

**EXTERNAL ENVIRONMENT FACTORS AND ORGANISATIOAL GROWTH OF SELECTED CEMENT MANUFACTURING COMPANIES IN KOGI STATE, NIGERIA**

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**Abstract**

*Manufacturing firms in Nigeria have continued to face significant macro-environmental challenges arising from economic instability, regulatory fluctuations, and rapid technological change. These external pressures have raised concerns regarding the sustainability and growth trajectory of capital-intensive industries such as cement manufacturing. This study examined the effect of external environmental factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicanne Industries Limited in Kogi State, Nigeria. The study adopted a cross-sectional survey research design. The population comprised 3,650 employees across the three selected firms, from which a sample size of 396 respondents was determined using the Taro Yamane formula with a 5% margin of error and an additional 10% safety allowance. Stratified sampling technique was employed to ensure proportional representation across firms and departments. Primary data were collected through structured questionnaires, and reliability was established using Cronbach's Alpha coefficients exceeding 0.70 for all variables. Data were analysed using multiple regression analysis with the aid of SPSS version 27. The findings revealed that economic, political and regulatory, and technological factors each had positive and statistically significant effects on organisational growth. The study concluded that organisational growth in the selected firms depended largely on effective adaptation to macro-environmental forces. It was recommended that firms strengthen economic risk management strategies, enhance regulatory compliance mechanisms, and prioritise continuous technological investment to sustain long-term growth.*

**Keywords:** External environmental factors, Economic factors, Political and regulatory factors, Technological factors, Organisational growth, Cement manufacturing industry, Nigeria.

**INTRODUCTION**

In the contemporary global business environment, organisations operated within increasingly complex and dynamic external conditions that significantly shaped their strategic direction, operational efficiency, and long-term sustainability. Across developed and emerging economies, macro-environmental forces such as economic fluctuations,

institutional reforms, technological disruptions, and governance transitions continued to redefine competitive landscapes. The integration of global markets, rapid technological change, and financial interdependence intensified exposure to external shocks, thereby compelling firms to continuously adapt in order to survive and grow (Surya et al., 2021). Empirical evidence suggested that sustainable economic growth and

organisational productivity were closely linked to how effectively firms responded to environmental changes and embraced innovation-driven strategies.

Broadly, the external environment referred to forces outside an organisation that influenced its performance but remained beyond its direct control. These forces included economic conditions, political and regulatory frameworks, institutional structures, and technological developments. Institutional theory emphasised that organisational outcomes were shaped by formal rules, governance mechanisms, and regulatory systems embedded within the broader environment (Alston et al., 2018). In capital-intensive industries such as cement manufacturing, sensitivity to macro-environmental conditions was particularly high due to heavy infrastructure dependence, significant fixed investments, and energy-intensive production processes. As such, understanding environmental dynamics became a strategic necessity for firms seeking sustainable growth and competitive advantage (Restrepo-Morales et al., 2023).

The concept of external environmental factors occupied a central position in strategic management and organisational performance discourse. These factors encompassed economic forces, regulatory and governance structures, and technological advancements that collectively influenced productivity and market stability. Research had demonstrated that corporate governance quality and strategic leadership significantly shaped economic performance and market resilience within firms (Kadim et al., 2025). Furthermore, institutional arrangements and regulatory frameworks were found to directly affect firm-level performance by determining access to resources, investment confidence, and competitive stability (Alston et al., 2018). Consequently, external environmental factors were commonly categorised into three principal dimensions: economic factors, political and regulatory factors, and technological factors. Economic factors referred to macroeconomic conditions that influenced cost structures, investment patterns, and productivity levels. Variables such as inflation, exchange rate volatility, and broader economic growth trends directly affected operational expenses and

market expansion capacity. Studies had shown that economic growth and productivity improvements were closely associated with firms' openness to innovation and their responsiveness to economic signals (Surya et al., 2021). In manufacturing contexts, unstable economic conditions often constrained profitability and expansion, while stable macroeconomic environments fostered long-term investment and industrial development.

Political and regulatory factors encompassed governance systems, policy frameworks, institutional stability, and regulatory enforcement mechanisms. Institutional and organisational analyses suggested that stable political environments and effective governance structures created favourable conditions for sustainable economic and organisational growth (Alston et al., 2018). Similarly, Farnoodi et al. (2020) observed that government structures and policy orientation significantly influenced firm growth patterns, particularly in transitional economies. Regulatory clarity and consistency enhanced market confidence, whereas policy uncertainty discouraged long-term strategic planning. Thus, political and regulatory stability was regarded as a foundational determinant of organisational performance and growth.

