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STRATEGIC ENVIRONMENTAL DYNAMISM AND COMPETITIVE ADVANTAGE IMPLICATIONS IN MANUFACTURING FIRMS IN RIVERS STATE

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ABSTRACT

This study investigates the relationship between environmental dynamism and competitive strategies (differentiation and cost leadership) among manufacturing firms in Rivers State, Nigeria. It seeks to determine how external environmental fluctuations influence strategic positioning within the food and beverage subsector. The study employed a quantitative survey research design, using structured questionnaires distributed to a purposive sample of 99 participants across selected food and beverage firms. A total of 90 valid responses were analyzed using Spearman's rank-order correlation coefficient. The analysis was conducted using SPSS Version 22. The findings reveal a statistically significant and strong positive correlation between environmental dynamism and differentiation strategy ($r = 0.812$, $p < 0.05$), as well as between environmental dynamism and cost leadership strategy ($r = 0.838$, $p < 0.05$). These results indicate that manufacturing firms that are attuned to shifts in their external environment are more likely to adopt effective competitive strategies. The study recommends that manufacturing firms institutionalize market-sensing mechanisms, strengthen relationships with key stakeholders, and strategically outsource non-core functions. These measures will enhance responsiveness, cost efficiency, and strategic agility, enabling firms to thrive in an increasingly volatile market.

Key words: competitive advantage, cost leadership, differentiation strategy, environmental dynamism, food and beverage industry, manufacturing firms

INTRODUCTION

In today's increasingly volatile global landscape, business environments have become notably turbulent, dynamic, and complex. This is particularly evident in developing economies, where institutions, infrastructure, and policies are often in flux (Eisenhardt & Martin, 2000; Teece, 2007). In the manufacturing sector in Nigeria, the challenge is even compounded as a result of erratic power supply, high operational costs, inflationary pressures, currency devaluation, and inconsistent policy regimes (Akinlo, 2015; Oburota & Ifere, 2017). The manufacturing sector occupies a strategic position in Nigeria's quest for economic transformation. As a core component of the secondary sector, it plays a pivotal role in value addition, employment generation, and structural economic change. According to the National Bureau of Statistics (2022), the manufacturing sector contributed approximately 8.5% to Nigeria's Gross Domestic Product (GDP), with the food, beverage, and tobacco sub-sector accounting for nearly 50% of this output. The sector is also integral to Nigeria's industrial policy aimed at promoting backward integration and reducing import dependency (Central Bank of Nigeria, 2021). Yet, despite its potential, the sector is underperforming relative to its capacity, primarily due to infrastructural constraints, regulatory inefficiencies, limited access to finance, and exposure to global supply chain disruptions (Adegbite, 2020; Oladipo & Fabayo, 2012).

To operate and compete under such conditions, Nigerian manufacturers often adopt reactive and adaptive strategies. These include sourcing alternative energy through diesel generators, localizing supply chains, engaging in policy lobbying, and focusing on niche markets to mitigate risks (Obioma

et al., 2021). While these strategies may offer short-term stability, they often fall short of creating sustained competitive advantage, which requires firms to develop distinctive capabilities and long-term strategic foresight (Barney, 1991; Peteraf, 1993). Competitive advantage refers to the ability of a firm to consistently outperform rivals by delivering superior value to customers or by achieving lower costs (Porter, 1980). Firms may attain this advantage through differentiation (offering unique products or services), cost leadership (producing at lower cost), or a hybrid approach (Johnson et al., 2008). In manufacturing, differentiation can be seen in innovative packaging, enhanced product quality, or faster delivery timelines, while cost advantage may stem from economies of scale, supply chain optimization, or process innovation (Gebauer, et al.,, 2011; Kataria, 2023).

