https://doi.org/10.70882/fjbm.2026.v4i2.148 ISSN: 2756-3162; EISSN: 3156-5204

FUDMA JOURNAL OF BUSINESS MANAGEMENT (FJBM)

https://fjbm.fudutsinma.edu.ng

Volume 4, Issue 2, October 2026

STRATEGIC INNOVATION AND TECHNOLOGICAL CAPABILITIES AS DRIVERS OF ORGANISATIONAL PERFORMANCE IN NIGERIAN BREWERIES, LAGOS, NIGERIA

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Abstract

This study investigated the impact of strategic innovation and technology skills on organisational performance at Nigerian Breweries Plc in Lagos State. It specifically evaluated the impact of product innovation, process innovation, technical infrastructure, and digital capabilities on organizational success. A descriptive survey study design was used, with data collected via structured questionnaires distributed to 356 employees. A total of 346 valid replies were received, indicating a 97% response rate. The data was analyzed using regression analysis. The study found that product innovation ($R^2 = 0.59$, $p < 0.001$), process innovation ($R^2 = 0.56$, $p < 0.001$), technological infrastructure ($R^2 = 0.55$, $p < 0.001$), and digital capability ($R^2 = 0.53$, $p < 0.001$) all have a significant positive impact on organizational performance, rejecting all four null hypotheses. The study concluded that strategic innovation and technology capabilities are important determinants of organisational effectiveness. Product and process innovation promote efficiency and competitiveness, whilst technical infrastructure and digital capacity boost productivity and organizational responsiveness. Despite constraints such as high R&D expenses, infrastructure shortages, and digital skill gaps, ongoing investment in innovation and technology is critical for achieving long-term organizational success and competitive advantage in Nigerian's manufacturing industry.

Keywords: Process, Product, Technological infrastructure, Digital capability, Organisational performance

1. Introduction

Organisational performance remains a key concern for manufacturing firms seeking to improve productivity, competitiveness, profitability, and long-term sustainability in an increasingly dynamic business environment. Rising production costs, infrastructure constraints, technological disruptions, and shifting consumer tastes have forced businesses to implement novel tactics that improve operational efficiency and market responsiveness (National Bureau of Statistics, 2024; Onyekwelu, 2020). Strategic innovation, which involves redesigning

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business models, products, processes, and market strategies, has been recognized as a major driver of organisational success by enabling firms to respond proactively to environmental changes and create sustainable competitive advantages (Abbing & Gessel, 2020; Adeogun, 2024).

Similarly, technological capabilities have become essential for improving production efficiency, product quality, supply chain management, and customer satisfaction through the effective adoption and integration of modern technologies (Ogunkoya et al., 2024). Manufacturing companies with strong technology skills are better positioned to cut costs, increase innovation, and boost organizational performance. Nigerian Breweries Plc provides an appropriate context for examining these relationships because it operates in one of Nigeria's most competitive manufacturing industries. Despite favourable industrial conditions, firms continue to experience operational inefficiencies, rising competition, and infrastructure constraints, making strategic innovation and technological capability critical determinants of performance. Therefore, this study looks into how Nigerian Breweries Plc's organizational performance is affected by technology capabilities and strategic innovation.

The study's particular goals were to: examine how product innovation affects manufacturing companies' performance in Nigerian Breweries; evaluate how process innovation affects manufacturing companies' performance in Nigerian Breweries; assess how technological infrastructure affects manufacturing companies' performance in Nigerian Breweries; and

ascertain the degree to which digital capability improves manufacturing companies' performance in Nigerian Breweries.

2. Review of Literature

2.1 Conceptual Review

***Strategic Innovation*:** Strategic innovation refers to the deliberate redesign of business strategies, models, products, and processes to create sustainable competitive advantage and improve organisational performance (Teece, 2020) It extends beyond incremental improvements by enabling firms to identify emerging opportunities, respond to market changes, and deliver superior customer value through innovation and organisational agility (OECD, 2024). Strategic innovation promotes cross-functional collaboration, dynamic capabilities, technological integration, and value creation, allowing organisations to remain competitive in uncertain business environments. In developing economies, it helps firms overcome resource constraints and supports long-term sustainability through improved adaptability, innovation, and strategic positioning (Verhoef et al., 2021).

