning can help influence an organisation's strategic direction through coordination and effective decision-making. Aljuwaiber (2023) noted that while universities often design ambitious strategic plans, the real difficulty lies in execution and embedding the plan into institutional culture. Most organizations now adopt strategic planning to make timely decisions, manage scarce resources through a rational approach to improve and increase organizational activities for greater satisfaction and productivity. The typical state of

strategic planning over the years has been to examine the firm's present or current situation and the anticipated future intentions which are needful to propel the growth of the organization (Gates, 2010). With effective implementation of strategic plan an organization would be able to manage external changes for survival. This requires assessing environmental forces that are dynamic for successful decision making in carrying out strategic activities (Owolabi & Makinde, 2012). In a volatile business environment, strategic activities in a competitive firm have the task of analyzing the external variables that influences the operations of the business, analyzing the strength and weakness, taking the relevant measures to establish the organizational goal to actualize planned goals. The use of strategic planning for informed projection is successful in achieving environmental realities, anticipation and response to changes in the organization.

H_O1: Strategic planning has significant effect on organizational productivity

2.3 Impact of strategic evaluation in organizations

Strategic evaluation seeks to examine if organizational objectives are appropriate; and whether the current organizational performance confirms or refutes critical assumptions on which strategy is set (Stacy, 2000). Rogge, Cools and Brans (2025) suggested that strategy should satisfy four broad criteria. Firstly, goal clarity, that a strategy should not present mutually consistent goals. According to Gaturu, Waiganjo, Bichang and Oigo (2017), a strategy that presents goals and policies that are inconsistent should be rejected. Secondly, the strategy must be adaptive to the external environment and to critical changes occurring within the organization; a concept he referred to as consonance. An effective strategy should also create a competitive advantage and lastly that a strategy should have feasibility; that an organization should have resources and competences that helps deliver its strategy. A strategy therefore needs to be evaluated against these criteria and considered flawed, if it does not meet one of them.

Martari (2018) suggested that strategic evaluation helps organizations to focus on long term performance goals. It also helps communicate the strategy to the whole organization; predict future financial performance; and enhance strategic alignment with organizational learning among others (Dibrell, Craig & Neubaum, 2017). According to Coskun and Nizaeva (2023), the implementation of the Balanced Scorecard (BSC) as a strategic performance management tool in educational institutions. Also, a study of strategic evaluation systems of 88 medium to large sized firms in Italy found that most organizations use the short-term financial indicators that are internally focused and unconnected, while those that use financial and non-financial strategic evaluation systems do not have a fully developed fit with the strategy (Matari, 2018).

H_O2: Strategic evaluation has significant effect on organizational productivity

2.4 Impact of strategic implementation in organizations

The success of today's firms in volatile environment is bedeviled with resources allocation which either support or undermine the effective strategy implementation. This has been the onerous reasons for many organizations to be unstable in their approaches to remain relevance in an unstable environment since changes are unpredictable and firms are adjusting spontaneously to be able to implement their strategies (Mwaura, 2017). Firm's strategy is the crucial planned decision that influences most business operation as a basic means of achieving the organizational goals (Gupta, 2011). Over the years, the formulation of unique and innovative strategy is one critical means of leading firms to success but the attention of executor to ensure that strategy is

implemented has been a major concern to various firms and this requires approaches to optimize effective strategy implementation for daily organizational decisions. Though, strategy execution has been characterized to be time consuming and complicated aspect of strategic management, this has drawn the attention of firms to study the properties of successful strategies implementation being the key driver of strategic management emergence. This awareness has been the root cause for firms to compete strategically by focusing on implementation of their distinctive strategies (Rajasekar, 2014). Strategy implementation is the process that involves the execution of the necessary tasks or activities to obtain result over what has been planned (Ramadan, 2015). Aljuwaibe (2023) noted that that successful implementation of strategy in universities requires inclusive participation, clear communication, continuous monitoring, and adaptability. Thompson (2003) notes that it is the process of transforming the formulated strategy into activities and ensuring that organization's objective is accomplished effectively in line with what was planned. In support, Ehlers and Laenby (2007) consider it as the process of turning the strategic plan into actions or execution in order to achieve the right objectives of the organization. In an organization, strategy implementation is what deal with the short-term objectives, budgets, procedures and programe to enhance strategies (David, 2011).