However, the sustainability of such advantages is increasingly challenged by the external environment's volatility. Environmental dynamism, a concept that has attracted vast scholarly contributions is the degree of change and unpredictability in a firm's external environment (Dess & Beard, 1984; Zahra & Pearce, 1990). In dynamic environments, firms must not only respond to immediate changes but also anticipate future trends and threats. This has led scholars to focus on dynamic capabilities (Teece, et al., 1997; Eisenhardt & Martin, 2000). Empirical studies have produced mixed findings on the relationship between environmental dynamism and firm performance. Fatoki (2021) established that innovation capabilities significantly influence competitive advantage in Nigerian SMEs, though such benefits are often moderated by the instability of the external environment. Similarly, Idowu (2017) found a positive correlation between environmental dynamism, competitive strategy, and non-financial performance in Nigerian manufacturing firms which highlighted the role of strategic adaptability. Conversely, Permana et al. (2017) posited that environmental dynamism may not directly affect performance unless mediated through innovation strategies and organizational learning mechanisms. These divergent outcomes suggest that environmental dynamism is a complex variable whose influence on competitive advantage is both context-dependent and strategy-contingent.
Urban (2010) further contended that the impact of environmental turbulence is more pronounced in large firms operating in emerging markets, due to higher exposure to regulatory scrutiny and public expectations. In contrast, smaller firms may demonstrate agility and responsiveness, but often lack the slack resources needed for sustained innovation. In the Nigerian manufacturing business landscape, where firms often operate with constrained resources and limited institutional support, these dynamics are especially salient (Adebisi & Bakare, 2019).

Despite the growing body of literature on environmental dynamism and competitive advantage, limited research has been conducted at the sub-national level within Nigeria, especially in industrialized states such as Rivers State. This state is home to several manufacturing clusters and benefits from strategic proximity to ports, energy resources, and regional markets. Yet, it is also marked by regulatory challenges, periodic civil unrest, and infrastructural decay, which makes it a compelling setting for exploring how firms adapt to and compete under dynamic conditions (Okeke et al., 2022). Accordingly, this study seeks to investigate the influence of environmental dynamism on the competitive advantage of manufacturing firms in Rivers State. By bridging contextual gaps in the literature, the study aims to contribute to strategic management theory in emerging markets and offer practical insights for firm-level strategy formulation in turbulent environments.

Aim and Objectives of the Study

This paper aim to investigate the nexus between environmental dynamism and competitive advantage within manufacturing firms in Rivers State, Nigeria. This study will explore how external environmental volatility influences firms' strategic positioning in achieving and sustaining competitiveness. The following are the specific objectives:

1. To examine the relationship between environmental dynamism and differentiation strategy among manufacturing firms in Rivers State.
2. To evaluate the relationship between environmental dynamism and cost leadership strategy among manufacturing firms in Rivers State.

Research Hypotheses

To guide the empirical investigation, the study proposes the following null hypotheses:

H_{o1}: There is no significant relationship between environmental dynamism and differentiation strategy.

H_{o2}: There is no significant relationship between environmental dynamism and cost leadership strategy.

Conceptual Framework and Literature Review

Environmental Dynamism (ED)

ED is the rate and volatility of change within a firm's external operating environment. It is commonly characterized by market volatility, technological disruption, competitive intensity, and shifts in regulatory frameworks (Miller & Friesen, 1983; Dess & Beard, 1984). A dynamic environment introduces uncertainty, compelling firms to continuously adapt their strategic configurations to remain viable (Eisenhardt & Martin, 2000). Li and Liu (2014); Drnevich and Kriauciunas (2011) conceptualized environmental dynamism as a multifaceted phenomenon that includes frequency, magnitude, and unpredictability of changes in customer preferences, innovation cycles, and competitor behavior. Wang and Ang (2004) argued that dynamism directly affects the strategic choices of firms, influencing how quickly and flexibly they respond to market demands. Dynamic environments, while threatening stability, also create windows of opportunity for firms that are agile and strategically adaptive. According to Teece (2007), firms that develop superior sensing, seizing, and reconfiguring capabilities are better positioned to navigate turbulence and leverage uncertainty into competitive advantage.

Competitive Advantage

Competitive advantage (CA) is a foundational concept in strategic management. CA describes a firm's ability to create superior value for customers relative to its rivals (Barney, 1991; Porter, 1985). A firm attains competitive advantage when it successfully implements a value-creating strategy that is not being simultaneously pursued by competitors and when other firms are unable to duplicate the benefits of this strategy (Peteraf, 1993). Barney (1991) posits that sustainable competitive advantage is built on resources that are valuable, rare, inimitable, and non-substitutable (VRIN). These can be in the form of internal resources such as proprietary technology, unique customer relationships, or innovative capabilities. In alignment, Prahalad and Hamel (1990) emphasize the development of core competencies is a function of collective learning and coordination of diverse production skills shapes the attainment of a competitive advantage. Lately, innovation has also emerged as a key enabler (Ribeiro & Steiner 2021; Hitt et al. 2002) in driving firm-level competitiveness.