***Product Innovation*:** Product innovation involves developing new or significantly improved products that enhance customer satisfaction and organisational competitiveness. It encompasses new product development, product improvement, customer-oriented design, technological integration, and sustainability initiatives. Product innovation enables firms to respond to changing consumer preferences, differentiate themselves from competitors, and improve market performance through continuous learning, research and development, and value creation (OECD, 2024; Teece, 2020). By incorporating advanced technologies and customer feedback into product development, organisations strengthen innovation capability, increase market share, and enhance long-term organisational performance while supporting digital transformation and sustainable business growth (Schiuma & Santarsiero, 2022).

***Process Innovation*:** The application of better production techniques, technologies, processes, and operational systems that raise organizational productivity, efficiency, and service quality is referred to as process innovation (Verhoef et al., 2021). It focuses on optimizing internal processes through automation, digital transformation, quality improvement, supply chain integration, and continuous improvement practices such as Lean Management and Six Sigma (OECD, 2024). Process innovation reduces operational costs, minimizes waste, improves flexibility, and strengthens organisational competitiveness. It also promotes sustainability by encouraging efficient resource utilization and environmentally responsible production systems. Effective process innovation enhances organisational agility, operational excellence, and long-term business performance in dynamic markets (Teece, 2020).

***Technological Capabilities*:** An organization's capacity to acquire, integrate, adapt, and use technical knowledge, infrastructure, and expertise to enhance innovation and organizational performance is referred to as its technological capabilities (Teece, 2020). These capabilities include technological infrastructure, research and development, digital transformation, organisational learning, and innovation management (Teece, 2020). Firms with strong technological capabilities can enhance operational efficiency, develop innovative products and services, respond quickly to environmental changes, and achieve competitive advantage. They also facilitate knowledge sharing, digital transformation, and strategic decision-making. In emerging economies, technological capabilities enable organisations to overcome infrastructural challenges and strengthen resilience, productivity, and sustainable organisational growth (Verhoef et al., 2021).

***Organisational Performance*:** The degree to which an organization successfully accomplishes its strategic goals through effective resource use, innovation, customer happiness, staff productivity, and financial success is referred to as organizational performance (Kaplan & Norton, 1996). Modern performance measurement extends beyond profitability to include operational efficiency, sustainability, innovation capability, stakeholder satisfaction, and environmental, social, and governance (ESG) performance (Verhoef et al., 2021).

***Technological Infrastructure*:** Technological infrastructure comprises the hardware, software, communication networks, databases, and digital systems that support organisational operations, innovation, and information management (Laudon & Laudon, 2021). It provides the foundation for digital transformation, operational efficiency, automation, cybersecurity, and data-driven decision-making (World Bank, 2023). Robust technological infrastructure facilitates communication, service delivery, supply chain integration, organisational resilience, and business continuity. Additionally, it makes it possible for businesses to implement cutting-edge technology like big data analytics, cloud computing, and artificial intelligence.

***Digital Capabilities*:** Digital capabilities refer to the organisational competencies required to adopt, integrate, and effectively utilize digital technologies to improve innovation, operational efficiency, and strategic performance (Teece, 2020). These capabilities include digital technology integration, data analytics, digital agility, cybersecurity, digital collaboration, and customer-focused digital transformation (Verhoef et al., 2021). Organisations with strong digital capabilities respond more rapidly to environmental changes, improve decision-making, enhance customer experience, and optimize business processes.

