



## Environmental Dynamism and Competitive Advantage of Manufacturing Firms in Rivers State

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**Abstract:** *This study examined the relationship between environmental dynamism and competitive advantage of manufacturing firms in Rivers State, Nigeria. The research utilized a survey method. 99 copies of questionnaire were administered to employees of the selected manufacturing firms, 90 copies were retrieved and used. Spearman Rank Order Correlation Coefficient was used for data analysis. The findings revealed that there is a strong positive relationship between environmental dynamism and measures of competitive advantage (differentiation and cost leadership) of manufacturing firms in Port Harcourt, Rivers State. The research concludes that environmental dynamism significantly relates with competitive advantage of manufacturing firms in Port Harcourt, Rivers State. The research recommends that manufacturing firms should invest in new technologies. New technologies can help manufacturing firms to reduce their costs by improving their operational efficiency and productivity. For example, firms can invest in new manufacturing equipment, software, and automation systems to reduce waste and improve the quality of their products.*

**Keywords:** *Competitive Advantage, Cost Leadership, Differentiation, Environmental Dynamism*

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### Introduction

Today's business climate is characterised by volatility, unpredictability, hostility, complexity, and uncertainties as a result of shifting customer preferences, globalisation, and rapid technical advancements. Many enterprises in Nigeria have failed because of the difficulties, unpredictability, and complexity of the modern business environment.

There are many obstacles facing the food and beverage manufacturing business in Nigeria, which is part of the larger manufacturing industry. In order to keep operations running smoothly, most businesses need to invest in expensive "emergency" power generators. In addition, there are problems with regulations, taxes, and trade facilitation (Raji, 2018). In April 2018, Frank Jacobs, president of the Manufacturers Association of Nigeria, spoke to the media about the difficulties facing the industry. Since American manufacturing is more expensive than that of other countries, being able to generate your own power for production is an advantage.

Inadequate and erratic electricity supply, high taxes, poor infrastructure, and supply variability of rain-dependent agricultural inputs are just some of the problems the food and beverage industry faces (National Bureau of Statistics, 2014). The NBS does highlight a few bright spots, including relatively low costs of labour and inputs and robust domestic demand.

A corporation has a competitive edge if it can make or provide its products or services more efficiently than its rivals. It paves the way for increased profits, which benefits both the business and its stockholders. To have a competitive advantage, a company must have something that its rivals cannot readily copy (Twin, 2023; Peterdy, 2023).

There are a number of factors that contribute to a company's success in the global market, including technological expertise (Bassat, Mohamed, Sangaiah, & Jain, 2018), well-trained and enthusiastic employees and management, effective systems for managing the business, a well-organized structure, and a commitment to producing high-quality products (Latifah, Setiawan, Aryani, & Rahmawati, 2020).

Small family businesses can differentiate themselves from the competition by focusing on differentiation and cost leadership, as suggested by Porter (1980 as quoted in Douglas, Douglas, Davies, Ross, Ross, & Cross, 2010). In order to stand out from the crowd, businesses and brands must differentiate their offerings. Function, pricing, customer service, and marketing are just a few examples of what buyers consider to be superior or distinctive. Differentiating one's offering from the competition helps bring in new clients and keep existing ones happy. Differentiation in the market may hinge on a company's unique set of strengths that are difficult for rivals to replicate (Gebauer, Gustafsson, & Witell, 2011). Having the lowest operating costs in your sector is a great way to gain an edge over the competition and achieve cost leadership. There are many benefits to being a cost leader, including a lower production cost and higher profit margins, lower production costs as a result of price wars between competitors, and a larger share of the market for companies that focus on providing low-cost but high-quality goods as demand increases (Kataria, 2023).

Hou et al. (2019) define environmental dynamism as the rate of change and the level of instability of the environment. Companies are vulnerable to the ever-changing external environment because they are open systems (Permana et al., 2017). Businesses face formidable challenges when the environment is dynamic, as it renders standard approaches ineffective and necessitates immediate action. And while it's true that companies in rich nations face environmental change, that change is typically smaller in scope than what's seen in developing nations (Van Eden et al., 2019; Surty & Scheepers, 2020). In a stable setting, major shifts do not occur all of a sudden. Changes in society, technology, and other areas make stable ecosystems unusual (Li & Liu, 2014). Huge and rapid shifts in technology, consumer tastes, and producer supply are all hallmarks of such circumstances.

