INFLUENCE OF ECONOMIC ENVIRONMENT ON THE PERFORMANCE OF CEMENT MANUFACTURING COMPANIES IN NIGERIA

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Abstract

Many experts are concerned about the necessity to look into what causes the performance of cement manufacturing businesses in Nigeria to be questionable. Therefore, the study looked into how economic factors impact Nigerian cement manufacturing enterprises’ performance. Interest rate, inflation rate, exchange rate, unemployment rate, and economic growth were the economic environmental factors taken into account in this study. The study’s descriptive and explanatory design and survey methodology were appropriate for achieving its goal. For the 398 sample size considered, primary data were gathered using a standardized questionnaire. In this study, descriptive and inferential analyses were both completed. Frequency tables and charts were used to analyze the data collected in a descriptive manner. The Statistical Package for Social Science (SPSS), which produced the correlation and regression results, was used to conduct the inferential analysis. The results showed that all economic and environmental factors significantly affect how well cement manufacturing enterprises function in Nigeria. The original finding of this study is that the performance of Nigerian cement manufacturing enterprises is most significantly influenced by economic factors, specifically currency rates. With these findings, the study came to the conclusion that economic considerations had a favorable impact on the performance of Nigerian cement manufacturing enterprises. Therefore, it is recommended that cement manufacturing businesses, among other things, should be more aware of the economic indicators that could affect their performance through ongoing feasibility studies on alternative economic indicators in the industry.

Keywords: Cement, Economy, Environment, Manufacturing, Performance

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1. Introduction

Every industrial sector, including cement, needs an enabling business climate to operate effectively. No organization in the entire world is capable of functioning in isolation or on an island. Every organization operates in a context, and those contexts include the resources at hand as well as the external events. The performance (success or failure) of every organization is directly impacted by environmental occurrences (Vincent & Ifeanyi, 2015). Therefore, in order to perform effectively, managers must react to and adapt to changes in their surroundings in order to be able to understand the opportunities and difficulties that lie ahead of them in their company environment. Every manufacturing organization is impacted by the external and internal environmental forces and conditions that govern their capacity to access and use resources. The environment contains elements that present opportunities and risks for businesses that manufacture cement. Many industrial businesses have failed due to negative business climate issues, according to Adeoye (2015). Technology, economic, political, and demographic aspects are the main environmental factors that affect how uncertainly the cement production business performs.

However, there are divergent views on which among the environmental factors influences performance of firm better. Some scholars (Nwekpa & Evans, 2015: Adeoye, 2015 and Okwu, Bakare & Obiwuru, 2013) are of the opinion that economic factor are in better position to impact on performance of Manufacturing Companies in Nigeria. While others such as (Mai & Phuong, 2013 and Abdullahi, Ali, Ghali & Majid, 2015) considered technological factor as more efficient in determining performance. Finally, socio-cultural factor as most influential in determining performance was supported by Felicia, Olusoji, Oluwakemi and Mofope, (2013); and Vincent and Ifeanyi, (2015).

According to Adeoye, 2015 the major factor that constitutes uncertainty on the performance of cement manufacturing companies in Nigeria is the economic factors. The Nigerian economy does not favor cement production, most of the raw materials for production are not found in the country and the cost of importing is very expensive and even worse during economic recession and COVID-19 pandemic. Inflation have deeply affected the manufacturing industry and exchange rate from Nigerian naira to other currency (like; dollar and pounds) is not favorably. In addition, Cement Manufacturing Companies in Nigeria are faced by high distribution costs due to the nature and composition of cement which is quite heavy, the costs of distributing the product to the final consumer is relatively high. This explains the reason
why most producers are regional players who prefer to operate within a specified demographic area. Furthermore, erratic power supply is another major challenge facing manufacturing companies. Being a capital intensive sector which to a large extent relies on the use of heavy duty automated machinery, constant electricity remains a critical success factor.

The effects of the economic environment on business performance have been the subject of numerous studies, such as those by Aazir & Qazi (2012), Akpor-Robaro (2012), Babalola & Abel (2013), and Adeoye & Elegunde (2012), but only a small number of studies have been conducted in the manufacturing sector (Mohammed & Abu (2012) and Nelson (2012) during this unfavorable period of economic recession and COVID-19 pandemic). Based on the aforementioned, this study aims to investigate how Nigeria's economic environment affects the performance of cement manufacturing companies.