Technological factors involved the adoption of innovation systems, digital transformation processes, and information and communication technologies (ICT). Research had consistently demonstrated that digital innovation adoption contributed positively to economic performance and productivity at both national and firm levels (Park & Choi, 2019). Additionally, Oyetade and Zuva (2025) highlighted that ICT adoption functioned as a critical external driver of sustainable organisational growth. Technological change was also associated with enhanced productivity and improved competitiveness when supported by conducive institutional frameworks (Ghulam, 2021). In capital-intensive industries such as cement manufacturing, technological upgrading and digital integration strengthened operational efficiency, reduced waste, and enhanced supply chain coordination. Organisational growth referred to the measurable expansion of a firm's operational scale, revenue base, production capacity, and market presence over time. Sustainable growth

was increasingly understood as multidimensional, integrating financial performance, innovation capacity, governance quality, and strategic adaptability (Restrepo-Morales et al., 2023). Revenue expansion and market expansion were widely recognised as core indicators of organisational growth, reflecting improved competitiveness and resilience in dynamic environments. Revenue expansion denoted increased income generation through improved productivity and pricing strategies, while market expansion reflected geographical penetration, distribution network enlargement, and enhanced customer reach.

The interaction between external environmental factors and organisational growth was complex and interdependent. Economic volatility could constrain production efficiency, regulatory reforms could reshape strategic decisions, and technological advancement could offset operational inefficiencies. Empirical evidence suggested that innovation, institutional strength, and governance quality jointly influenced sustainable performance outcomes (Kadim et al., 2025; Surya et al., 2021). In the context of cement manufacturing firms such as Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited operating in Kogi State, these environmental forces potentially interacted to either facilitate or hinder growth outcomes.

Within Nigeria's industrial landscape, manufacturing firms had confronted economic instability, infrastructural constraints, regulatory adjustments, and technological transformation pressures. Such conditions demanded strategic responsiveness and environmental alignment. Research emphasised that firms operating in volatile institutional environments achieved sustainable growth when they effectively integrated innovation, governance, and environmental adaptation strategies (Farnoodi et al., 2020; Oyetade & Zuva, 2025). Therefore, for cement manufacturing companies in Kogi State an important industrial hub the capacity to manage external environmental forces effectively was likely to determine long-term sustainability and competitive positioning.

Despite growing scholarly attention to external drivers of organisational performance, limited empirical evidence existed concerning large

cement manufacturing firms within Kogi State. While studies had examined innovation adoption, institutional dynamics, and economic growth in various contexts (Park & Choi, 2019; Restrepo-Morales et al., 2023), contextualised analysis within Nigeria's cement industry remained insufficient. Consequently, investigating the effect of economic, political, and technological environmental factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited was both timely and necessary. Such an inquiry contributed to a deeper understanding of how environmental forces shaped industrial resilience and sustainable development within Nigeria's manufacturing sector.

### **Statement of the Problem**

Ideally, organisations operating within a stable and predictable external environment were expected to experience consistent growth in revenue, market share, and operational capacity. A supportive macroeconomic climate, stable regulatory framework, and reliable infrastructural systems typically enhanced productivity and encouraged long-term investment. Empirical evidence suggested that favourable environmental conditions promoted business survival and growth across sectors (Adeola, 2016; Muogbo & Chuka, 2019). In the manufacturing sector, especially in capital-intensive industries such as cement production, stable inflation rates, predictable exchange rates, and coherent industrial policies were considered essential for sustaining competitiveness and expansion (Oginni & Adesanya, 2013). Under such ideal circumstances, cement manufacturing firms would operate within an enabling environment that fostered operational efficiency and sustainable development.

However, the Nigerian business environment had been characterised by persistent macroeconomic instability, regulatory fluctuations, infrastructural deficits, and security concerns. Studies had shown that macro-environmental volatility significantly affected business performance across industries (Gini & Agala, 2023). Specifically, inflationary pressures, exchange rate instability, and rising production costs had constrained manufacturing performance in Nigeria (Salisu et al., 2022). For

cement manufacturing firms, which required substantial capital investment in machinery, energy, and logistics, these economic disruptions increased operational costs and complicated long-term planning. The removal of fuel subsidies and foreign exchange adjustments further intensified cost pressures and reduced consumer purchasing power, thereby affecting revenue expansion and market growth.

Beyond economic challenges, regulatory and institutional inconsistencies had also posed operational difficulties. Oginni and Adesanya (2013) observed that unstable policy environments undermined the growth prospects of manufacturing firms by increasing compliance burdens and uncertainty. Similarly, Gini and Agala (2023) emphasised that macro-environmental factors, including regulatory instability, significantly shaped business performance outcomes. Infrastructural inadequacies such as unreliable electricity supply and inefficient transportation networks further increased logistics and distribution costs for industrial firms. Security concerns in certain regions of Nigeria had also disrupted supply chains and affected operational continuity. Collectively, these challenges raised concerns regarding the sustainability and competitive positioning of cement manufacturing firms operating in Kogi State.

From a theoretical standpoint, although prior studies had examined the influence of external environmental factors on organisational performance (Adeola, 2016; Muogbo & Chuka, 2019), much of the existing literature focused on small and medium-sized enterprises or service-oriented sectors. Salisu et al. (2022) specifically examined the economic environment and cement manufacturing performance in Nigeria but did not comprehensively integrate political, regulatory, and technological dimensions within a localized industrial context such as Kogi State. This created both a contextual and conceptual gap in understanding how multiple macro-environmental forces collectively influenced organisational growth in large, capital-intensive manufacturing firms. Furthermore, limited empirical attention had been devoted to examining how these environmental dimensions simultaneously affected specific growth indicators such as revenue expansion and market

development within the Nigerian cement industry.

