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Integration Strategies and Competitive Advantage in Manufacturing Sector: Evidence from Ogun State, Nigeria

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ABSTRACT

The study examined the joint impact of vertical and horizontal strategies on competitive advantage. Data were collected from primary sources using a questionnaire Survey, administered to employees of ten manufacturing firms in Ogun state. A total of three hundred and eighty-four (384) copies of the questionnaire were distributed to the selected respondents as arrived at using the Taro Ya-mane formula. The hypotheses of the study were tested using the Pearson correlation coefficient and multiple regression analysis in other to determine whether to accept or reject the null hypotheses (H0). The results of the Pearson correlation coefficient rejected the null hypotheses (Null hypotheses 1 and 2) and accepted the alternative hypotheses 1 and 2. The final hypothesis was tested using multiple regression analysis. The result showed that both vertical integration strategies and horizontal integration strategy with coefficients of 0.556 and 0.843 had a positive and significant impact on competitive advantage. From the findings of the study, the study recommended that collaboration between companies in the same industry can lead to improved vertical integration and increased competitive advantage. The government should therefore encourage such collaboration through the creation of industry associations or other forums where companies can share knowledge and best practices.

Keywords: Competitive Advantage, Horizontal integration, Integration strategy, vertical integration.
JEL Classifications: D22; M1; L1

1. INTRODUCTION

According to Woodrow's opinion in Wyatt et al. (2018), businesses that investigate integrated strategies will reduce the likelihood and intensity of competition. Integration strategies are gradually becoming more important in business and are used by organisations to expand and get an advantage over their competitors (Hakkinen in Kinnunen et al., 2022). Kharub et al., (2022), claim that efforts made in the manufacturing and production sectors assist businesses become more efficient and provide them a competitive edge over their rivals. As they supervise and supply the manufacturing sector with raw materials and necessary components needed to produce finished goods, supporting industries play a critical role in the development of the manufacturing sector in emerging industries. The manufacturing sector also benefits from strong ties to and integration with linked organisations through this channel, which essentially fosters synergistic efficiency and improves the production structure's overall efficiency (Kharub et al., 2022).

When two businesses merge their resources, liabilities, and cultural values on an equal footing across diverse enterprises and industries, or alternatively when one business purchases and takes over the operations of another business, integration happens. Integration has made a substantial contribution to the development of corporate competitive advantage, renewal, and expansion.

However, most integration processes don't achieve the anticipated economic and strategic goals (Haleblian et al., 2009).

A company can expand its economies of scale and market share by horizontal integration, which is the act of buying, merging, or partnering with rival enterprises along the same supply chain (Wyatt et al., 2018). A company seeks this type of integration to fortify its position in the business (Amir in Ngaru, 2016). A successful corporate technique for reducing market-related risks, small-scale production, and ensuring upgraded yield or economies of scale is horizontal integration. By combining resources, horizontally integrated businesses can reduce transaction costs, get access to market data, and easily comply with regulatory laws (Mutura et al., 2016). When it comes to entering new markets, negotiating lower costs, and using the most efficient marketing channels, horizontally linked businesses can operate as a group (Mutura et al., 2016). Wyatt suggested in Adeleke et al. (2018) that a merger of two businesses will result in the lowest cost of capital. By saving the money that was intended to be spent on fixed assets, capital expenditures would be decreased. A corporation using horizontal integration as a business model may have greater scale economies and access to superior processing and marketing technologies, according to Dorsey and Boland as described in Anucha and Christian (2022).

A company engaged in an activity that may otherwise come from a third party is defined as having vertical integration. According to Harrigan and Hoskisson, as quoted in Clinton-Etim (2020), "vertical integration strategy is frequently adopted by firms aiming to increase economies of scale and efficiency." Vertical integration is a valuable method used by strategists to handle supply and distribution difficulties with the goal of improving performance. Vertical integration is the combination of operations that are unrelated to a company's core business but are linked to the marketing supply chain (Ayinde et al., 2017). Businesses adopted the vertical integration method as a corporate move to dramatically expand their competitive edge, decrease expenses, and dominate the market, among other things, to meet their goals and give satisfactory performance outcomes (Clinton-Etim, 2020). Having a competitive edge over competitors means providing consumers with greater value, whether through cheaper prices or superior benefits and services that justify higher costs (Christifani and Hari, 2018).