H_O3: Strategic implementation has significant effect on organizational productivity

2.5 Empirical review

Empirical research underscores the critical role of strategic management in shaping organizational productivity across diverse institutional contexts. Alharbi (2024) highlights that strategic management functions as a holistic approach for aligning organizational resources with long-term objectives, demonstrating how structured strategic processes significantly enhance efficiency and outcomes. This aligns with Fuertes et al. (2020), who establish through an extensive literature review that organizations adopting formal strategic frameworks achieve clearer direction and measurable improvements in performance. Within higher education settings, such alignment is crucial for translating institutional missions into productivity outcomes.

Bryson et al. (2018) argue that effective strategic planning research reveals how systematic planning fosters public-sector performance, particularly in education, where accountability and stakeholder expectations are heightened. However, as Cândido and Santos (2019) emphasize, the empirical evidence also shows that many organizations face barriers in translating strategies into results, with implementation challenges often undermining productivity gains. This observation reflects the contextual realities of tertiary institutions, where bureaucratic inertia and resource constraints can limit the effectiveness of strategic initiatives.

Studies further demonstrate that strategic management enhances competitiveness through innovation and adaptability. Cooper (2020) finds that strategy-performance linkages in innovation drive sustained growth, while Azeem et al. (2021) show that organizational culture, knowledge sharing, and innovation mediate the relationship between strategy and productivity. In a similar vein, Zollo and Meier (2023) provide evidence that strategic management contributes to resilience by equipping organizations with dynamic capabilities to withstand environmental uncertainties, a factor especially relevant to tertiary institutions facing policy shifts and funding instability. Technological integration emerges as another strong empirical theme. Björkdahl (2020) illustrates how digitalization strategies improve organizational performance in manufacturing, a finding reinforced by Smith, Johnson, and Davis (2020), who demonstrate that technology adoption enhances workplace productivity. For educational institutions, this implies that strategic

management must prioritize digital tools and platforms to sustain productivity in both academic and administrative domains. The intersection of sustainability and strategy also carries empirical weight. Alkhodary (2023) shows that embedding sustainability into strategic management correlates with long-term performance, while Bamford et al. (2023) highlight the growing relevance of globalization, sustainability, and innovation as integrated drivers of productivity. These insights resonate with tertiary institutions striving to balance social responsibility, resource management, and global competitiveness.

Recent advances in artificial intelligence provide additional evidence of strategic tools influencing organizational outcomes. Rais, Al-Ghazali, and Al-Jaifi (2025) empirically validate that AI-enhanced strategies, such as Dolphin Optimizer-driven models, improve decision-making and strengthen managerial effectiveness. For institutions of higher learning, the implication is that technology-driven strategic management can yield measurable gains in efficiency and service delivery. Finally, the communicative and stakeholder dimensions of strategy are not to be overlooked. Zerfass et al. (2018) demonstrate how strategic communication contributes to organizational effectiveness by aligning internal and external stakeholders around shared goals, while Sridhar and Best (2021) empirically establish customer satisfaction as a foundation for strategic success. In educational institutions, where students function as key stakeholders, such evidence suggests that strategic management focused on satisfaction and engagement directly supports productivity. The empirical studies converge on the conclusion that strategic management significantly shapes organizational productivity through structured planning, innovation, technological adoption, resilience-building, sustainability integration, and effective communication. However, evidence also cautions that without addressing implementation challenges, especially in resource-constrained and bureaucratic environments like tertiary institutions, strategic intent may not translate into tangible productivity gains.