Failure to address these contextual and theoretical gaps could result in inadequate strategic and policy responses to environmental volatility. Without robust empirical evidence, managers might lack the necessary insights to design adaptive strategies capable of mitigating macro-environmental risks. Over time, such limitations could lead to reduced competitiveness, stagnation in market expansion, declining profitability, and weakened contribution of the cement manufacturing sector to national economic development.

Therefore, there was a compelling need to investigate the effect of external environmental factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited in Kogi State. Conducting this study was essential for advancing theoretical understanding and providing evidence-based recommendations aimed at strengthening industrial resilience and sustainable growth within Nigeria's manufacturing sector.

#### **Research Questions**

- i. To what extent do economic factors influence the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited?
- ii. How do political and regulatory factors affect the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited?
- iii. To what extent do technological factors influence the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited?

#### **Objectives of the Study**

The main objective of this study is to examine the effect of external environmental factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

Specifically, the study seeks to:

- i. Examine the effect of economic factors on the organisational growth of Dangote Cement Company, Mangal Industries

- Limited, and Unicane Industries Limited.
- ii. Assess the influence of political and regulatory factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.
  - iii. Evaluate the effect of technological factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

### **Research Hypotheses**

The study will test the following null hypotheses:

**H<sub>01</sub>:** Economic factors do not have a significant effect on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

**H<sub>02</sub>:** Political and regulatory factors do not have a significant effect on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

**H<sub>03</sub>:** Technological factors do not have a significant effect on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

## **LITERATURE REVIEW**

### **Conceptual Review**

#### **External Environmental Factors**

External environmental factors were described in strategic management literature as forces and conditions outside an organisation that significantly influenced its decisions, operations, and performance but remained beyond its direct control. Johnson, Scholes, and Whittington (2017) explained that the external environment comprised macro-level forces that shaped competitive positioning and strategic choices. Similarly, Daft (2016) defined the external environment as all elements existing outside organisational boundaries that had the potential to affect organisational effectiveness. These macro-environmental forces were commonly analysed using the PESTLE framework, which categorised them into political, economic, social, technological, legal, and environmental dimensions (Yüksel, 2012). Scholars

consistently argued that these factors were dynamic and unpredictable, thereby requiring organisations to continuously scan and adapt to environmental changes in order to survive and grow.

In capital-intensive industries such as cement manufacturing, sensitivity to macro-environmental conditions had been particularly pronounced. Hill, Jones, and Schilling (2015) noted that organisations operating in volatile environments faced higher uncertainty levels, which directly affected strategic planning and investment decisions. External environmental forces influenced cost structures, resource availability, regulatory compliance, and technological competitiveness. In emerging economies such as Nigeria, where economic instability and regulatory shifts had been frequent, firms were more vulnerable to environmental turbulence (Oginni & Adesanya, 2013). Consequently, cement manufacturing firms such as Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited had been required to align their strategies with prevailing economic, political, and technological realities to sustain growth and competitiveness.

#### **Economic Factors**

Economic factors were conceptualised as macroeconomic conditions that influenced organisational performance through their effects on production costs, consumer demand, and financial stability. According to Wheelen, Hunger, Hoffman, and Bamford (2018), economic forces such as inflation rates, exchange rate fluctuations, interest rates, and economic growth levels significantly affected organisational profitability and expansion decisions. Dess, McNamara, Eisner, and Lee (2019) further argued that economic stability created a predictable business climate that encouraged long-term investment, while economic instability increased uncertainty and constrained organisational growth.

Inflation had been shown to increase operational expenses by raising the cost of raw materials, labour, and energy, thereby compressing profit margins (Mankiw, 2019). Exchange rate volatility particularly affected firms dependent on imported machinery and inputs, as currency depreciation increased acquisition costs. In

manufacturing sectors within developing economies, these macroeconomic fluctuations had been linked to reduced productivity and constrained industrial expansion (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011). Given the capital-intensive nature of cement production, economic factors had played a critical role in shaping revenue generation, pricing strategies, and market expansion decisions in Nigerian cement firms.

#### **Political and Regulatory Factors**

Political and regulatory factors referred to government policies, institutional frameworks, taxation systems, and legal requirements that shaped business operations. North (1990) argued that institutions and regulatory structures significantly influenced economic performance by defining the “rules of the game” within which organisations operated. Similarly, Peng, Sun, Pinkham, and Chen (2009) maintained that political and regulatory environments determined access to resources, compliance obligations, and strategic flexibility.