1.1. Statement of the Problem

A seamless organisational structure and long-term economic success are intended outcomes of integrating integration strategies into business organisations. Evidence and findings from empirical study revealed a substantial gap in achieving the goals associated to successfully putting the notion of integration into practise. In the words of Obe and Akinloye (2018), "Many manufacturing enterprises will try to boost performance by investing more in backward integration to enhance their operations and productivity, particularly due to foreign exchange hurdles in the system."

A well-studied corporate technique employed by businesses to boost performance throughout the world is integration. Studies of the effects of integration techniques on performance in various sectors across regions may be found in the works of Andreou et al. (2015), Forbes and Lederman (2010), Maina and Kavale (2016), Lahiri and Narayanan (2013), Mamman et al. (2013), and Mose (2013), among others. Uncertain results have been shown by an examination of some of these researches on the impact of integration strategy on performance. The results range from favourable Gil and Warzynski (2009); Maroof et al. (2017) to unfavourable Hamdaoui and Bouayad (2019); Pieri and Zaninotto (2013); non-significant, Mamman et al. (2013); and miscellaneous results (Andreou et al., 2015; Forbes and Lederman, 2010; Maina and Kavale, 2016; Zhang, 2013).

From the foregoing, it is evident that this subject and its related fields have generated a lot of study. The majority of the literature, according to research, coupled integration techniques and company performance rather than competitive advantage. Additionally, it shows that inappropriate integration strategy adoption continues to hinder organisations. The necessity for this study stems from the fact that, to the researcher's knowledge, it has not yet been sufficiently identified how much integration techniques have affected competitive advantage, notably in the manufacturing sector of Ogun state, Nigeria.

2. LITERATURE REVIEW

2.1. Conceptual Clearification

2.1.1. Integration strategies

According to Bauer and Friesl (2022), strategic integration is the process of combining two or more separate entities, such as companies or departments within a company, to achieve greater synergy and coordination in pursuit of strategic goals. It is a key strategy for companies looking to grow and gain a competitive advantage by leveraging the strengths of multiple entities.

There are two main types of strategic integration: vertical integration and horizontal integration. Vertical integration involves combining entities at different levels of the supply chain, such as a manufacturer acquiring a supplier or a retailer acquiring a distributor. Horizontal integration, on the other hand, involves combining entities at the same level of the supply chain, such as two competing companies merging to create a larger entity with more market share.

The benefits of strategic integration can be significant. By combining entities, companies can achieve greater economies of scale and cost savings, streamline processes, and reduce duplication of effort. They can also gain access to new markets, distribution channels, and technologies, and create a larger pool of resources to invest in research and development (Clinton-Etim, 2020).

2.1.2. Vertical integration

Vertical integration is the merging of organisations at various levels of the supply chain. Either backward integration (combining with a supplier) or forward integration can be used for this (combining with a distributor or retailer). Vertical integration can aid businesses in gaining better control over their supply chain, cutting costs, and enhancing coordination and productivity. According to Harrigan and Hoskisson, as stated in Clinton-Etim (2020), vertical

integration is an effective technique for strategists to handle supply and distribution constraints to influence performance.

The level of synergy a company possesses determines how well it performs, so the essential components involved in the development, design, and administration of the product must be taken into account. The purpose of vertical integration or internal integration mapping is to assess the system and determine key areas that require their assistance in a different way.