The impact of environmental shifts on the correlation between innovation and market advantage was studied by Fatoki (2021). The results showed that creative activities considerably add to a company's competitive advantage. The moderating effect of environmental variability is minimal. The study's idea explains how the unpredictability of an organization's surroundings might dampen the potential benefits of being creative. Mediating the link between environmental uncertainty, managerial adaptability, and strategic organisational learning was the focus of Permana et al.'s 2017 research. Company performance was not considerably impacted by environmental variability, managerial flexibility, or strategic organisational learning, despite their large effects on dynamic capability. The dynamic capability variable mediated the positive effects of planned organisational learning, managerial adaptability, and shifting external conditions on firm performance. Idowu (2017) studied the competitive strategies, non-financial success, and dynamism of the business environment for Nigerian manufacturers. Three variables were shown to be positively and significantly related: environmental dynamism, competitive strategy, and non-financial performance. Furthermore, the fitted regression model adequately described the variance in the independent variable (which is not financial performance), as shown by the coefficient of determination  $R^2 = 0.208$ . There was sufficient evidence to rule out six of the hypotheses under consideration. The study concluded that generic strategies and industry pressures have a significant, beneficial effect on the performance of Nigerian manufacturing businesses. Competitive strategies in a volatile and adversarial setting were the focus of Urban's (2010) research. Studying tech companies in an underdeveloped country. According to the data, only large enterprises (those with more than 50 employees and an operating history of three to seven years) have the environmental volatility and antagonism effect their competitive strategy stance. Miles, Covin, and Heeley (2000) looked into how small enterprises' structure, strategy, and performance are intertwined with their surroundings. The results show that the degree to which environmental change affects the ties between organisational make-up, strategic orientation, and company success differs from company to company.

Despite these findings, it is clear that little has been done to investigate the link between environmental dynamism and competitive advantage, especially in emerging markets like Nigeria. As a result, there are big holes due to changes in context. Thus, the goal of this research was to determine whether or not environmental variability affects Rivers State's industrial sector's ability to compete successfully.

### **Aim and Objectives of the Study**

The aim of the study is to investigate the relationship between environmental dynamism and competitive advantage of manufacturing firms in Rivers State. Thus, the following specific objectives are stated as:

- to evaluate the relationship between environmental dynamism and differentiation.
- to x-ray the relationship between environmental dynamism and cost leadership.

### **Research Hypotheses**

**H<sub>01</sub>:** There is no significant relationship between environmental dynamism and differentiation.

**H<sub>02</sub>:** There is no significant relationship between environmental dynamism and cost leadership.

### **Concept of Environmental Dynamism**

Miller and Friesen's (1983) concept of environmental dynamism is relied on by a number of researchers (Eisenhardt & Tabrizi, 1995; Wang & Ang, 2004; Drnevich & Kriauciunas, 2011; Li & Liu, 2014) who agree that volatility (the pace and quantity of the changes) and unpredictability (uncertainty) of the external environment of the company are the main characteristics of environmental dynamism. To put it another way, environmental dynamism is defined by the rate, magnitude, and irregularity of change in key industrial players, consumer tastes and demands, and manufacturing methods and technology (Miller & Friesen, 1983). Furthermore, environmental identification is a highly subjective procedure.

According to another definition (Wang & Ang, 2004), environmental change can be thought of as the way in which customers' needs and industry trends influence the nature and strategies of rivals. According to Drnevich and Kriauciunas (2011), the degree to which an industry's environment is dynamic is proportional to the magnitude and unpredictability of shifts in consumers' preferences, the nature of production technologies and services, and the competitive strategies of the sector's leading firms.

### **Concept of Competitive Advantage**

Implementing a technique that rivals aren't utilising is one way to gain an edge, but in order to maintain that advantage over time, the method must be unique and unreplicable (Barney, 1991). Rare, non-substitutable, valuable, and distinctive resources make it considerably more difficult to replicate a successful plan. Establishing and maintaining a competitive edge (Prahalad et al., 1990) requires organisations to create and cultivate core capabilities. Companies should put resources into information gathering, consumer feedback collection, and knowledge sharing and dissemination (Kamukama et al., 2011).

"Innovation is one of the main factors that positively influence competitiveness and economic development" (Ribeiro & Steiner, 2021), making it fundamental to the field of strategy study. If you've read Hitt et al. (2002) or Ireland and Webb (2007), you know that a company has a sustainable competitive advantage when it has successfully implemented a strategy that adds superior value to the consumer and that its competitors either can't replicate or believe is costly to imitate.

### **Concept of Differentiation**

Building capabilities that set your company apart from the competition is what we call a "differentiation strategy." To obtain an edge over competitors, many businesses employ a differentiation strategy, in which they try to make their products and services stand out from the crowd. Successfully convincing customers of the merits of sustainable products requires that businesses have a clear picture of the competitive landscape (Pondeville, Swaen, & de Rongé, 2013).

Finding out how your company differs from the competition is the first step in developing a differentiation strategy. Differentiating a company has been recommended on the basis of market segment, job quality, firm size, reputation, visual impact, client organisation involvement, product, delivery method, and marketing strategy (McCracken Wallance, 2000). Differentiation is a tactic used by businesses to get an edge in the marketplace.