In manufacturing industries, regulatory compliance requirements such as environmental standards, licensing procedures, and taxation policies had directly affected operational efficiency and cost structures (Wheelen et al., 2018). Frequent policy changes and inconsistent regulatory enforcement had been found to discourage investment and long-term planning, particularly in developing countries (Khanna & Palepu, 2010). In Nigeria, industrial firms had often faced regulatory unpredictability, infrastructure policy shifts, and fiscal reforms that influenced operational decisions (Oginni & Adesanya, 2013). Therefore, political and regulatory stability had been considered essential for sustaining organisational growth in capital-intensive sectors such as cement manufacturing.

#### **Technological Factors**

Technological factors encompassed advancements in production systems, digital transformation, research and development, and innovation capabilities that influenced organisational efficiency and competitiveness. Rogers (2003) described technological innovation as a process through which new ideas and systems were adopted to improve organisational outcomes. Porter (1985) earlier

argued that technological advancement played a central role in achieving competitive advantage by lowering production costs or differentiating products.

In the manufacturing sector, automation, energy-efficient technologies, digital supply chain systems, and predictive maintenance tools had significantly improved productivity and operational performance (Hill et al., 2015). Technological change had also been associated with improved resource utilisation and cost reduction (Dess et al., 2019). However, rapid technological shifts had created competitive pressures for firms unable to invest in innovation. In cement manufacturing, technological upgrades such as advanced kiln systems and digital monitoring platforms had enhanced production efficiency and sustainability. Therefore, technological factors had been widely recognised as critical drivers of organisational growth and long-term competitiveness.

#### **Organisational Growth**

Organisational growth had been defined as the measurable expansion of a firm’s size, revenue, market share, assets, or operational capacity over time. Penrose (1959) conceptualised firm growth as a process driven by the productive use of internal and external resources. Later scholars such as David (2017) described organisational growth as an indicator of strategic effectiveness and competitive strength. Growth reflected both quantitative expansion (e.g., increased revenue and assets) and qualitative improvement in organisational capabilities.

In industrial contexts, growth had often been measured through revenue increase, market expansion, production capacity enlargement, and profitability improvement (Wheelen et al., 2018). For cement manufacturing firms, organisational growth could manifest in the establishment of new plants, expansion into new regional markets, increased distribution networks, and improved financial performance indicators. Scholars had argued that organisational growth was strongly influenced by the firm’s ability to respond effectively to external environmental pressures (Daft, 2016). Thus, examining the relationship between macro-environmental forces and growth outcomes had remained essential for

understanding sustainable industrial development.

### **Theoretical Framework**

This study was anchored on Open Systems Theory, originally advanced by Ludwig von Bertalanffy (1956) under the General Systems Theory framework. The theory posited that organisations functioned as open systems that continuously interacted with their external environment. Katz and Kahn (1966) further extended this theory to organisational analysis, explaining that organisations received inputs (such as capital, labour, information, and regulatory directives) from the external environment, transformed these inputs through internal processes, and produced outputs that were returned to the environment.

The major assumption of Open Systems Theory was that organisations were not self-contained entities but depended on environmental exchanges for survival and legitimacy. Environmental stability or turbulence directly affected organisational performance, requiring constant adaptation (Scott & Davis, 2016). The theory emphasised feedback mechanisms, adaptability, and environmental scanning as critical survival strategies.

Despite its relevance, Open Systems Theory had been criticised for being overly broad and lacking precise predictive capacity (Donaldson, 2001). Critics argued that the theory sometimes underemphasised internal managerial capabilities by focusing heavily on environmental influences. Additionally, it did not always specify which environmental variables exerted the strongest effects under particular conditions.

However, the theory possessed notable strengths. It provided a holistic framework for analysing the interaction between organisations and their external environment. It highlighted adaptability, flexibility, and environmental alignment as prerequisites for growth and sustainability. The theory had been widely applied in studies examining organisational adaptation in turbulent business environments.

In the context of this study, Open Systems Theory provided an appropriate foundation for examining how economic, political, and technological factors influenced the organisational growth of Dangote Cement

Company, Mangal Industries Limited, and Unicane Industries Limited. These firms operated within Nigeria's dynamic macro-environment characterised by economic instability, regulatory reforms, and technological evolution. The theory supported the assumption that their growth outcomes depended significantly on their ability to adapt strategically to these external environmental forces. Therefore, Open Systems Theory offered a suitable analytical lens for understanding the relationship between external environmental factors and organisational growth in selected cement manufacturing firms in Kogi State.

### **Empirical Review**

Baloch et al. (2021) sought to investigate the impact of the business environment on the performance of business organizations, with a specific focus on entrepreneurship within Pakistan. Employing a survey research design grounded in person-environment fit and self-determination theory, the study analyzed leadership capacity, organizational culture, and organizational politics as independent variables influencing sustained economic performance. The findings demonstrated that leaders who could provide direction and minimize stress, coupled with an organizational culture that encouraged openness and shared goals, significantly improved employee productivity and organizational success. However, the research was confined to the Pakistani entrepreneurship sector, indicating a gap in the applicability of these findings to other geographical regions or different industry contexts.