2. Conceptual Framework

Economic Environment

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Environment</td>
<td>Performance of Cement Manufacturing Companies in Nigeria</td>
</tr>
<tr>
<td>(Interest rate, Inflation rate, Exchange rate, Unemployment rate, Economic growth)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Conceptual framework developed by the researchers (2021)

Economic Environment

Economic environment according to Omobolanle (2009) is referred to all those economic factors, such as inflation rate, exchange rate, unemployment rate etc which have bearing on the

Omobolanle (2009) defined the economic environment as all those economic variables, such as inflation, exchange rates, unemployment rates, etc., that have an impact on how well cement manufacturing enterprises perform in Nigeria. Omobolanle (2009) made the further
observation that all the inputs required by small-scale businesses rely on the economic situation. Therefore, the business operations in Nigeria are influenced by the economic climate.

Economic environment refers to the economic variables such as inflation, exchange rates, interest rates, employment, etc. that either directly or indirectly influence the operations of small enterprises in Nigeria. Furthermore, Shane (2014) contends that the term "economic environment" refers to the entire set of economic variables, including employment, income, inflation, interest rates, productivity, GDP, and currency rates, that have an impact on the operations of cement manufacturing enterprises in Nigeria.

**Business Performance**

In general, the idea that an organization is the voluntary association of productive assets, including human, physical, and capital resources, for the goal of achieving a shared objective is the foundation of the concept of organizational performance. Those that provide the assets will only provide them to the organization if they are happy with the value they get back in comparison to other uses for the assets. As a result, the production of value is the essence of performance. The assets will continue to be made available to the organization, and the organization will continue to exist, as long as the value produced by using the contributed assets is equal to or higher than the value anticipated by individuals who contributed the assets. Value creation, as defined by the resource supplier, is therefore the primary criterion for overall performance for every firm. The majority of management empirical research focuses on how that value is created. In contrast, the focus of this study is on how that value is measured (Carton, 2004).

Performance gauges an organization's success in attaining its objectives. Henezel, 2002 explained that to measure performance, must establish some standards and then they must gauge and evaluate their strategies, values, and practices by benchmarking with high performance. Mian Awais Shahbaz, Asifah Javed, and Amina Dar 2014 have different views on performance measurement. Additionally, according to KravchukSchack (1996), performance is measured in order to assess how well an organization is performing (MianAwaisShahbaz, AsifahJaved, Amina Dar 2014). Performance measurement indicators (dependent variables) for evaluating company performance in cement manufacturing companies were used in this study.
A variety of factors, both financial and non-financial, are used to gauge an organization's performance. Profits, return on assets (ROA), return on investment (ROI), and other financial performance metrics comprise financial performance, whereas non-financial measures include sales stability, survival, customer satisfaction, customer loyalty, efficiency and effectiveness, skilled labor, and other factors. Customer satisfaction, product quality, brand loyalty, sales stability, product durability, and product design/feature are some of the non-financial characteristics used in this study (Ridwan, 2015). These factors are thought to be appropriate for examining how the external business environment affects the performance of Nigerian cement manufacturing enterprises.

**Theoretical Framework**

Contingency Theory, which serves as the foundation for this work, is described as follows:

Lawrence and Lorsch created the theory of contingency (1967). According to the contingency theory, there is no one optimum way for businesses to operate. The owners and managers of an organization will have varied environmental requirements depending on the circumstances. The environment's influence on the scenario will determine how to resolve a managerial problem. According to Fiedler, managing situational aspects that affect performance as well as the environment is necessary if performance is to be enhanced. Either the environment's suitability for the situation or the situation's suitability for the environment might enhance performance.

The theory, for instance, relates to the independent variables in the logic economic environmental element that any manufacturing industry's management can use for the business, while the dependent variable relates to performance, which is a result of the chosen business environment.

**3. Research Design**

This study used a descriptive methodology. This research approach was chosen because it provided a clear understanding of the situation in Nigerian cement manufacturing enterprises and evaluated the links and effects between the variables. The study falls under the category of applied research because the research issues were simply addressed by applying statistical techniques, such as tables, histograms, percentages, mean standard deviation, etc. This enhanced quantitative information acquired via a point-in-time survey technique.
Population of the Study

All of the stakeholders (workers, suppliers, distributors, etc.) of the three (3) listed cement manufacturing businesses on the Nigerian stock exchange as of December 2020—Dangote Cement Plc, Lafarge Holcium, and BUA—make up the population for the study. 96,872 stakeholders from the chosen cement manufacturing enterprises in Nigeria make up the study's population.