### **Concept of Cost Leadership**

The term "cost leadership strategy" was used by Porter (2008) to describe the practise of undercutting the competition by consistently offering cheaper pricing. This is accomplished through decreasing manufacturing and distribution costs, which in turn reduces commodity prices. Even in price-regulated marketplaces, this can be achieved through increased efficiency thanks to automation, adaptability, and streamlined production. A corporation can run out of money and quickly go out of business if it keeps cutting prices without cutting costs elsewhere, especially in a highly competitive industry (Woodruff, 2007).

This approach runs into problems in many fields and can really only be used in settings like the manufacturing industry, where output is quite high compared to market size and economies of scale are possible. Outsourcing, as Zahra (2000) argues, is widely used to cut salaries while keeping the same number of employees and their output levels.

### **Theoretical framework**

#### **Resource-based View Theory**

According to the resource-based perspective theory (Innocent, 2015), a company's competitive advantage lies in its ability to capitalise on its distinct set of resources and competencies. In this context, in an effort to further develop the classical resource-based theory, the dynamic capability theory has emerged, expanding our understanding of how value-creating strategies within organisations interact with an ever-changing external environment to produce sustainable organisational performance (Pratono, 2016). According to the classical resource-based theory, companies can only develop and put into action strategies that will provide them a competitive edge if they make use of the valuable assets, capabilities, and information that are under their control.

#### **Contingency Theory**

All contingency models share the premise that organisational performance is the consequence of a congruence between a number of factors, including organisational structure, personnel, technology, strategy, and culture (Tosi & Slocum, 1984). According to Pratono (2016), the central claim of contingency theory is that organisations operate best when their structures are well-suited to the challenges presented by their size, technology, and environment.

### **Methodology**

#### **Research Design**

This study employs a cross-sectional survey methodology because it is interested in assessing a number of factors within a constrained time frame. A research population is a big group of people or things that serves as the primary focus of an investigation. Researchers work to improve people's lives (Explorable, 2009). Ten food and drink companies in Port Harcourt, Rivers State, will provide the sample for this research. A 0.05 level of significance (or 95% confidence level) was used in Taro Yamane's formula to estimate the sample size. Because of their general high ratings and recommendations across the state, these particular businesses were chosen as a sample. And 132 may be the total number of house managers. Thus, by applying the Taro Yamane Formula, we find that:

$$n = ?$$

$$N = 132$$

1 = Constant unit

e = 0.05

$$n = \frac{132}{1 + 132(0.05)^2}$$

$$n = \frac{132}{1 + 132(0.0025)}$$

$$n = \frac{132}{1 + 0.3575}$$

$$n = \frac{132}{1.3575}$$

$$n = 99$$

Which signifies that 99 questionnaires are distributed as deciphered above.

The sample size for each firm is determined by using the Bowley's (1964) population allocation formula.

$$n_h = \frac{nN_h}{N}$$

Where  $n_h$  = unit allocation for each firm

$n$  = total sample size

$N_h$  = number of management staff in each firm.

$N$  = population size

For example, the sample of Genesis food Nig. Ltd

$$\begin{aligned} N_h &= \frac{16 \times 99}{132} \\ &= 12 \end{aligned}$$

**Table 1: Population of the study**

S/N	Firms	Number of Management Staff	Sample Size
1	Pokobros Foods & Chemical Industries Limited	8	6
2	Nigeria Bottling Co Plc	17	12
3	Tatafish Foods Nig. Ltd.	5	4
4	Port Harcourt Flour Mills Limited	8	6
5	Pabod Breweries Ltd	10	8
6	3nity Foods	25	18
7	Chicken Republic	15	11
8	Dripples Limited	18	14
9	Genesis Food Nig Ltd	16	12
10	Riv Biscuits Co Nig Ltd	10	8
	<b>Total</b>	<b>132</b>	<b>99</b>

Source: Port Harcourt chamber of commerce, industry, mines and agriculture (PHCCIMA)

The researcher analysed the survey data using Spearman's rank-order correlation coefficient to look into the connection between talent management and competitiveness. The 22nd version of the Statistical Package for the Social Sciences (SPSS) was used for all statistical analysis.

Decision-Making Factors: Coefficient of correlation according to Spearman's rank order:

If the Spearman's rho coefficient is greater than the critical value (CV), then the null hypothesis must be rejected.

If the Spearman's rho coefficient is less than or equal to the crucial threshold, the null hypothesis is not rejected.

Criteria	Decision
$r_s > CV$	Reject the null hypothesis
$r_s \leq CV$	Fail to reject the null hypothesis

### Result and Discussions

Based on the projected sample size of 132, the researchers sent out 99 questionnaires to the participating food and beverage companies. The study used just the 90 copies that were returned complete and in usable condition for analysis.