Milezi et al. (2023) aimed to assess the extent to which management practices influenced organizational growth within a multinational company operating in Namibia. The researchers adopted a positivist philosophy and a causal-comparative design, utilizing a quantitative approach where data were collected from 77 employees via an online structured questionnaire and analyzed using multiple linear regression. The results revealed that weak management practices led to a decline in organizational growth, whereas employee motivation, productivity, engagement, work environment, and career growth had positive and statistically significant impacts. The authors acknowledged a

gap in their study, recommending that future research should focus on other business sectors with broader population coverage to allow for greater generalization of the findings.

Sergeeva et al. (2018) focused on developing a conceptual theoretical and methodological framework to enhance the management of higher education service quality at meso and micro levels. The methodology involved analyzing management as a process divided into performance and development management, drawing upon Russian and foreign scientific research to justify a model where certain controlling operations were shifted to the regional level. The study concluded that this organizational economic mechanism would increase the effectiveness of the higher education system and better align graduate quality with stakeholder demands. A limitation existed in the specific context of the Russian Federation's federal subjects, suggesting a gap in validating this mechanism within different national educational systems or regulatory environments.

Grynko and Gviniashvili (2017) intended to form an organizational and economic mechanism for managing the innovative development of business entities and to develop an approach for evaluating its efficiency. The study proposed a structure comprising functional, process, and administrative subsystems and assessed efficiency based on data from six information and telecommunications enterprises in Ukraine between 2012 and 2016. The findings indicated that while some companies achieved a high level of innovative development, others required strengthened production capacity and improved management practices to compete effectively. The research presented a gap due to its reliance on a small sample size within a specific industry and time frame, which may limit the broader applicability of the proposed mechanism to other sectors or current economic conditions.

Park, Lee, and Son (2020) sought to examine the role of organizational factors in fostering regulatory reform in response to new technological development within the public sector. Employing original survey data collected from over 1,000 civil servants in Korea, the study analyzed institutional elements such as job

tasks, bureaucratic autonomy, and organizational culture to determine their influence on regulatory reform implementation. The findings indicated that regulatory reforms were more likely to be implemented when organizational tasks were relevant to scientific and technological development, higher levels of bureaucratic autonomy were granted, agency heads demonstrated stronger leadership, and organizational culture was less authoritarian. However, the study was geographically confined to the Korean public sector, indicating a gap in the generalizability of these findings to other national contexts or public sector environments with differing institutional arrangements.

Serbina, Daineko, Tsyrfya, Rozhkova, and Lytvynenko (2024) aimed to explore the complex interrelationship between political factors and economic dynamics at both national and regional levels, with the objective of developing a conceptual model illustrating the symbiosis of political and economic drivers of development. The researchers adopted a mixed-methods approach that included a comprehensive literature review, case study analysis, correlation regression techniques, comparative analysis, and strategic planning methodologies to scrutinize how political contexts shape investment environments, market regulation, and trade relations. The results revealed that political factors wielded substantial influence on economic progress by delineating investment climates, bolstering macroeconomic stability, nurturing human capital, fostering infrastructure development, and establishing robust institutional frameworks. A limitation of the study existed in its broad global scope, which may have lacked depth in specific regional contexts, suggesting a gap in the need for further empirical validation of the proposed conceptual model across diverse political and economic systems.

Garbuio and Lovallo (2017) intended to investigate whether organizational political behavior was positively related to firm performance by exploring the link between politics, a firm's ability to speedily reach the market, and its growth rate. The methodology involved a survey study of 382 executives from around the world across a range of industries, while also investigating alternative explanations

for slow speed to market such as power centralization, decision-making layers, and conflict. The findings demonstrated that organizational politics defined as observable but often covert actions through which executives influenced internal decisions had a direct negative effect on a firm's ability to reach the market first and on its growth rate, indicating that politics was not only time-consuming but also detrimental to the selection of optimal growth opportunities. The research presented a gap due to its reliance on self-reported survey data, which may have been subject to response bias, and its cross-sectional design, which limited causal inferences about the long-term effects of organizational politics on firm growth.

**METHODOLOGY**

This study adopted a cross-sectional survey research design. The cross-sectional design was considered appropriate because it enabled the researcher to collect data from respondents at a single point in time in order to examine the relationship between external environmental factors and organisational growth. The design was suitable for studies that sought to describe existing conditions and test relationships among variables without manipulating them. Since the study investigated how economic, political and regulatory, and technological factors influenced organisational growth in selected cement manufacturing firms, the cross-sectional approach provided a cost-effective and efficient means of gathering quantifiable data for statistical analysis.

The population of the study comprised employees of Dangote Cement Plc (Obajana Plant), Mangal Industries Limited, and Unicane Industries Limited located in Kogi State, Nigeria. These organisations were selected because of their strategic importance within Nigeria's manufacturing sector and their significant contribution to industrial development. The study focused on employees across key departments, including Administration/HR, Logistics, Sales and Marketing, Production, Safety/Quality Control, and Finance and Accounting. These categories of employees were considered appropriate because they were directly or indirectly involved in operational activities, strategic implementation, and organisational processes

that were influenced by external environmental conditions.