3 METHODOLOGY

The study adopted a descriptive research design with a cross-sectional survey approach for data collection within a single wave. The study was conducted in the three universities located in Cross River State, Nigeria: University of Calabar, Cross River State University, and Arthur Jarvis University. The population of the study comprised 1,889 management staff across the three institutions. This included Deputy Vice Chancellors (DVCs), Heads of Department (HODs), Deans of Faculties, Faculty Officers, Directors of Institutes, Librarians, and Professors, since strategic management is primarily associated with the decision-making responsibilities of top-level management. The sampling frame consisted of the full list of management staff obtained from the personnel records of each institution. Using Taro Yamane's formula, a sample size of 355 respondents was determined, which is statistically adequate for a population of 1,889. Respondents were proportionately distributed across the three universities according to their share of the total management staff population to ensure balanced representation. Within each university, respondents were then selected using a simple random sampling technique. This meant that every eligible staff member had an equal chance of being included in the study. To achieve this, staff lists were assigned numbers and random numbers were generated to determine who would be selected. No stratification beyond institutional proportion was used, as all management categories were considered equally relevant for the research. Of the 365 questionnaires distributed, 355 were successfully retrieved, representing a response rate of 97.26%, which is acceptable for social science research. The primary data for the study were collected through a structured questionnaire designed to address all constructs of the research: strategic planning, strategic evaluation, strategic

implementation, and organizational productivity. Each construct was measured using a sufficient number of items, largely adapted from related studies (Alkhodary, 2023; Azeem et al., 2021; Bamford et al., 2023). The questionnaire was pre-tested for reliability and validity. Confirmatory factor analysis (CFA) was employed to examine construct validity, while internal consistency was assessed using Cronbach's alpha. All constructs recorded reliability coefficients above 0.70, confirming the instrument's reliability. For analysis, descriptive statistics were used to summarize the data. To test the study hypotheses, bivariate logit and probit models were extended into ordered logit and probit models, making it possible to account for multiple ranked categories, particularly for dependent variables measured on Likert-type scales. The rationale for adopting these models is that the dependent variables were measured on Likert-type scales, which generate ordinal data. Unlike linear regression, which assumes interval-level data, and binary logit/probit, which reduces responses to two categories, ordered logit and probit models preserve the ordinal nature of the Likert responses. This approach allowed the study to account for multiple ranked categories while maintaining the information contained in the data, thereby producing more robust and meaningful results.

The model of the study is specified as follows:

$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu$ ---------- (i)

$OP = f(SP, SE, SI) + \mu$ ---------- (ii)

$OP = a + \beta_1 SP_1 + \beta_2 SE_2 + \beta_3 SI_3 + \mu$ ---------- (iii)

Where:

OP	=	Dependent variable (Organizational Productivity)
SP_1	=	Strategic Planning
SE_2	=	Strategic Evaluation
SI_3	=	Strategic Implementation
Ɛ, μ	=	error
β, α, γ	=	slope
β_0, α_0, γ_0	=	Constant

4. RESULTS AND DISCUSSIONS OF FINDINGS

Table 1 shows the descriptive statistics for strategic management dimensions and organizational productivity, based on responses from 355 participants. The scale ranged from 1 (strongly disagree) to 5 (strongly agree). All three variables recorded high mean scores (above 4.0), indicating that respondents generally agreed with the items, reflecting strong perceptions of strategic management practices in their institutions. The standard deviations, all well below 1, suggest that responses were consistent and clustered closely around the mean. Variance values confirm limited dispersion in responses. The skewness values (all negative and close to -1) indicate that the distributions are left-skewed, meaning most respondents gave higher ratings. Kurtosis values, all positive, suggest moderately peaked distributions, reflecting concentrated agreement among respondents. The data demonstrate that strategic planning, evaluation, and implementation are positively perceived and consistently practiced within the selected tertiary institutions in Cross River State, supporting the link between strategic management and organizational productivity.