Differentiation Strategy

Differentiation strategy involves offering products or services that are perceived as unique by customers in ways that are valued and difficult to imitate. According to Porter (1985), differentiation can be achieved through various means, including superior quality, innovative features, customer service, brand image, and technological capabilities. Firms pursuing differentiation often develop distinctive capabilities that allow them to cater to niche segments or deliver premium value (Johnson, Scholes, & Whittington, 2008). McCracken and Wallace (2000)

emphasize that differentiators include not only product attributes but also delivery systems, organizational reputation, and customer engagement processes. In dynamic environments, differentiation becomes a source of insulation from price competition and market saturation. Pondeville, et al., (2013) stress the importance of environmental scanning and sustainable innovation in reinforcing differentiation, particularly as customers become more socially and environmentally conscious.

Cost Leadership Strategy

Cost leadership refers to a firm's ability to minimize operational expenses within its industry, enabling it either to underprice competitors or to attain superior profit margins while maintaining average market prices (Porter, 2008). This strategy often requires economies of scale, efficient production systems, tight cost control, and resource optimization (Hill & Jones, 2009). According to Woodruff (2007), cost leadership, while effective, can be dangerous if pursued without genuine cost efficiencies. Firms that slash prices without corresponding reductions in operational expenses may compromise quality or profitability. Thus, automation, outsourcing, and supply chain efficiency are common levers in cost leadership models (Zahra, 2000). Cost leadership is particularly viable in manufacturing sectors, where process standardization, mass production, and capital intensity are prevalent. However, the sustainability of such strategies is contingent on the firm's ability to continuously innovate its cost structures in response to environmental volatility.

Theoretical Underpinning

This study is anchored on the Dynamic Capabilities Theory (Teece, Pisano, & Shuen, 1997) and the Resource-Based View (RBV - Barney 1991). The Dynamic Capabilities Theory (Teece, Pisano, & Shuen, 1997) posits that in dynamic markets, it is not merely the possession of resources that confers advantage but the organization's capacity to adapt, develop, and realign both internal capabilities and external resources in response to fast-evolving environmental conditions. It explains how firms respond strategically to environmental dynamism through either differentiation or cost leadership.

The Resource-Based View (RBV), Barney (1991), posits that the foundation of a firm's sustained competitive advantage lies in the strategic resources it possesses. The resources must be valuable, rare, inimitable, and non-substitutable (VRIN). This internal firm-centric perspective diverges from traditional market-based views by emphasizing that competitive superiority is not merely a product of industry positioning but arises primarily from the configuration and deployment of firm-specific assets and capabilities (Wernerfelt, 1984; Peteraf, 1993). Within the RBV framework, resources are not limited to tangible assets but also encompass intangible capabilities such as knowledge, organizational culture, technical expertise, and relational networks (Barney, 2001; Amit & Schoemaker, 1993). These internal resources, when strategically aligned with the firm's value-creating activities, serve as the bedrock of differentiation and cost leadership (Porter, 1985). In summary, the RBV and its dynamic extension collectively offer a robust theoretical scaffold for examining how environmental dynamism interfaces with competitive strategy.

METHODOLOGY

A cross-sectional survey design was chosen for its suitability in examining multiple organizational variables within a limited time horizon. Cross-sectional designs are widely recognized in management and social science research for their ability to capture a snapshot of prevailing practices, perceptions, and relationships at a particular point in time (Creswell, 2014; Saunders, Lewis & Thornhill, 2019). The target population comprises 132 management staff across ten strategically selected food and beverage companies operating in Port Harcourt. These firms were purposively selected based on their strong operational presence, regional reputation, and relevance to the study's objectives. Selection was guided

by data from the Port Harcourt Chamber of Commerce, Industry, Mines, and Agriculture (PHCCIMA). The focus on management-level personnel aligns with the guidance of Mugenda and Mugenda (2003), who argue that decision-makers are often best positioned to provide informed and reflective responses on organizational processes and strategies. To determine an appropriate and statistically reliable sample size, the study applied a conventional estimation approach suited for finite populations at a 95% confidence level. This procedure yielded a sample of 99 respondents out of the 132-member population. The approach aligns with the recommendations of Babbie (2010), who posits that a properly determined sample size is essential for balancing reliability, generalizability, and cost-efficiency in field-based research. Furthermore, to ensure fair representation across all participating firms, the sample was proportionally allocated based on the relative size of each company's management staff. This proportional allocation technique enhances the representativeness of the data and minimizes sampling bias. For instance, firms with a larger number of managers such as 3nity Foods or Dripples Limited received a greater share of the total sample, while smaller firms like Tatafish Foods were allocated fewer respondents. This approach is consistent with stratified sampling principles (Bryman & Bell, 2015), which advocate for group-based representational balance in multi-organizational studies.
To explore the relationship between talent management practices and organizational competitiveness, the researcher employed Spearman's rank-order correlation coefficient, a non-parametric statistical technique suitable for assessing monotonic associations between ordinal or non-normally distributed variables (Pallant, 2020; Field, 2018). The choice of Spearman's rho was informed by the nature of the data generated from the Likert-type survey items, which are better analyzed through non-parametric methods that do not assume normality or interval-level scaling (Hair et al., 2019). This analytical approach enables the identification of both the strength and direction of the association between the constructs under investigation. All data analyses were conducted using IBM SPSS Statistics (Version 22).