The total population across the three selected firms was 3,650 employees. This comprised 2,428 employees from Dangote Cement Plc (Obajana Plant), 555 employees from Mangal Industries Limited, and 517 employees from Unicane Industries Limited. The population size was considered adequate to generate reliable and generalisable findings regarding the effect of external environmental factors on organisational growth. The unit of analysis for this study was the individual employee within the selected cement manufacturing firms. The individual employee was considered the most appropriate unit of analysis because employees across departments possessed relevant knowledge regarding how economic fluctuations, political and regulatory changes, and technological developments influenced operational efficiency and growth outcomes within their respective organisations.

The sample size for the study was determined using the Taro Yamane (1967) formula for finite populations. The formula was expressed as:

$$n = \frac{N}{1 + N(e)^2}$$

- Where: N = Population figure
- n = Sample size
- e = Error Margin.

The study shall adopt the above formula to estimate the study's sample size as follows:

n = sample size (to be determined)

N = 3,650, being the estimated population of the study.

e = 5% = 0.05

$$\begin{aligned} \text{Hence, } n &= \frac{3,650}{1 + 3,650(0.05)^2} \\ &= \frac{3,650}{1 + 3,650(0.0025)} \\ &= \frac{3,650}{1 + 9.125} \\ &= \frac{3,650}{10.125} \\ n &= 360.4 \end{aligned}$$

sample size = 360

The calculated sample size was approximately 360 respondents. However, to account for possible non-response, incomplete

questionnaires, or improperly filled instruments, a 10% margin of safety was added to the computed sample size. The 10% adjustment was calculated as follows:

$$10\% \text{ of } 360 = 36$$

Therefore, the adjusted sample size became:

$$360 + 36 = 396 \text{ respondents}$$

The final sample size for the study was therefore 396 employees. The addition of a 10% margin of safety was justified to compensate for potential attrition and to ensure that the minimum required sample size of 360 valid responses was achieved after data cleaning. The use of the Taro Yamane formula remained appropriate because it provided a scientifically accepted method for determining sample size from a known and finite population while maintaining a 5% margin of error. Incorporating the additional margin further enhanced representativeness, improved response adequacy, and strengthened the reliability and generalisability of the findings to the entire population of 3,650 employees.

The study employed a stratified sampling technique to ensure adequate representation across the selected firms and their respective departments. The population was first divided into meaningful strata based on the three companies Dangote Cement Plc (Obajana), Mangal Industries Limited, and Unican Industries Limited and further stratified according to key functional departments such as Administration/HR, Logistics, Sales and Marketing, Production, Safety/Quality Control, and Finance and Accounting. Thereafter, respondents were proportionately selected from each stratum based on their population size. The use of stratified sampling was justified because it enhanced representativeness, reduced sampling bias, and ensured that all relevant subgroups within the population were fairly included in the study. This approach was particularly appropriate given the large and heterogeneous nature of the workforce, as it improved the accuracy and generalisability of the findings regarding the effect of external environmental factors on organisational growth within the selected cement manufacturing firms. The study utilised primary data sources, which were collected through the administration of structured questionnaires. The questionnaire was designed using a Likert-scale format to measure

respondents' perceptions of economic factors, political and regulatory factors, technological factors, and organisational growth. The use of questionnaires was appropriate because it allowed for standardised responses, facilitated quantitative analysis, and enabled the collection of data from a relatively large number of respondents within a short period.

The reliability of the research instrument was assessed using Cronbach's Alpha coefficient to determine internal consistency. The results indicated that the reliability coefficients for the study variables were as follows: Economic Factors ( $\alpha = 0.82$ ), Political and Regulatory Factors ( $\alpha = 0.85$ ), Technological Factors ( $\alpha = 0.88$ ), and Organisational Growth ( $\alpha = 0.86$ ). Since all values exceeded the acceptable threshold of 0.70, the instrument was considered reliable.

The validity of the instrument was established through content validity. The questionnaire items were reviewed by experts in strategic management and research methodology to ensure that they adequately covered the constructs being measured. Their feedback led to modifications that improved clarity, relevance, and alignment with the study objectives.

### **Model Specification**

To examine the effect of external environmental factors on organisational growth, the study specified a multiple regression model. Multiple regression analysis was considered appropriate because it enabled the researcher to determine the combined and individual effects of the independent variables economic factors, political and regulatory factors, and technological factors on the dependent variable, organisational growth. The technique allowed for the estimation of the magnitude, direction, and statistical significance of the relationships among the variables.

The functional relationship of the model was expressed as:

$$OG=f(EF,PRF,TF)$$

Where:

OG = Organisational Growth

EF = Economic Factors

PRF = Political and Regulatory Factors

TF = Technological Factors

The econometric form of the model was specified as:

$$OG = \beta_0 + \beta_1 EF + \beta_2 PRF + \beta_3 TF + \epsilon$$

Where:

$\beta_0$  = Constant term (intercept)

$\beta_1 - \beta_3$  = Regression coefficients of the independent variables

$\epsilon$  = Error term

The model assumed that organisational growth was a function of changes in economic conditions, political and regulatory frameworks, and technological developments. A positive coefficient ( $\beta_1$ ,  $\beta_2$ , or  $\beta_3$ ) implied that an increase in the respective external environmental factor led to an increase in organisational growth, while a negative coefficient indicated an inverse relationship. The model was estimated using the Statistical Package for Social Sciences (SPSS) version 27 to determine the strength and statistical significance of the relationships.