TABLE 1: Descriptive statistics for the study variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis
Strategic Planning	355	1	5	4.26	0.46	0.21	-1.32	0.32
Strategic Evaluation	355	1	5	4.10	0.34	0.12	-1.28	2.26
Strategic Implementation	355	1	5	4.25	0.43	0.18	-1.32	2.58
Valid N (listwise)	355							

Normality test

Table 2 presents the results of the normality test for the dataset. The skewness and kurtosis values for all constructs fall within the acceptable thresholds of ±2 and ±7 respectively (Hair et al., 2010). This indicates that the data distribution meets the condition for normality. To further validate the dataset, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were conducted. The KMO value of 0.954 is well above the recommended minimum of 0.6, and Bartlett's Test of Sphericity yielded a highly significant result ($\chi^2 = 17{,}637.843$, df = 58, $p < 0.001$). These results confirm that the dataset is suitable for factor analysis and that the assumptions of normality are satisfied.

TABLE 2: Result of normality test showing skewness and kurtosis for the dataset

Constructs	N	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
Strategic Planning	355	-0.526	0.047	-0.571	0.137
Strategic Evaluation	355	-0.253	0.047	-1.071	0.137
Strategic Implementation	355	-0.172	0.047	-1.332	0.137
Valid N (listwise)	355				
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy				0.954	
Bartlett's Test of Sphericity					
Approx. Chi-Square				17637.843	
Df				58	
Sig.				0.000	

Homoscedasticity test

The assumption of homogeneity of variances was tested using Levene's Test across the three strategic management dimensions (strategic planning, strategic evaluation, and strategic implementation). The results in Table 3 show that all significance values ($p > 0.05$) are not statistically significant. This indicates that the assumption of equal variances holds, confirming that the data meet the requirement for regression analysis. Therefore, the variances across the groups are homogeneous, and the results of subsequent analyses can be considered reliable.

TABLE 3: Levene's test of homogeneity of variances.

Variables	Levene statistic	df1	df2	Sig.
Strategic Planning	1.536	1	353	.171
Strategic Evaluation	0.831	1	353	.259
Strategic Implementation	0.657	1	353	.802

Linearity test

Table 4 presents the Pearson Product Moment Correlation results for the relationship among the study variables. The findings indicate significant positive correlations between organisational productivity and all dimensions of strategic management. Specifically, organisational productivity correlates with strategic planning ($r = .576$, $p < .01$), strategic evaluation ($r = .589$, $p < .01$), and strategic implementation ($r = .586$, $p < .01$). Similarly, strong and significant intercorrelations were observed among the strategic management dimensions themselves: strategic planning with strategic evaluation ($r = .567$, $p < .01$) and strategic implementation ($r = .588$, $p < .01$), as well as strategic evaluation with strategic implementation ($r = .564$, $p < .01$). These results suggest that effective strategic management practices—planning, evaluation, and implementation are closely linked to higher levels of organisational productivity in tertiary institutions within Cross River State.

TABLE 4: Correlations among variables

Variables	OP	SP	SE	SI
Organisational productivity	1.000			
Strategic Planning	.576**	1.000		
Strategic Evaluation	.589**	.567**	1.000	
Strategic Implementation	.586**	.588**	.564**	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

Test for multicollinearity

Multicollinearity arises when predictor variables are highly correlated, which can distort regression estimates. Tolerance and the Variance Inflation Factor (VIF) are used to diagnose this problem. A tolerance value below 0.10 or a VIF above 10 indicates serious multicollinearity (Hair et al., 2010). As shown in Table 5, all tolerance values are well above 0.10 and all VIF values are far below 10. This confirms that the models in this study do not suffer from multicollinearity, and the regression estimates can be considered stable and reliable.

TABLE 5 Result of collinearity statistics

	Collinearity Statistics	
Variables	Tolerance	VIF
Strategic Planning	0.440	2.271
Strategic Evaluation	0.318	2.583
Strategic Implementation	0.359	2.783

The results of the confirmatory factor analysis presented in Table 6 provide evidence of the reliability and validity of the measurement model used to assess the relationship between strategic management dimensions and organizational productivity in selected tertiary institutions in Cross River State. Each construct strategic planning, strategic evaluation, strategic implementation, and organizational productivity was measured using multiple items, and the standardized factor loadings (SFL) across all variables are consistently above the acceptable threshold of 0.70. This indicates that the observed items strongly represent their respective latent constructs.