Relationship between Strategic Innovation and Organisational Performance

Strategic innovation positively influences organisational performance by enabling firms to redesign business models, improve products and services, strengthen competitiveness, and respond effectively to environmental changes. Through innovation, organisations enhance operational efficiency, customer satisfaction, profitability, market share, and long-term sustainability (Teece, 2020). Additionally, strategic innovation fosters employee

engagement, organizational learning, technology adoption, and value creation, all of which enhance both financial and non-financial success. Businesses that include innovation into their strategic planning are better positioned to generate sustainable development and competitive advantage in dynamic business settings, and they are also more robust to uncertainty (Verhoef et al., 2021).

2.1.1 The connection between organizational performance and technological capabilities

By increasing operational effectiveness, innovation, decision-making, customer happiness, and competitiveness, technological capabilities improve organizational performance. Organisations with advanced technological capabilities effectively integrate digital technologies, automate processes, manage knowledge, and develop innovative products and services that strengthen financial and operational performance (Teece, 2020; Verhoef et al., 2021). Technological capabilities also support digital transformation, organisational learning, supply chain optimization, and sustainability initiatives. Their impact is strengthened by effective leadership, employee competence, and strategic alignment.

2.2 Theoretical Framework

This study is anchored on the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT). The two theories provide a suitable foundation for explaining how strategic innovation and technological capabilities influence organisational performance at Nigerian Breweries Plc, Lagos.

The Resource-Based View, developed by Barney (1991), explains that firms can achieve competitive advantage through valuable, rare, difficult-to-imitate, and non-substitutable resources and capabilities. In the context of Nigerian Breweries Plc, resources such as technological infrastructure, employee expertise, production equipment, digital systems, organisational knowledge, and innovation capabilities can support improved efficiency and competitiveness.

The theory is relevant to this study because technological infrastructure and digital capability represent important organisational resources that can be deployed to improve production processes, product development, decision-making, and overall organisational performance. Thus, RBV suggests that firms possessing and effectively utilising superior technological and organisational resources are better positioned to achieve improved performance.

Dynamic Capabilities Theory, developed by Teece et al. (1997), focuses on an organisation's ability to integrate, develop, and reconfigure its resources in response to changing business and technological environments. The theory is particularly relevant to manufacturing firms because changing consumer preferences, technological developments, competitive pressures, and operational challenges require continuous adaptation.

For Nigerian Breweries Plc, product and process innovation reflect the organisation's capacity to modify its products, production methods, and operational practices in response to changing market and technological conditions. Dynamic capabilities therefore help explain how the organisation can use its existing technological and organisational resources to innovate, adapt, and improve performance.

The two theories complement each other. RBV explains the importance of the resources and technological capabilities possessed by Nigerian Breweries Plc, while Dynamic Capabilities Theory explains how the organisation deploys and renews these resources through innovation and adaptation. Together, they provide a theoretical explanation of how product innovation, process innovation, technological infrastructure, and digital capability can contribute to organisational performance.

Therefore, the combination of RBV and Dynamic Capabilities Theory provides an appropriate and focused theoretical foundation for examining strategic innovation and technological capabilities as drivers of organisational performance in Nigerian Breweries, Lagos, Nigeria. This also aligns with the study's existing finding that the four independent variables significantly influence organisational performance.

2.3 Empirical Review

Okpalaoka et al. (2022) investigated how some manufacturing SMEs in Lagos State, Nigeria, performed in relation to their capacity for technological innovation. The study adopted a descriptive and causal survey research design involving manufacturing SMEs and examined technological learning capability, research and development capability, and resource allocation capability as predictors of organisational performance. The results showed that technical innovation skills greatly increased sales growth, profitability, and value creation. The authors concluded that technological innovation remains a critical driver of organisational performance and recommended that manufacturing firms should strengthen research and development activities while investing in continuous technological learning to sustain competitive advantage.

Process innovation was examined by Iherobiem and Sanusi (2024) as a tactical instrument for improving organizational performance in Nigerian manufacturing companies. The study discovered that process innovation greatly increased organizational efficiency, operational effectiveness, and competitive advantage through a descriptive survey of workers from Lafarge Africa Plc, Flour Mills of Nigeria Plc, and PZ Cussons. The researchers concluded that manufacturing firms should continuously improve production processes to sustain superior organisational performance.