The adoption of this model was justified because it aligned with the study's objectives and hypotheses, which sought to test the individual and collective effects of external environmental factors on organisational growth in the selected cement manufacturing firms.

Data collected were analysed using simple regression analysis with the aid of Statistical Package for Social Sciences (SPSS) version 27. Multiple regression was considered appropriate because it enabled the researcher to examine the combined and individual effects of economic, political and regulatory, and technological factors on organisational growth. The technique also allowed for testing of the formulated hypotheses and determination of the strength and significance of the relationships among the variables.

## RESULTS AND FINDINGS

### Response Rate.

Questionnaire Distributed	396
Returned Questionnaire	372
Percentage of returned Questionnaire	95%
Unreturned Questionnaire	24
Percentage of not returned Questionnaire	5%

Source: field Survey, (2026)

### Test of Hypotheses

#### Test of hypothesis one

**H<sub>0</sub>:** Economic factors do not have a significant effect on the organisational growth of Dangote

#### Model 1

$$OG = \beta_0 + \beta_1 EF + \beta_2 PRF + \beta_3 TF + \epsilon$$

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634 <sup>a</sup>	.402	.397	.32756

a. Predictors: (Constant), EF, PRP, TF

Source: Generated using SPSS Output Version 27.0

The model summary results indicated that the multiple regression analysis produced a correlation coefficient (R) of 0.634, suggesting a moderate and positive relationship between the independent variables economic factors (EF), political and regulatory factors (PRP), and technological factors (TF) and organisational growth. The coefficient of determination (R<sup>2</sup>) was 0.402, which implied that approximately 40.2% of the variation in organisational growth was explained by the combined effect of the three external environmental factors included in

Cement Company, Mangal Industries Limited, and Unicane Industries Limited.

the model. The adjusted R<sup>2</sup> value of 0.397 further confirmed that after adjusting for the number of predictors in the model, about 39.7% of the variability in organisational growth remained accounted for by the explanatory variables. This slight reduction from R<sup>2</sup> to adjusted R<sup>2</sup> indicated that the model maintained reasonable explanatory power without substantial overestimation. The standard error of the estimate was 0.32756, reflecting a relatively small dispersion of observed values from the regression line and suggesting that the model

provided a fairly good fit to the data. Overall, the results showed that external environmental factors collectively exerted a meaningful

influence on organisational growth within the selected cement manufacturing firms.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.816	3	8.939	82.769	.000 <sup>b</sup>
	Residual	39.913	368	.108		
	Total	66.730	371			

a. Dependent Variable: OG

b. Predictors: (Constant), EF, PRP, TF

Source: Generated using SPSS Output Version 27.0

The ANOVA results showed that the overall regression model was statistically significant. The regression sum of squares was 26.816 with 3 degrees of freedom, while the residual sum of squares was 39.913 with 368 degrees of freedom, resulting in a total sum of squares of 66.730. The computed F-statistic was 82.769, which was considerably large, and the associated significance value was 0.000 ( $p < 0.05$ ). This indicated that the combined effect of economic factors (EF), political and regulatory factors (PRP), and technological factors (TF)

significantly predicted organisational growth (OG). In other words, the independent variables jointly contributed to explaining variations in organisational growth beyond what would be expected by chance. The statistical significance of the F-value confirmed that the regression model provided a good fit for the data and was appropriate for assessing the relationship between external environmental factors and organisational growth in the selected cement manufacturing firms.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.370	.254		1.459	.146
	EF	.386	.043	.373	8.948	.000
	PRP	.292	.036	.328	8.150	.000
	TF	.249	.038	.274	6.573	.000

a. Dependent Variable: OG

Source: Generated using SPSS Output Version 27.0

The coefficient results indicated that economic factors (EF), political and regulatory factors (PRP), and technological factors (TF) each exerted a positive and statistically significant influence on organisational growth (OG). The constant term had an unstandardised coefficient of 0.370 with a significance value of 0.146, indicating that it was not statistically significant at the 5% level. However, economic factors recorded an unstandardised coefficient (B) of 0.386 and a standardized beta value of 0.373, with a t-value of 8.948 and a significance level of 0.000, showing a strong and significant positive effect on organisational growth. Political and regulatory factors also

demonstrated a positive and significant effect, with  $B = 0.292$ ,  $\beta = 0.328$ ,  $t = 8.150$ , and  $p = 0.000$ . Similarly, technological factors had a positive and statistically significant relationship with organisational growth, with  $B = 0.249$ ,  $\beta = 0.274$ ,  $t = 6.573$ , and  $p = 0.000$ . The standardized beta values further suggested that economic factors contributed the most to organisational growth, followed by political and regulatory factors, and then technological factors. Overall, the findings confirmed that improvements in external environmental conditions were associated with increased organisational growth in the selected cement manufacturing firms.