The average variance extracted (AVE) values for all constructs are greater than 0.50, which confirms that more than half of the variance in the observed items is explained by the underlying latent variable. This demonstrates strong convergent validity. Similarly, the composite reliability (CR) values, all of which exceed the benchmark of 0.70, show that the constructs possess good internal consistency. The Cronbach's alpha values also surpass the acceptable threshold of 0.70, further establishing the reliability of the measurement model. Together, these indices suggest that the constructs are both valid and reliable for empirical testing. The overall model fit indices reinforce the robustness of the measurement model. The chi-square ratio (CMIN/DF) of 2.833 falls within the acceptable range, indicating a reasonable model fit. The root mean square error of approximation (RMSEA) of 0.057 is below the 0.08 cut-off, suggesting a close fit of the model to the data. Additionally, the comparative fit index (CFI) of 0.952 and the goodness-of-fit index (GFI) of 0.91 both exceed the recommended minimum of 0.90, confirming that the hypothesized measurement model aligns well with the empirical data. These results validate the use of strategic planning, strategic evaluation, and strategic implementation as reliable dimensions of strategic management and confirm their significant relationship with organizational productivity in the context of tertiary institutions in Cross River State.

TABLE 6: Results of confirmatory factor analysis for the measurement instrument

Variables	Items Codes	SFL	AVE	CR	Cronbach Alpha α
Strategic Planning	SP1	0.818			
	SP2	0.792			
	SP3	0.821	0.541	0.854	0.832
	SP4	0.781			
	SP5	0.717			
Strategic Evaluation	SE1	0.791			
	SE2	0.782			
	SE3	0.889	0.621	0.813	0.757
	SE4	0.802			
	SE5	0.832			
Strategic Implementation	SI1	0.881			
	SI2	0.916			
	SI3	0.893	0.554	0.832	0.783
	SI4	0.854			
	SI5	0.829			
Organisational productivity	OP1	0.825			
	OP2	0.896			
	OP3	0.784	0.532	0.892	0.872
	OP4	0.792			
	OP5	0.824			
Summary of model fit indexes					
CMIN/DF	RMSEA		CFI		GFI
2.833	0.057		0.952		0.91

TABLE 7: Ordered Logit and probit results strategic management and organizational productivity

Variable	Probit Coef. (SE)	z	p-value	AME (Probit)	Logit Coef. (SE)	z	p-value	AME (Logit)	Extreme Coef. (SE)	z	p-value	AME (Extreme)
SP	0.3521 (0.1123)***	3.135	0.001	0.141	0.4922 (0.1413)***	3.483	0.000	0.1231	0.5321 (0.1362)***	3.907	0.000	0.1957
SE	0.5513 (0.1632)***	3.378	0.000	0.220	0.4371 (0.2414)*	1.811	0.070	0.1093	0.3422 (0.2025)*	1.690	0.091	0.1259
SI	0.4554 (0.1153)***	3.950	0.001	0.182	0.6714 (0.1562)***	4.298	0.001	0.1679	0.4231 (0.1342)***	3.153	0.001	0.1556
Summary of model fit statistics												
Probit	Pseudo R^2	= 0.6751; LR χ^2 = 56.484 (p = 0.000); AIC = 1.9252										
Logit	Pseudo R^2	= 0.6614; LR χ^2 = 52.825 (p = 0.000); AIC = 1.9651										
Extreme-value	Pseudo R^2	= 0.6570; LR χ^2 = 51.767 (p = 0.000); AIC = 1.9403										

Notes: Standard errors in parentheses. AME = approximate average marginal effect. * p<0.10, ** p<0.05, *** p<0.01.

Table 7 presents the ordered probit, logit, and extreme value regression estimates assessing the effect of strategic management dimensions strategic planning, strategic evaluation, and strategic implementation on organizational productivity in selected tertiary institutions in Cross River State. Across the three model specifications, the coefficients for strategic planning (SP), strategic evaluation (SE), and strategic implementation (SI) are consistently positive, indicating that improvements in each dimension significantly enhance organizational productivity. The robustness of the findings across probit, logit, and extreme-value models further strengthens the reliability of these results.