2.1.3. Horizontal integration

Combining entities at the same level of the supply chain is known as horizontal integration. Mergers and acquisitions, joint ventures, and partnerships can all be used to accomplish this. Companies can benefit from economies of scale, increased market share, and access to new markets or technologies through horizontal integration. A successful corporate technique for reducing market-related risks, small-scale production, and ensuring improved productivity or economies of scale is horizontal integration. By combining resources, horizontally integrated businesses can reduce transaction costs, get access to market data, and easily comply with regulatory laws (Mutura et al., 2016).

Horizontal integration is an effective strategy for lowering market risks, small-scale production, and improving output or economies of scale. Horizontally integrated enterprises may lower transaction fees, get access to market data, and adhere with regulatory rules more simply by pooling resources (Mutura et al., 2016). Horizontally integrated enterprises can work together to penetrate new markets, negotiate cheaper costs, and use the most effective marketing channels (Mutura et al., 2016). Wyatt stated in Adeleke et al. (2018) that combining two enterprises would result in the lowest cost of capital. Capital expenditures would be reduced by conserving funds meant for fixed assets.

2.1.4. Competitive advantage

The quest for a competitive advantage might be said to be the primary focus of strategic management as a field of study (Furrer et al., 2008; Hoskisson et al., 1999; Porter, 1996). In essence, a Competitive Advantage answers the question, "Why should the customer purchase from this firm rather than the competition?" (CA). Some companies may find it difficult to provide a satisfactory response to this question, particularly those operating in highly competitive industries (Ghasemi et al., 2015).

Filipova (2004) argues that a company's competitiveness may be gauged by its level of adaptability, which is defined as the appropriateness of its responses to the impact of the environment and compliance with the changes to the dynamics of the environment. The development and maintenance of an enterprise's competitiveness depends on these advantages, argues Dimitrova (2014). Competitiveness, according to Azoev and Cherenkov (2000), is a result indicating the presence of competitive advantages, without which it is impossible to accomplish. According to Azoev and Cherenkov (2000), understanding the fundamentals of competitive advantages is essential for developing a thorough understanding of the processes involved in forming competitiveness, including content disclosure and internal connections. Different views on the nature of the competitive advantage may be found in the scientific literature. According to Marková, the competitive advantages of a business and its products are what provide them value to consumers (Marková, 2005). Yaneva states that their analysis served as the basis for developing the marketing strategy (Yaneva, 2017).

2.2. Empirical Review

Ekon and Isayas (2022) looked at the variables influencing strategic management practises across Nigerian SMEs. The study found that strategic management techniques including identifying possibilities in the environment, developing and implementing strategies, and evaluating strategies had a big influence on how well organisations performed throughout the sampling time.

Research on the impact of strategic management strategies on the performance of commercial banks in Kenya was conducted by Ongongo and Mang'ana in 2022. The study specifically assessed the impact of strategy review on Kenyan commercial banks' performance. To make sure that associations between the variables were established, descriptive statistics, correlations, and regressions were carried out. It was determined that strategy review techniques had a favourable and substantial impact on bank performance (5.443: Sig = 0.000 0.05).

Shaqqour (2020) investigated how vertical and horizontal integration of strategic management accounting (SMA) and operational and strategic decision-making affected the number of financial failures in Amman Stock Exchange-listed firms (ASE). The study finds that vertical and horizontal integration between SMA and operational and strategic decision-making has a beneficial effect on lowering the financial failure of industrial enterprises listed in the ASE.

The implications of market orientation and innovation on competitive advantage and corporate success were examined by Udriyah et al. in 2019. The competitive advantage of 46.3% is impacted by market orientation and innovation, while the remaining 54.7% is driven by other factors that are not included in this study. Business performance is positively and significantly influenced by competitive advantage. Market orientation and innovation also have a significant impact on business success through competitive advantage. Market orientation, innovation, and competitive advantage together account for 58.4% of the firm success.

Empirical research was done by Hamdaoui and Bouayad (2019) on the factors that influence vertical integration and how it affects Moroccan manufacturing performance. To examine the research variables, the vertical integration index was applied. Bureaucracy is informed by the high cost of vertical integration, and large scale creates an adverse relationship between vertical integration and company performance.