Result and Discussions

Out of the 99 questionnaires administered to selected food and beverage companies operating in Port Harcourt, Rivers State, a total of 90 were returned in a complete and usable form. This yielded a high response rate of approximately 91%, which is consistent with the acceptable threshold for social science research surveys (Babbie, 2010; Creswell & Creswell, 2018).

Hypotheses Testing

Hypothesis One

H01: *There is no significant relationship between environmental dynamism and differentiation*

Table 4: Correlation between environmental dynamism (EDM) and differentiation (DFN)

		ED	*DFN*
E	*Correlation Coeffic ient*	*1*	*.812*
	Sig. (2-tailed)		*.000*
	N	*90*	*90*
	Correlation Coeffic	*.812*	*1*

	ient		
	Sig. (2-tailed)		
DF		*.000*	
	N	*90*	*90*

***. Correlation is significant at the 0.05 level (2-tailed).*

The first hypothesis examined whether environmental dynamism is significantly related to differentiation. The result revealed a strong positive correlation between environmental dynamism and differentiation ($r = 0.812$, $p < 0.001$), indicating that as environmental conditions become more dynamic, firms are more likely to adopt differentiation strategies. This is consistent with the strategic management literature, which asserts that turbulent environments compel firms to distinguish their offerings through innovation, brand positioning, and customer-centric approaches (Dess & Beard, 1984; Miller, 1988). Environmental dynamism, characterized by rapid changes in technology, customer preferences, and competitive actions, necessitates greater responsiveness and unique value propositions (Porter, 1985; Zahra & Pearce, 1989). As such, the null hypothesis is rejected, and the alternative is supported.

Hypothesis Two

H02: *There is no significant relationship between environmental dynamism and cost leadership.*

Table 5: Correlation between environmental dynamism and cost leadership

		ED	*CLP*
	Correlation Coeffic	*1*	*.838*
	ient		
	Sig. (2-tailed)		
E			*.000*
	N	*90*	*90*
	Correlation Coeffic	*.838*	*1*
	ient		
	Sig. (2-tailed)		
CL		*.000*	
	N	*90*	*90*

***. Correlation is significant at the 0.05 level (2-tailed).*

The second hypothesis tested the association between environmental dynamism and cost leadership strategy. The result also provided a strong positive and statistically significant correlation ($r = 0.838$, $p < 0.001$). This suggests that firms operating in dynamic environments may simultaneously seek to optimize cost structures to remain competitive. This corroborates the findings of prior empirical

research indicating that environmental volatility can drive cost-conscious innovation, operational efficiency, and lean processes (Ward & Duray, 2000; Tan & Litsschert, 1994). Although traditionally seen as contrasting strategies, contemporary perspectives suggest that differentiation and cost leadership may not be mutually exclusive, especially in highly dynamic sectors where ambidextrous strategic behavior enhances firm resilience and adaptability (O'Reilly & Tushman, 2013).

CONCLUSION AND RECOMMENDATIONS

This study has empirically demonstrated that environmental dynamism significantly influences both differentiation and cost leadership strategies among manufacturing firms operating within Rivers State. The high and statistically significant correlation coefficients observed between environmental dynamism and the two strategic orientations (differentiation) (r = 0.812**) and (cost leadership) (r = 0.838**) emphasize the extent to which external turbulence shapes strategic decision-making.

Recommendations:

1. Manufacturing firms should invest in structured mechanisms for continuous market monitoring, including trend analysis, competitor intelligence, and systematic customer feedback collection.
2. To optimize cost structures without compromising strategic focus, manufacturing firms should consider outsourcing peripheral or support functions to specialized third-party providers.

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