The Taro Yamene (1976) formula was used to calculate the study's sample size. The method was used to limit the population to a sample size that adequately represented the study's population in light of the large population obtained (96,872).

\[
\text{Taro Yemen's formula.} \\
\[ n = \frac{N}{1 + Ne^2} \]
\]

\[ n = \text{Sample size sought} \]
\[ e = \text{Level of significance tolerable error} = 0.05 \]
\[ N = \text{Population Size} \]

Therefore:

\[ n = \frac{96,872.00}{1 + 96,872.00(0.05)^2} = 398 \]

\[ n = 398 \text{ Approximately as Sample Size.} \]

Table: 1: Sample Size Distribution

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Company Name.</th>
<th>Population</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dangote Cement PLC.</td>
<td>43,592</td>
<td>179</td>
</tr>
<tr>
<td>2.</td>
<td>Ashaka Cement PLC.</td>
<td>33,905</td>
<td>139</td>
</tr>
<tr>
<td>3.</td>
<td>CCNN PLC.</td>
<td>19,375</td>
<td>80</td>
</tr>
<tr>
<td>4.</td>
<td>Total</td>
<td>96,872</td>
<td>398</td>
</tr>
</tbody>
</table>

Source: Company’s Report, 2020
According to the table, the sample size for Dangote Cement PLC, which has a population of 43,592, Ashaka Cement Company PLC, which has a population of 33,905, and Cement Company of Northern Nigeria, which has a population of 19,375, is each 179, or 44.97 percent of the total sample size. The sample size for Cement Company of Northern Nigeria is 80, or 20.01 percent of the total sample size.

**Methods of Data Collection**

The three (3) cement manufacturing companies listed on the Nigerian Stock Exchange (NSE; 2020), namely: Dangote Cement Plc, Larfage Holcium, and BUA Group, provided biographical information and answered questions about the analysis of the external business environment and the performance of cement manufacturing companies in Nigeria.

**4. Data Presentation and Analysis**

This section focuses on the presentation and analysis of data directly addressing the research objectives.

**Demographic Characteristics of Respondents**

Based on the respondents' demographic attributes, this section provides demographic statistics. The respondents' gender distribution, years of experience, marital status, highest educational qualification distribution, department/unit, type of company, and the age of their respective enterprises are among the demographic features. Table 2 displays the outcomes.

**Table 2: Demographic Characteristics of Respondents**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>291</td>
<td>73.2</td>
</tr>
<tr>
<td>Female</td>
<td>107</td>
<td>26.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>398</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25 years</td>
<td>44</td>
<td>11.1</td>
</tr>
<tr>
<td>26 – 35 years</td>
<td>83</td>
<td>20.9</td>
</tr>
<tr>
<td>36 – 45 years</td>
<td>113</td>
<td>28.8</td>
</tr>
<tr>
<td>46 – 55 years</td>
<td>104</td>
<td>26.1</td>
</tr>
<tr>
<td>56 years and above</td>
<td>54</td>
<td>13.6</td>
</tr>
</tbody>
</table>
According to Table 2 above, there were 26.8% more female respondents than male respondents when it comes to Nigerian cement manufacturing companies (73.2 percent of respondents were female and 26.8% were male). This implies that men make up the majority of the respondents. Due to the nature of the labor, which required strength, the enterprises employed more men than women.

The table also showed that 11.1 percent of the respondents who participated in the exercise were under the age of 25, 20.9 percent of the respondents were in the 26-35 age range, 28.4 percent of the respondents were in the 36-45 age range, 26.1 percent of the respondents were
in the 46-55 age range, and 13.6 percent of the respondents were over the age of 55. The consequence is that the majority of respondents who took part in the exercise are between the ages of 36 and 45, indicating that the majority of respondents who work for the organization are young people is expected to be high since youth constitute majority.

The table also revealed that 58.3 percent of the respondents who took part in the exercise are married, compared to single respondents who make up 41.7% of the total. The majority of responders are married, which implies that married people are more responsible and aware of their jobs.