Maroof et al. (2017) analyse the effect of Vertical M&A Integration Strategy on the financial performance of the combined enterprises in Pakistan. The results showed that vertical mergers greatly improved the financial performance of the combined companies.

For the benefit of investors, financial experts, advice companies, and investment banks, sane suggestions are requested.

Oloda (2017) looked at how the vertical integration approach affected the survival of a few Nigerian manufacturing companies in the Rivers state. The research's findings showed a strong and positive correlation between organisational survival and the two aspects of vertical integration method employed in this study (forward and backward integration approach). The characteristics of vertical integration and organisational survival have a favourable and substantial link, according to the research. The study concluded that vertical integration improves organisational survivability.

An empirical investigation was reviewed by (Devos and Li, 2016). The goal was to investigate the pathways via which vertical integration connects to company value. The vertical integration coefficient assesses interdivisional vertical linkages in a business. According to the research, vertical integration and company value are inversely related.

Maina and Kavale (2016) investigated how vertical integration affected the agricultural products industry's performance using Export Trading Company Ltd. The study finds a clear correlation between agricultural yields and vertical integration.

The impact of horizontal integration on corporate performance was studied by Millenaar (2016). The researcher used a structured questionnaire to collect data from managers of oil and gas enterprises in the United States of America in a cross-sectional survey study design. After analysing the data, the researcher found that there is a substantial positive association between horizontal integration methods (mergers, acquisitions, and strategic alliances) and the productivity and profitability of oil and gas firms' businesses.

Using manufacturing companies as their case study, Andreou et al. (2015) investigated the effects of vertical integration on inventory turnover and operational performance. The research found that although inventory turnover was statistically significant for completed items and raw materials, it had no statistically significant impact on works-in-progress.

Ahmed and Nadeem (2015) conducted research to ascertain the effect of horizontal integration on Pakistani banks' performance. The results demonstrated that horizontal integration considerably enhances Pakistani banks' performance.

Ghosh (2013) looked at the connection between industrial competitive advantage and empowerment strategy in the context of India and discovered a positive and considerable impact of empowerment on competitive advantage.

Research on the connection between strategic agility and competitive success in the Nigerian telecommunications sector was conducted by Oyedijo (2012). The empirical findings demonstrated a relationship between strategic agility and competitive performance, a considerable influence of strategic agility on competitive performance, and a distinction between businesses that are strategically agile and those that are not.

Clougherty (2009) investigated how horizontal mergers affect competing businesses. The results showed that horizontal merger significantly affects competing enterprises. According to the report, horizontal merger greatly boosts the competitiveness of businesses in India's construction industry.

The pharmaceutical industry's horizontal integration of brand-name and generic companies was scientifically investigated by Scott Morton in 2002. The researcher used a structured questionnaire to collect information from the owners of pharmaceutical companies in the United States of America. After examining the data gathered, the researcher found that brand and generic pharmaceutical companies' horizontal integration strategies varied significantly. According to the research, pharmaceutical companies in the United States of America greatly enhance their marketing success when using a horizontal approach.

In their 2008 study, Cai and Obara looked experimentally at the connection between horizontal integration and a company's reputation. Data were gathered by the researchers utilising a structured questionnaire in a cross-sectional survey study methodology. 71 managers of Indian industrial businesses provided the information. The results showed that the reputation of businesses was greatly improved by the horizontal integration method.

2.3. Conceptual Framework

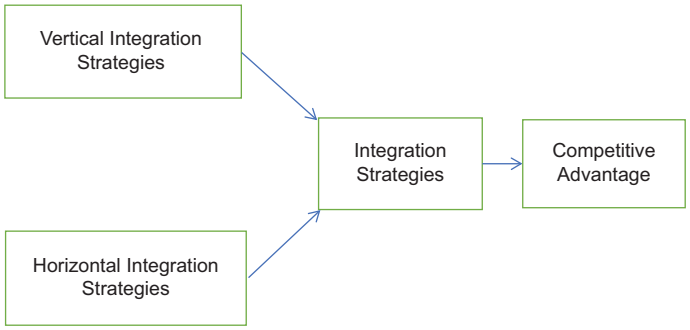
The theoretical framework attempts to explain the variables included in the conceptual framework. The relationship is defined in such a way that a set of variables affects a person, determining the result in terms of that person's improved or decreased performance. Based on the literature review, the link between integration strategies and competitive advantage can be envisioned and illustrated in Figure 1.