Hassan et al. (2024) used Nigeria Consolidated Breweries Plc as a case study to investigate how technology innovation affects business success. The study found a strong positive correlation between technological innovation and business performance using regression analysis and descriptive statistics on data gathered from 102 employees. The results demonstrated that the use of technology increased profitability, operational effectiveness, and productivity. Sustained investment in contemporary industrial technologies was advised by the writers.

The impact of technological innovation on employee skills in Nigerian manufacturing companies was examined by Onaolapo and Adeyinka (2020). The results, which were based on empirical survey data, demonstrated that technology innovation greatly improved organizational efficiency and staff competency. The report suggested ongoing funding for staff members' acceptance of innovation and technological advancement.

Adebayo (2026a) used structural equation modeling to investigate competitive strategies and business performance across Nigerian industrial enterprises. Cost leadership, differentiation, and focus methods greatly enhanced both financial and non-financial performance, according to the study. It came to the conclusion that competitive positioning and strategic innovation are critical to an organization's success.

Adebayo (2026b) also looked into organizational performance and digital transformation in Nigerian manufacturing companies that were listed. The findings demonstrated that digital technology considerably increased operational efficiency, information management, and organisational performance. Increased funding for modern manufacturing technology and digital infrastructure was suggested by the study.

Suleiman et al. (2025) examined innovative capabilities and the performance of manufacturing SMEs in Kano State. The study found that know-how development, participatory leadership, and employee capability

significantly enhanced SME performance. The researchers advocated improving internal innovation skills to improve competitiveness.

Oloruntomi et al. (2026) used multiple regression analysis and a descriptive survey to examine organizational performance and strategic flexibility in Nigeria's manufacturing industry. The results demonstrated that organizational performance was much improved by operational, technological, and resource flexibility. To increase competitiveness, the report suggested ongoing strategy adaptation.

Berhanu and Mesfin (2024) investigate how technological innovation affects business performance. According to the study, technological innovation greatly increased organizational performance and competitive advantage through improved product quality, cost savings, and operational effectiveness. To improve long-term competitiveness, the authors suggested consistent investment in innovative capacity.

There are still gaps in existing studies on strategic innovation, technological capabilities, and organisational performance in Nigeria's manufacturing sector. For example, Okpalaoka et al. (2022) examined technological innovation capabilities and performance among selected manufacturing SMEs in Lagos State, while Iherobiem and Sanusi (2024) focused specifically on process innovation and organisational performance across selected Nigerian manufacturing firms. Similarly, Ogunkoya et al. (2024) examined technological innovation and firm performance in Nigeria Consolidated Breweries Plc, while Adeogun (2024) investigated organisational innovation and performance in Nigeria Bottling Company.

However, these studies largely examine individual innovation or technological dimensions and different organisational contexts, rather than jointly examining product innovation, process innovation, technological infrastructure, and digital capability as drivers of organisational performance within Nigerian Breweries Plc in Lagos. Okpalaoka et al. (2022), for instance, focused on manufacturing SMEs, while Ogunkoya et al. (2024) examined Nigeria Consolidated Breweries in Ogun State. Therefore, there remains a contextual and variable-combination gap regarding how strategic innovation and technological capabilities collectively influence organisational performance in Nigerian Breweries Plc, Lagos. This study addresses this gap by examining product innovation, process innovation, technological infrastructure, and digital capability together as determinants of organisational performance in Nigerian Breweries Plc, Lagos, Nigeria.

3. Methodology

This study adopted a descriptive cross-sectional survey design using a quantitative research approach because it allows the researcher to look at correlations between variables at a specific moment in time, the design was deemed adequate. In organizational and management research pertaining to technical capabilities, organizational performance, and strategic innovation, cross-sectional survey designs are frequently employed.

The study was anchored on the positivist research paradigm, which emphasizes objective measurement, quantitative data collecting, and statistical analysis. The positivist approach was suitable for this study because it allowed the researcher to test hypotheses and examine relationships among strategic innovation (product and process innovation), technological capabilities (technological infrastructure and digital capability), and organisational performance using structured measurement instruments and statistical techniques.