**Table 1: Respondents' Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	68	75.6	75.6	75.6
	Female	22	24.4	24.4	100.0
	Total	90	100.0	100.0	

The gender breakdown of the sample is presented in Table 1. There were 68 male responses (representing 75.6%) and 22 female respondents (representing 24.4%).

**Table 2: Respondents' Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30-39	38	42.2	42.2	42.2
	40-49	26	28.9	28.9	71.1
	50-59	19	21.1	21.1	92.2
	60 and Above	7	7.8	7.8	100.0
	Total	90	100.0	100.0	

The respondents' ages are listed in Table 2. There were 38 respondents (42.2% of the total) between the ages of 30 and 39; 26 respondents (28.9%) between the ages of 40 and 49; 19 respondents (21%) between the ages of 50 and 59; and 7 respondents (7.2%) between the ages of 60 and above.

**Table 3: Respondents' Educational Qualification**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Others	7	7.7	7.7	7.7
	OND/HND	27	30.0	30.0	37.7
	Bachelor	41	45.6	45.6	83.3
	MSc/MBA	15	16.7	16.7	100
	Total	90	100	100	

The respondents' academic backgrounds are listed in Table 3. Seven respondents, or 7.7 percent, have some other form of higher education certification; thirty percent (30%) of respondents have OND/HND diploma certificates; forty-one percent (45.6%) of respondents have bachelor's degrees; and fifteen percent (15%) of respondents have master's degrees.

**Hypotheses Testing**

**Hypothesis One**

H<sub>01</sub>: There is no significant relationship between environmental dynamism and differentiation

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

		ED	DFN
E	Correlation Coefficient	1	.812
	Sig. (2-tailed)		.000
DF	N	90	90
	Correlation Coefficient	.812	1
	Sig. (2-tailed)	.000	
	N	90	90

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

Bivariate examination of the relationship between environmental change and individual difference is presented in Table 4. According to the data, there is a strong positive link between

environmental dynamism and differentiation ( $r = 0.812^{**}$ ,  $p = 0.000$ ). Therefore, we accept the alternative hypothesis and reject the null.

**Hypothesis Two**

H<sub>02</sub>: There is no significant relationship between environmental dynamism and cost leadership.

**Table 5: Correlation between environmental dynamism and cost leadership**

		ED	CLP
	<b>Correlation Coefficient</b>	<b>1</b>	<b>.838</b>
<b>E</b>	<b>Sig. (2-tailed)</b>		<b>.000</b>
	<b>N</b>	<b>90</b>	<b>90</b>
	<b>Correlation Coefficient</b>	<b>.838</b>	<b>1</b>
<b>CL</b>	<b>Sig. (2-tailed)</b>	<b>.000</b>	
	<b>N</b>	<b>90</b>	<b>90</b>

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

The correlation between cost leadership and a dynamic environment is shown in Table 5. Based on the data in the table, we can conclude that the alternative hypothesis—that environmental dynamism is positively associated with cost leadership—is correct and the null hypothesis is false.

**Discussion**

Increasing or decreasing the activity of environmental dynamism by one unit or percent will result in an increase or decrease in the differentiation of manufacturing firms by 81.2%, respectively. This strong correlation is also statistically significant, with values of  $\rho = .812$  and  $p = 0.05$ . Multiple scholars, including Tuan and Yoshi (2010), Schilke (2014), and Eisenhardt and Martin (2000), have reached similar conclusions in their past research. Resource recombination, they said, is where environmental vitality really pays off and gives businesses an edge. Competitive advantage, they argue, requires a dynamic environment, but that alone is not enough.

Based on these results, we can infer that the cost leadership of manufacturing firms can shift by as much as 83.8% in the same direction as the value of environmental dynamism (the second variable under consideration in this study). Similarly, Augier and Teece (2009) found that environmental dynamism can be broken down into seizing capability, sensing capability, and reconfiguration capability from an analytical standpoint, therefore this fits with their findings.

### Conclusion and Recommendations

This research indicates that the environmental dynamic affects the differentiation and cost leadership of manufacturing enterprises in Rivers State based on its observations and actual data. The following were suggested in light of the results and final analysis:

1. Companies in the manufacturing sector would do well to keep an eye on market trends and client feedback in order to create goods and services that are well received. This is crucial in today's fast-paced business world, where consumers' wants and demands are always evolving.
2. Relationships with customers and suppliers are crucial for manufacturing companies. Manufacturing companies that maintain positive relationships with their clients and suppliers are better able to monitor and adapt to market shifts. This will allow them to create unique goods and services tailored to their clientele's requirements.
3. By contracting out non-essential tasks to experts, manufacturers can save money. As a result, more energy and time may be devoted to the business's essential functions, like product development and production.

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