3. METHODOLOGY

3.1. Research Design

In this study, a descriptive research design was used. According to Okafor et al. (2023), survey research design is another name for descriptive research design. A framework for obtaining

Figure 1: Conceptual frame work



Source: Self-field survey, 2023

and interpreting research data is provided by research design (Walliman, 2017). This study's goal is to use a descriptive research approach to examine the relationship between vertical integration strategy and competitive advantage. According to Asika (1991), research design is the way an inquiry is organised with the goal of determining variables and how they relate to each other.

3.2. Population of the Study

The population of this study is consisted of all employees of the ten selected manufacturing firms in Ogun State. The Table 1 shows the ten Manufacturing firms and total number of employees in selected manufacturing firms.

3.3. Sample and Sampling Techniques

As the target population of the study is numbered to be 9374. The study employed Taro Yamane (1967) model to ascertain the sample size, by employing the model, the sample size becomes 384.

Sample size: $n = \frac{N}{1 + N(e)2}$

Where: n = anticipated total sample size; N = population size; e = acceptable error term (0.05).

$$n = \frac{9,374}{1 + 9,374(0.05)^2} = 384$$

The sampling method used for this research is the stratified sampling and quota sampling techniques, which was adopted to get information on integration strategies and competitive advantage from employees of the ten selected manufacturing companies in Ogun State.

$$Y = \frac{n}{N} \times 100; b = \frac{Y}{100} \times B$$

Therefore, the sample for this study is 384 and questionnaire will be distributed to the employees of the ten selected manufacturing companies in Ogun State (Table 2).

3.4. Sources of Data Collection and Technique of Data Analysis

Primary data was used in carrying out this research. For the primary data, structured questionnaire was used and distributed to the 384 staff by the researcher to the respondent, which are expected of the respondent to, read and give their feedback. The data collected was analysed and the hypothesis of the study was tested using pearson correlation cofefficient.

3.5. Reliability of Research Instrument

Reliability relates top precision; in other words, it is used to check the consistency and stability of the questionnaire. A test instrument is considered reliable if it can yield findings that are comparable when measurements are taken again under the same circumstances. Reliability evaluation methods vary depending on the subject being measured. The Cronbach's alpha coefficient was used to gauge the instrument's dependability. Reliability test Result are presented in Table 3.

Table 1: List of ten selected Manufacturing firm and total number of employees

S. No.	Manufacturing firm	Number of employee
1	Nestle Manufacturing Complex Agbara, Ogun State	1231
2	Intercontinental Distiller Limited, Ota, Ogun State.	963
3	Nigeria Distilleries Limited, Sango Ota, Ogun State.	874
4	Gallina Blanca Food (GBfood), Ota, Ogun State.	789
5	Nigeria Brewery, Sango Ota, Ogun State.	893
6	VEEPEE Industries Limited, Sango- Ota, Ogun State	782
7	SONA Agro Allied Foods Limited, Ota, Ogun State	567
8	Dufil Prima Food, Ota, Ogun State	1347
9	HONDA Manufacturers Nigeria Limited, Ota, Ogun State	864
10	May And Baker Nigeria Public Limited Liability, Ota Ogun State.	1064
	Total staff	9374

Source: Self-field survey, 2023

3.6. Method of Data Analysis

Both descriptive and inferential statistics were employed in the sorting, processing, and analysis of the gathered data. The analysis adheres to the goals and theories of the research. Frequencies, percentage denotations, and other descriptive tools like means and standard deviations are used in the descriptive analysis to identify the features of the data and illustrate the differences in replies and views. Regression and correlation analysis were used in the inferential analysis to examine the influence of the predictor factors on the dependent variables.