Major departments at the Head Office and Lagos Brewery of Nigerian Breweries Plc, Lagos State, constituted the study population. According to the company's 2025 Annual Report and Accounts, Nigerian Breweries Plc had 2,282 employees as at 31 December 2025.

The Yamane (1967) formula was used to calculate a sample size of 340 respondents:

$n = N / (1 + N(e)^2)$

Where: n is the sample size; N is the population size (2,282);

e = Error margin (0.05 at 95% confidence level).

Compute:

$2,282 = (1 + 2,282 \times (0.05)^2)$

$n = 2,282 / (1 + 2,282 \times 0.0025)$

$2,282 / (1 + 5.705) = n$

$n = 2,282/6.705$

$n \approx 340$ (rounded to 340)

The Yamane (1967) formula produced a minimum sample size of 340 respondents. To allow for possible incomplete or invalid responses, the researcher distributed 350 questionnaires to the selected respondents. After data screening, questionnaires with incomplete or inconsistent responses were excluded, while properly completed questionnaires were retained for analysis.

A systematic questionnaire with a five-point Likert scale 1 being strongly disagree and 5 being strongly agree was used to gather primary data. Product innovation, process innovation, technology infrastructure, digital capabilities, and organizational performance were all measured in separate portions of the questionnaire.

The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM was considered appropriate because the study examined the relationships between multiple latent constructs and organisational performance, with emphasis on explaining and predicting the dependent construct. The analysis followed the procedures recommended by Hair et al. (2022).

The questionnaire was designed in major sections which captured the variables of the study:

i. Product Innovation: Assessed using items on new unique products, product modification, R&D investment, and product diversification.

ii. Process Innovation: Measured with items on new manufacturing methods, waste reduction, cost reduction, and operational efficiency.

iii. Technological Infrastructure: Evaluated using items on machinery, IT systems, technology integration, and reliability.

iv. Digital Capability: Assessed with items on data analytics, digital tools, e-commerce, and digital skills.

v. Organisational Performance: Measured through indicators of sales revenue, profitability, efficiency, and competitiveness.

The Cronbach's alpha coefficients ranged from 0.82 to 0.86, indicating strong internal consistency across the study constructs. The highest reliability coefficient was recorded for Organisational Performance ($\alpha = 0.86$), while Digital Capability recorded the lowest ($\alpha = 0.82$). All coefficients exceeded the 0.70 threshold, confirming the reliability of the measurement instrument.

4. Results and Discussion

Of the 350 questionnaires distributed, 346 were correctly completed and found suitable for analysis, while four questionnaires were excluded due to incomplete responses. This resulted in a valid response rate of 98.9%. The 346 valid responses exceeded the minimum sample size of 340 determined using the Yamane formula and were therefore considered adequate for the analysis.

4.1 Respondents' Demographic Profile

Male respondents made up 57.2% of the study population, while female respondents made up 42.8%, according to the demographic statistics. This suggests that there was less gender bias in the responses because both genders were well represented in the survey. The balanced representation also suggests that the findings reasonably reflect the perspectives of employees across the organization.

The age distribution shows that the majority of respondents (39.9%) were within the age bracket of 35–44 years, followed by 25–34 years (32.4%). This implies that the organization possesses a relatively experienced and active workforce capable of adapting to innovation practices and technological changes, which may positively influence organisational performance.

Table 1: Demographic Profile of Respondents (n = 346)

Variable	Category	Frequency	Percentage (%)
Gender	Male	198	57.2
	Female	148	42.8
Age (Years)	25–34	112	32.4
	35–44	138	39.9
	45–54	78	22.5
	55 and Above	18	5.2
Current Position	Senior Management	72	20.8
	Manager/Supervisor	105	30.3
	Production/Technical Staff	142	41.0
	Other	27	7.8
Years of Experience	Less than 5 years	98	28.3
	5–10 years	124	35.8
	11–15 years	82	23.7
	Above 15 years	42	12.1

Source: *Field Survey, 2026.*

The demographic results show that respondents had relevant levels of work experience, with 35.8% having 5–10 years of experience. Production/technical staff constituted the largest group (41.0%), providing substantial representation from employees directly involved in operational activities.