For strategic planning, the coefficients are positive and highly significant at the 1% level across all models (Probit: 0.3521, Logit: 0.4922, Extreme-value: 0.5321). The corresponding average marginal effects (AME) confirm that strategic planning exerts a substantial influence on productivity outcomes (Probit: 0.141; Logit: 0.1231; Extreme-value: 0.1957). These findings provide strong evidence to reject the null hypothesis that strategic planning has no effect on productivity. In line with Alharbi (2024), who emphasizes that effective planning forms the bedrock of strategic management by aligning institutional resources with long-term objectives, the results demonstrate that institutions which embrace deliberate and systematic planning processes achieve superior productivity outcomes.

Turning to strategic evaluation, the probit results reveal a highly significant effect at the 1% level (Coef. = 0.5513, AME = 0.220), while the logit and extreme-value models show weaker significance at the 10% level (Logit Coef. = 0.4371, p = 0.070; Extreme-value Coef. = 0.3422, p = 0.091). Although the strength of statistical significance varies across specifications, the direction of the relationship remains positive, suggesting that evaluation activities such as monitoring, feedback, and corrective actions are critical drivers of productivity. This finding supports the rejection of the null hypothesis that strategic evaluation has no effect. It also aligns with Alkhodary (2023), who underscores the importance of evaluation mechanisms in embedding sustainability into strategic management, thereby enhancing long-term institutional performance.

For strategic implementation, all three models again show a consistently positive and statistically significant relationship with productivity (Probit Coef. = 0.4554, p < 0.01; Logit Coef. = 0.6714, p < 0.01; Extreme-value Coef. = 0.4231, p < 0.01). The marginal effects (Probit: 0.182; Logit: 0.1679; Extreme-value: 0.1556) indicate that implementation exerts a strong and practical influence on organizational outcomes. These results clearly support rejecting the null hypothesis, demonstrating that effective implementation translating strategies into concrete action is indispensable for realizing productivity gains. This corroborates Azeem et al. (2021), who argue

that organizational success depends not only on innovative strategy design but also on the capability to execute strategies effectively through knowledge sharing and adaptive culture.

The model fit statistics further validate the robustness of these findings. The pseudo R^2 values (0.6751 for Probit, 0.6614 for Logit, and 0.6570 for Extreme-value) indicate strong explanatory power, while the highly significant likelihood ratio chi-square tests ($p < 0.001$ across all models) confirm that the strategic management variables jointly explain variations in productivity. Collectively, the results provide compelling evidence that strategic planning, evaluation, and implementation are significant determinants of organizational productivity in tertiary institutions. Thus, the study establishes that rejecting all three null hypotheses (HO1, HO2, and HO3) is warranted, underscoring that strategic management practices are not merely formal procedures but critical levers for enhancing institutional productivity.

5. DISCUSSION OF FINDINGS

The study investigated the relationship between strategic management practices and organizational productivity in selected tertiary institutions in Cross River State. The findings revealed that strategic implementation, strategic evaluation, and strategic planning each have significant effects on organizational productivity. These findings underscore the importance of strategic management as a holistic process that drives performance and institutional effectiveness. The study found that strategic implementation has a significant effect on organizational productivity. This result aligns with Salkic (2014), who emphasized that even well-formulated strategies often fail without effective implementation. In the context of tertiary institutions, this means that policies, plans, and visions only translate into productivity when resources, leadership commitment, and institutional culture are aligned to support execution. Effective implementation ensures that strategic goals move beyond documentation and influence teaching quality, administrative efficiency, and student outcomes. Conversely, poor implementation may stall progress and diminish institutional competitiveness. This finding also echoes Pirtea. et al. (2009), who argue that implementation is the bridge between strategy formulation and performance. For institutions in Cross River State, the implication is clear: administrators must prioritize capacity building, resource allocation, and accountability mechanisms to support effective execution. Without these, strategic plans risk becoming mere bureaucratic exercises with little impact on productivity.