3.7. Model Specification

In other to examine the joint impact of integration strategies (vertical integration and horizontal integration) on competitive advantage, the Linear Regression model for this study is specified as follows:

$$Y = \beta_0 + \beta x + \mu \quad (1)$$

Where: Y= Dependent variable = Competitive Advantage; X= Independent variable Integration Strategies (vertical integration and horizontal integration); β_0 = constant; β_1 and β_2 = Co-efficient of the independent variables; μ = Random variable.

from equation one,

$$Y = \beta_0 + \beta_1 VI + \beta_2 HI + \mu \quad (2)$$

Where: VI = Vertical Integration; HI = Horizontal Integration; β_1 and β_2 = are the slope coefficients whose sign depicts the relationship between the dependent and independent variables.

Table 2: Sample distribution among the ten selected manufacturing firm in Ogun State

S. No.	Zone	Population (N)	Proportion In % $Y=\frac{n}{N}\times 100$	Sample Size (B) $b=\frac{Y}{100}\times B$
1	Nestle Manufacturing Complex Agbara, Ogun State	1231	13.1	50
2	Intercontinental Distiller Limited, Ota, Ogun State.	963	10.3	40
3	Nigeria Distilleries Limited, Sango Ota, Ogun State.	874	9.3	36
4	Gallina Blanca Food (GBfood), Ota, Ogun State.	789	8.4	32
5	Nigeria Brewery, Sango Ota, Ogun State.	893	9.5	37
6	VEEPEE Industries Limited, Sango- Ota, Ogun State	782	8.3	32
7	SONA Agro Allied Foods Limited, Ota, Ogun State	567	6.1	23
8	Dufil Prima Food, Ota, Ogun State	1347	14.4	55
9	HONDA Manufacturers Nigeria Limited, Ota, Ogun State	864	9.2	35
10	May And Baker Nigeria Public Limited Liability, Ota Ogun State.	1064	11.4	44
	Total	9374	100	384

Source: Authors Calculation (2023)

Table 3: Reliability statistics

Variable	Dimensions	Sum of items	Cronbach alpha
Dependent	Competitive Advantage	10	0.877
Independent	Vertical Integration Strategy	7	0.719
Independent	Horizontal Integration Strategy	7	0.851

Source: Self-field survey, 2023

4. DATA PRESENTATION OF RESULTS

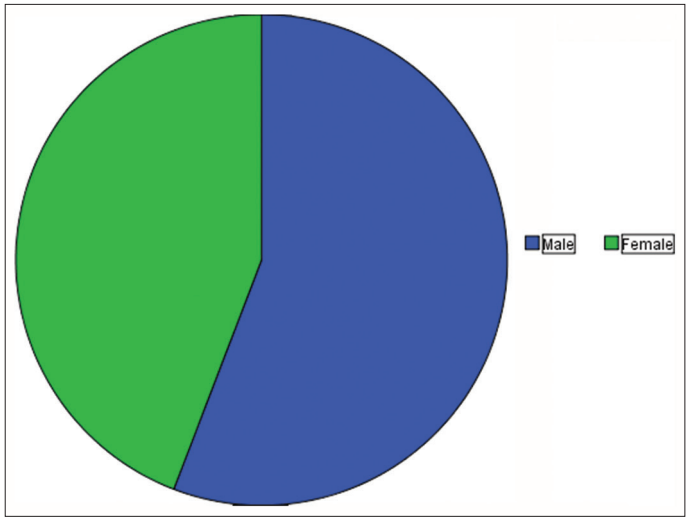
The data that was gathered from the respondents during the survey is presented and analysed in this part. To determine the answers to research questions, data are arranged into tables and presented in clear percentages. The study's hypotheses were tested using the Pearson correlation coefficient and linear regression analysis statistical tests. However, the quota sampling techniques was used to select the respondents on which the questionnaire was administered. A total of 384 copies of the questionnaire were distributed to the selected respondents as arrived at using the Taro Ya-mane formula, and there was an 78.39% response rate from the 384 respondents implying that a total of 301 questionnaires were successfully retrieved from the respondents and analysed. The statistical analysis of all data gather during the survey was carried out and presented in this section alongside hypotheses testing.