4.2 Evaluation of Measurement Models

Measurement reliability and validity were assessed using Cronbach's alpha, composite reliability (CR), and Average Variance Extracted (AVE). Following Hair et al. (2022), values of 0.70 or above for Cronbach's alpha and CR indicate acceptable internal consistency, while an AVE of 0.50 or above indicates adequate convergent validity. The results show Cronbach's alpha values of 0.82–0.86, CR values of 0.86–0.90, and AVE values of 0.58–0.65, indicating that all constructs met the specified criteria.

Table 2: Measurement Model Results

Construct	Cronbach's Alpha (α)	Composite Reliability (CR)	AVE
Product Innovation	0.85	0.89	0.62
Process Innovation	0.84	0.88	0.61
Technological Infrastructure	0.83	0.87	0.59
Digital Capability	0.82	0.86	0.58
Organisational Performance	0.86	0.90	0.65

Source: *SPSS Output, 2026.*

Strong internal consistency and dependability are confirmed by high Cronbach's Alpha values (all above 0.75). Convergent validity was confirmed because the Average Variance Extracted (AVE) values were higher than the suggested minimum of 0.50.

4.3 Structural Model and Hypothesis Testing

The results indicate that all independent variables have positive and significant effects on organisational performance. Digital capability showed the strongest effect.

Table 3: Direct Effects

Hypothesis	Path	Beta	t-value	p-value	Decision
H_1	Product Innovation → Performance	0.276	4.58	0.000	Supported
H_2	Process Innovation → Performance	0.259	4.53	0.000	Supported
H_3	Tech. Infrastructure → Performance	0.291	5.11	0.000	Supported
H_4	Digital Capability → Performance	0.418	6.55	0.000	Supported

*Note: *** $p < 0.001$. Source: SPSS Output, 2025.*

The structural model recorded an R^2 of 0.659 for organisational performance, indicating that product innovation, process innovation, technological infrastructure, and digital capability jointly explained 65.9% of its variance. This finding is supported by the significant positive path coefficients for product innovation ($\beta = 0.276$), process innovation ($\beta = 0.259$), technological infrastructure ($\beta = 0.291$), and digital capability ($\beta = 0.418$), all significant at $p < 0.001$. Therefore, the results provide empirical evidence of significant positive relationships between the four predictors and organisational performance.