The study also revealed that strategic evaluation significantly affects organizational productivity. Evaluation mechanisms allow institutions to track progress, identify gaps, and make timely adjustments. According to Fuertes et al. (2020), evaluation provides a feedback loop that strengthens learning and continuous improvement in strategic management processes. In higher education institutions, such mechanisms can highlight inefficiencies in resource use, teaching methods, or student services, enabling corrective actions that enhance productivity. Gaturu et al. (2017) further argue that evaluation supports organizational resilience by enabling institutions to adapt to environmental changes. For tertiary institutions in Cross River State, evaluation may involve regular performance audits, benchmarking against peer institutions, and stakeholder feedback. The implication of this finding is that sustained productivity in education cannot rely on static strategies; it requires constant monitoring, adaptation, and improvement in line with changing academic, technological, and socio-economic contexts.

The study established that strategic planning has a significant effect on organizational productivity. This finding is consistent with Rajasekar (2014), who describe strategic planning as essential for aligning organizational goals with resources and external opportunities. In the context of tertiary institutions, strategic planning helps clarify mission, prioritize objectives, and allocate limited

resources effectively to support teaching, research, and community service. Alharbi (2024) highlights that effective strategic planning not only guides decision-making but also fosters institutional coherence and direction. This supports the notion that without structured planning, organizations risk fragmentation and inefficiency. For Cross River State institutions, the implication is that strategic planning is not just a regulatory requirement but a crucial tool for navigating resource constraints, technological disruptions, and competitive pressures in the education sector.

Implications of the findings

The findings reinforce the interconnectedness of planning, implementation, and evaluation in driving productivity. They validate the argument by Mwaura (2017) and Alkhodary (2023) that strategic management should be approached as an integrated process rather than isolated activities. In the context of tertiary institutions, this means that effective planning must be followed by diligent implementation and systematic evaluation to yield tangible productivity gains. Moreover, the findings highlight the role of strategic management in fostering adaptability and resilience. As Rumult (2018) and Björkdahl (2020) note, organizations that embed strategic thinking into their operations are better positioned to respond to technological, economic, and policy changes. For tertiary institutions, this adaptability translates into sustained academic relevance, improved student satisfaction, and long-term institutional sustainability. Finally, the results have policy implications. Institutional leaders and policymakers in Cross River State must recognize that productivity in higher education is not solely a function of funding or infrastructure but also of strategic capability. Developing managerial competencies, fostering a culture of accountability, and embedding continuous evaluation practices are essential steps for improving productivity.

CONCLUSION AND POLICY RECOMMENDATIONS

This study examined the relationship between strategic management and organizational productivity in selected tertiary institutions in Cross River State, focusing on strategic planning, strategic evaluation, and strategic implementation. The findings confirmed that these three dimensions of strategic management exert a significant positive effect on organizational productivity, underscoring their central role in improving institutional performance.

The results highlight the importance of embedding strategic management practices more deeply into the governance structures of Nigerian tertiary institutions. For policymakers, this calls for a stronger emphasis on institutionalizing strategic planning processes that are not only comprehensive but also participatory, ensuring that voices across the management spectrum contribute to setting realistic goals and aligning resources effectively. Equally critical is the establishment of robust evaluation mechanisms that go beyond compliance reporting to foster a culture of continuous learning and adaptation. Such mechanisms would enable institutions to track progress, respond promptly to changing internal and external conditions, and sustain productivity improvements over time.

Strategic implementation emerged as the linchpin of organizational productivity, pointing to the need for policies that strengthen leadership capacity, promote transparent communication, and ensure efficient allocation of resources. National and institutional policies should therefore prioritize capacity-building programs for university leaders and managers, equipping them with the skills required to translate strategic intentions into tangible outcomes.

Ultimately, the study suggests that productivity gains in Nigerian tertiary institutions will depend on policies that encourage systematic, integrated, and accountable strategic management practices.

By fostering a culture of strategic thinking and execution, policymakers and educational leaders can position these institutions to overcome prevailing challenges, enhance their competitiveness, and fulfill their mandate of advancing knowledge, innovation, and national development.

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