**Discussion of Findings**

The findings of the study revealed that economic factors had a significant effect on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited. This result was consistent with the empirical evidence provided by Serbina et al. (2024), who found that political and economic conditions significantly shaped investment climate, macroeconomic stability, and development outcomes. Similarly, Baloch et al. (2021) emphasized that elements within the business environment influenced sustained economic performance. In the present study, macroeconomic variables such as inflation, exchange rate fluctuations, and energy costs were found to directly affect revenue expansion and market growth of the selected firms. This outcome supported the assumptions of Open Systems Theory, which posited that organisations depended on environmental inputs and must continuously adjust to external economic conditions to survive and grow. The implication was that cement manufacturing firms, operating as open systems, needed to strengthen their environmental scanning capabilities and adopt adaptive financial and operational strategies to manage macroeconomic volatility and sustain long-term growth.

The study revealed that political and regulatory factors had a significant effect on organisational growth within the selected firms. This finding aligned with the work of Park, Lee, and Son (2020), who demonstrated that institutional and regulatory conditions influenced organisational reform and performance outcomes. It also corresponded with the argument of North (1990) that institutional frameworks shaped economic performance by defining the rules governing organisational activities. In the context of this study, regulatory stability, taxation policies, and government directives were found to influence strategic planning and expansion decisions. From the perspective of Open Systems Theory, this finding reinforced the notion that organisations must adapt to regulatory and institutional pressures in order to maintain equilibrium with their external environment. The implication was that both policymakers and firm managers had critical roles to play: policymakers in ensuring consistency and predictability in industrial regulations, and managers in

developing compliance mechanisms and adaptive strategies to respond effectively to policy shifts.

The findings also showed that technological factors had a significant effect on organisational growth in the selected firms. This result was in line with Grynko and Gviniashvili (2017), who observed that innovative development mechanisms enhanced organisational competitiveness, and with Milezi et al. (2023), who found that improved management and operational systems positively influenced growth outcomes. The present study demonstrated that investment in modern production technologies and digital systems contributed to improved operational efficiency and competitive positioning. Open Systems Theory further provided theoretical support for this finding by emphasizing that organisations must continuously incorporate technological inputs from their external environment to enhance transformation processes and output performance. The implication was that technological responsiveness functioned as a strategic adaptation mechanism through which cement manufacturing firms strengthened productivity and sustained growth.

Overall, the study confirmed that economic, political and regulatory, and technological factors collectively shaped organisational growth within the selected firms. This integrated outcome strongly supported the central proposition of Open Systems Theory that organisational survival and expansion depended on effective interaction and alignment with environmental forces. The findings therefore underscored the necessity for strategic adaptability, continuous environmental monitoring, and proactive organisational adjustment in sustaining long-term industrial performance.

## **CONCLUSION**

## **AND**

## **RECOMMENDATIONS**

The main objective of this study was to examine the effect of external environmental factors on the organisational growth of Dangote Cement Company, Mangal Industries Limited, and Unicane Industries Limited in Kogi State, Nigeria. Specifically, the study assessed the influence of economic factors, political and regulatory factors, and technological factors on

organisational growth. Based on the empirical results obtained from the analysis, the study generally concluded that external environmental factors significantly influenced the organisational growth of the selected cement manufacturing firms. This indicated that the ability of these firms to achieve revenue expansion and market growth depended largely on how effectively they responded to prevailing macro-environmental conditions.

Concerning economic factors, the study concluded that variables such as inflation, exchange rate volatility, and other macroeconomic conditions significantly affected organisational growth. Economic stability was associated with improved operational performance and expansion, whereas economic instability constrained growth and increased operational risks.

With respect to political and regulatory factors, the study concluded that government policies, taxation systems, and regulatory frameworks significantly influenced organisational growth. A stable and predictable regulatory environment supported investment and expansion, while policy inconsistencies created uncertainty that hindered growth.

Regarding technological factors, the study concluded that technological advancement significantly enhanced organisational growth. Investment in modern production technologies and digital systems improved efficiency, reduced costs, and strengthened competitive advantage within the selected firms.

Based on the findings of the study, the following recommendations were made:

- i. Management of the selected cement manufacturing firms should strengthen economic risk management practices by implementing cost-control strategies, diversifying input sources, engaging in effective financial planning, and adopting measures to hedge against inflation and exchange rate volatility in order to sustain organisational growth.
- ii. Government authorities should promote regulatory stability and policy consistency within the manufacturing sector by ensuring transparent taxation systems, predictable industrial policies, and supportive infrastructure

development, while firms should establish internal compliance units to effectively monitor and respond to regulatory changes.

- iii. The selected firms should prioritise continuous technological investment by upgrading production facilities, adopting energy-efficient and digital technologies, and increasing research and development initiatives to enhance operational efficiency and sustain long-term organisational growth.

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