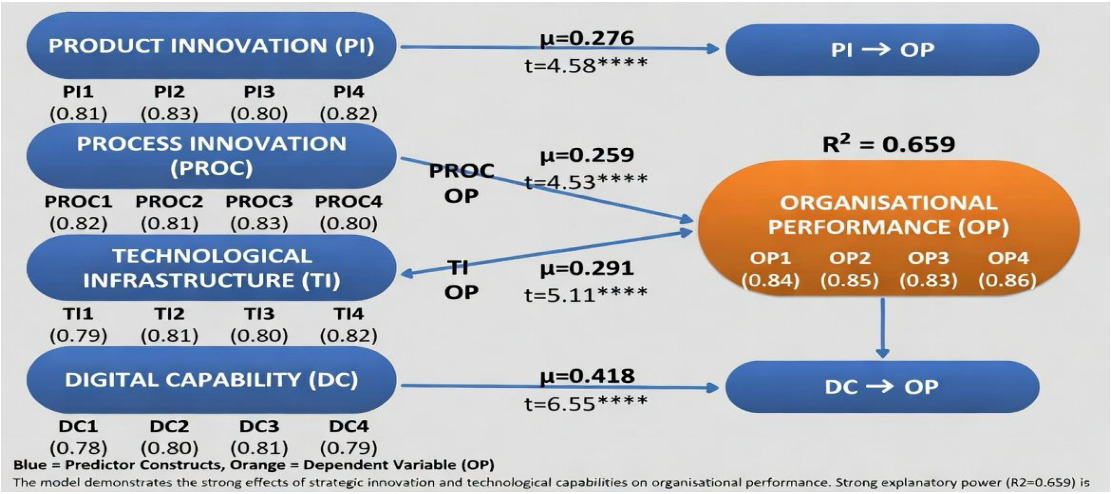


Figure 1: *PLS-SEM Path Model- Strategic Innovation, Technological Capabilities and Organisational Performance (Nigerian Breweries Plc, n=346)*

Source: Authors' computation, 2026

The study's conclusions offer empirical proof of the connection between Nigerian Breweries Plc's organizational effectiveness, technological prowess, and strategic innovation. The main conclusions of the regression analysis serve as the basis for the discussion, which is backed up by pertinent empirical research.

According to Table 1's demographic statistics, 39.9% of respondents were between the ages of 35 and 44, and 57.2% of respondents were men. The majority of responders had a significant amount of work experience. As a result, the study's responses are more reliable.

The validity and reliability of the study's constructs were validated by the measurement model results. Strong validity and reliability were demonstrated by every construct.

Product innovation ($\beta = 0.276$, $p < 0.001$), process innovation ($\beta = 0.259$, $p < 0.001$), technical infrastructure ($\beta = 0.291$, $p < 0.001$), and digital capacity ($\beta = 0.418$, $p < 0.001$) all had favorable and substantial effects on organizational performance, according to the structural model results. The best predictor was found to be digital capabilities.

These results are in line with earlier research showing that innovation and technical capabilities greatly enhance organizational performance (Okpalaoka et al., 2022; Iherobiem & Sanusi, 2024; Hassan et al., 2024). The findings also support the Resource-Based View and Dynamic Capabilities Theory, which highlight adaptability and internal resources as sources of competitive advantage.

In the context of Nigerian Breweries Plc, the findings suggest that continuous investment in product and process innovation, robust technological infrastructure, and strong digital capabilities are essential for enhancing efficiency, competitiveness, and overall organisational performance.

5. Conclusion

The study concludes that strategic innovation and technological capabilities significantly elevate organisational performance Nigeria Breweries, Lagos state. Product and process innovations emerge as pivotal for profitability and efficiency, fostering adaptability and cost competitiveness in a challenging environment.

Technological infrastructure and digital capabilities, though constrained by reliability and access issues, are indispensable for productivity and market edge. These results, which emphasize internal resources and adaptive processes as performance drivers, are consistent with the Resource-Based View and Dynamic Capabilities Theory. Full realization is tempered by constraints like R&D expenses, implementation gaps, power instability, and digital inequalities, which need for focused interventions. The results validate the transformative significance of innovation and technology in enhancing competitiveness, efficiency, and resilience in the face of Nigeria's industrial challenges.

The following specific recommendations are put out in light of the empirical results of the study on the impact of technological capabilities and strategic innovation on the performance of Nigerian breweries in Lagos State.

i. To improve product innovation, competitiveness, and long-term profitability, manufacturing companies should boost R&D spending, use phased product development plans, and work with academic institutions.

ii. To cut waste, increase operational effectiveness, lower production costs, and boost organizational performance, businesses should use formal continuous improvement frameworks like Lean Manufacturing, Kaizen, or Six Sigma.

iii. To reduce equipment downtime and boost productivity, manufacturing companies should invest in cutting-edge production equipment, dependable IT systems, predictive maintenance, and alternative energy sources.

iv. To increase operational effectiveness and competitiveness, businesses should regularly train staff members in data analytics, artificial intelligence (AI), the Internet of Things (IoT), cybersecurity, and digital supply chain management.

v. Manufacturing firms should establish innovation networks, strengthen public-private partnerships, and collaborate with research institutions, industry associations, and development agencies to facilitate knowledge sharing, innovation diffusion, and access to funding.

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