According to the table, 23.1% of responders with "O" Level or equivalent certificates took part in the activity. According to the graph, 10.6% of respondents with postgraduate studies certificates and 38.2% of respondents with diplomas or equivalent certificates engaged in the exercise. Twenty-one percent of respondents with degrees or equivalent certificates also took part. The chart also revealed that 7.0% of respondents claimed that their qualifications were not among those that were listed. They claimed to have certificates for mechanical training, computer training, and engineering training. The implication of this is that majority of the respondents that participated on the exercise holds National Diploma or equivalent certificate which indicate that workers in are educated up to National Diploma or equivalent certificate.

The financial staff makes up the majority of the study's responses. 10.8% of all responses are made up of them. Administration officers make up 10.5% of the workforce, while marketing officers make up 8.9%. Finally, production officers make up 4.8% of the responders. It follows that the majority of the study's responders are at the cutting edge of achieving the organization's goals.

The cement manufacturing companies involved in the study are also shown in Table 2 as a last point. Dangote Cement Plc accounts for a sizable fraction of the studied respondents (21.3%), whereas Ashaka Cement Plc accounts for 17.2%. BUA Cement, on the other hand, makes up 2.9% of all responders. Dangote Cement has more of them because it is the biggest company in the nation.
Figure 1: Does economic environment has effect on the performance of cement manufacturing companies in Nigeria.

Source: Field Survey, (2021)

Figure 1, shows that 97.45 percent of the respondents believed that external business environment has effect on the performance of cement manufacturing companies in Nigeria, while 2.55 percent says no. This means that external business environment has effect on the performance of cement manufacturing companies in Nigeria.

Figure 2: To what extend does economic environment affect the performance of cement manufacturing companies in Nigeria.

Source: Field Survey, (2021)
From Figure 2, shows that 34.40 percent of the respondents said yes with a very strong effect that environment has effect on the performance of cement manufacturing companies in Nigeria, 51.40 percent of the respondents said yes with strong effect that environment has effect on the performance of cement manufacturing companies in Nigeria, 4.80 percent of the respondents belied is ineffective. 3.82 percent of the respondents said yes but it is weak, while 2.90 percent of the respondents believed is very weak. From the response we can therefore say that external business environment affects the performance of cement manufacturing companies in Nigeria.

Figure 3, Percentage responses on Economic factors and their influence on the performance of cement manufacturing companies in Nigeria

Source: Field Survey, (2021)

Figure 3 shows that 7.05% of the respondents believed that interest rate is the major economic factor responsible for the uncertainties associated with the Nigerian manufacturing environment, 14% of the respondents belied is inflation, 8.90% of the respondents believed is exchange rate, 4.10% of the respondents believed that unemployment rate, and 2.95% of the respondents believed that economic growth, while 65% of the respondents believed that all of the economic factors are responsible for the uncertainties associated with the Nigerian manufacturing environment. The analyse revealed that inflation is the major economic factor responsible for uncertainty in the Nigerian cement manufacturing companies.
Table 3: Descriptive Statistics on Economic Environment

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Items</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Increase in interest rate is a major factor affecting our business?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.01</td>
<td>1.12</td>
<td>Accepted</td>
</tr>
<tr>
<td>2.</td>
<td>High inflation rate has increased the sales of our product in recent time?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>4.21</td>
<td>1.33</td>
<td>Rejected</td>
</tr>
<tr>
<td>3.</td>
<td>Exchange rate (from naira to foreign currency) has serious effect on our business?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>4.61</td>
<td>.53</td>
<td>Accepted</td>
</tr>
<tr>
<td>4.</td>
<td>Unemployment rate has caused low production of cement product in Nigerian manufacturing companies?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.22</td>
<td>1.42</td>
<td>Rejected</td>
</tr>
<tr>
<td>5.</td>
<td>The rate of the economic growth has significantly affected the cement manufacturing companies in Nigeria?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>4.16</td>
<td>1.22</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

**Sectional Mean**

3.84 1.12

Source: (SPSS V23 Output, 2021)

Table 3 presents data with respect to the status of economic factors and the performance of cement manufacturing companies in Nigeria. The analysis shows agreement with all items. The sectional mean of 3.84 indicates overall agreement showing the status of economic factors and the performance of cement manufacturing companies in Nigeria. The sectional mean of 3.84 indicates that economic factors have effect on the performance of cement manufacturing companies in Nigeria.
Table 4: Descriptive Statistics on Performance

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Items</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Despite the effects of external business factors on your business, we are able to satisfy our customers?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.38</td>
<td>2.21</td>
<td>Accepted</td>
</tr>
<tr>
<td>2.</td>
<td>Despite the effects of external business factors on our business, our sales is still stable?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.26</td>
<td>1.18</td>
<td>Rejected</td>
</tr>
<tr>
<td>3.</td>
<td>In recent time there is a significant increase in the quality of our product?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.61</td>
<td>1.53</td>
<td>Accepted</td>
</tr>
<tr>
<td>4.</td>
<td>In recent time there is a significant increase in the design and feature of our product?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.22</td>
<td>.78</td>
<td>Rejected</td>
</tr>
<tr>
<td>5.</td>
<td>Despite the effects of external business factors on your business, we are able to maintain product quality?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.86</td>
<td>.85</td>
<td>Accepted</td>
</tr>
<tr>
<td>6.</td>
<td>Despite the effects of external business factors on your business, we are able to maintain our customers loyalty?</td>
<td>398</td>
<td>1</td>
<td>5</td>
<td>3.22</td>
<td>2.03</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Sectional Mean: 3.23, 0.64

Source: (SPSS V23 Output, 2021)

Table 4 presents data with respect financial performance of cement manufacturing companies in Nigeria. The analysis shows agreement with all items. The sectional mean of 3.23 indicates overall agreement showing financial performance has effect on cement manufacturing companies in Nigeria.

H0: Economic environment has no any significant effect on the performance of Cement Manufacturing Companies in Nigeria.

PF= α +β₁ (INR) + β₂ (IFR) + β₃ (EXR) + β₄ (UER) + β₅ (ECG) +εI......................1
From the regression result, Economic environment coefficient for Interest rate (INR) is positive and significant in achieving performance in the Cement Manufacturing Companies in Nigeria. The $P_{\text{EF}} = 0.21 + 0.15 \text{ INR}$ which indicates that performance ($P_{\text{EF}}$) in Cement Manufacturing Companies in Nigeria will increase by 15% for every 1% increase in Interest rate (INR). The p-value of 0.00 is less than the t-statistic value of 4.06 and the standard error value of 0.03 is less than the t-statistic value. This implies that there is a significant relationship between economic environment coefficient and performance ($P_{\text{EF}}$) in Cement Manufacturing Companies in Nigeria.

The coefficient of determination ($r^2$) of 0.71 indicates that 71% of variation in performance ($P_{\text{EF}}$) in Cement Manufacturing Companies in Nigeria can be explained by economic environment (Interest rate, Inflation rate, Exchange rate, Unemployment rate and Economic growth). The remaining 29% can be explained by other related factors not noted in the regression model. The f-statistic value of 157 is significant at p-value of 0.00. This implies that there is an evidence of existence of linear relationship between economic environment (Interest rate, Inflation rate, Exchange rate, Unemployment rate and Economic growth) and performance ($P_{\text{EF}}$) in Cement Manufacturing Companies in Nigeria. Therefore, we accept the alternative hypothesis that Economic environment has significant effect on the performance of Cement Manufacturing Companies in Nigeria.
Discussion of Findings

The broad objective of this study was to examine the effect of external business environment on performance of Cement Manufacturing Companies in Nigeria. Based on the previous empirical studies, the general findings obtained from the hypotheses testing were discussed as follows.

Economic environment was discovered to have a positive significant effect on the performance of cement manufacturing companies in Nigeria. Going by the result, Customers today tend to have control of the economic environment no matter the economic policies put in place by the government. The economic policies are having positive impact on customers. This might be responsible for the positive effect economic environment has on performance of cement manufacturing companies in Nigeria. This findings is in line with the study of Nwekpa and Ewans (2015), Adeoye and Elegunde (2012) and Sofyan and Primiana (2015).

5. Conclusion

In view of the findings. Economic environment that has positive and significant effect on performance of cement manufacturing companies in Nigeria with a large effect size, it is therefore concluded that economic environment of a business plays a prominent role in determining its performance.

Cement manufacturing companies in Nigeria should have positive perception toward the economic environment as customers today tend to have control of the economic environment. As such, producing quality goods to the environment that meets the demand of customers will increase the performance of the business.
REFERENCES


Influence of economic environment on the performance of cement manufacturing companies in NIGERIA


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