4.1. Section A: Demography Details of the Respondents

Figure 2 shows the Gender of the Respondents that participated in this survey. From Figure 2, we can see that 55.8% of the respondents identified as male and 44.2% identified as female. These percentages tell us about the relative distribution of gender among the respondents.

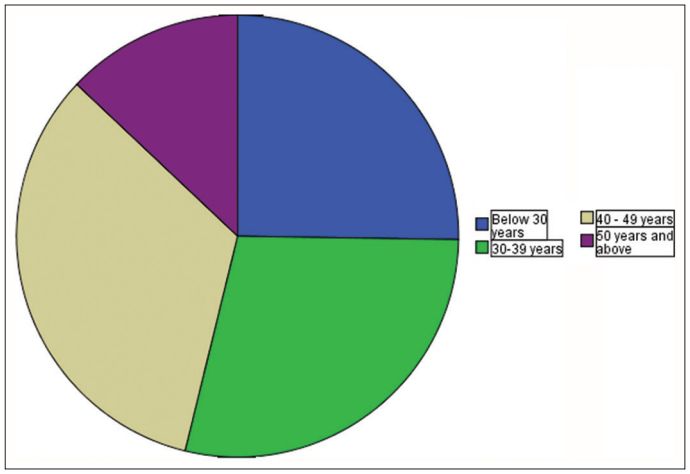
The data in Figure 3 relates to the age group of the respondents. The table shows the percentage of respondents in each age group, with 25.2% below 30 years, 28.6% in the 30-39 age range, 33.2% in the 40-49 age range, and 13.0% aged 50 years and above. The information in this table tells us about the age distribution of the respondents. For example, we can see that the largest age group is in the 40-49 range, followed closely by the 30-39 range. We can also see that the proportion of respondents decreases as we move up in age, with only 13% of respondents being 50 years or older.

Figure 2: Gender of the respondents



Source: Authors Computation (2023)

Figure 3: Age group of the respondents



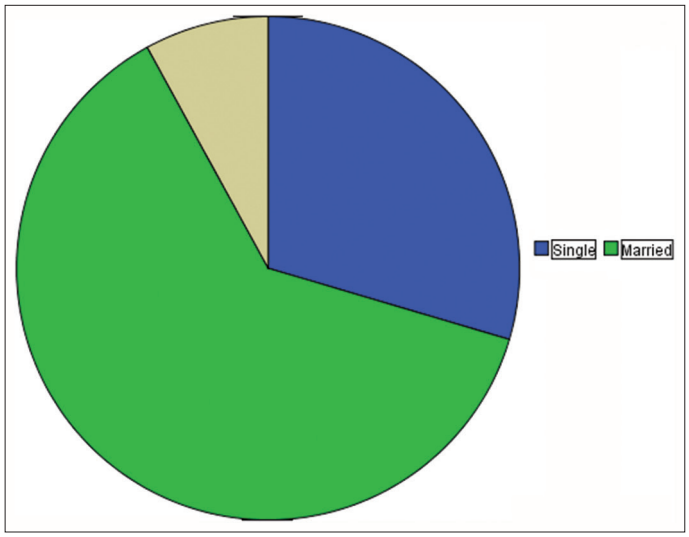
Source: Self-field survey, 2023

The data in Figure 4 relates to the marital status of the respondents. The table shows the percentage of respondents in each marital status category, with 29.6% identifying as single, 62.5% identifying as married, and 8.0% identifying as divorced. These

percentages tell us about the distribution of marital status among the respondents in the sample. For example, we can see that most respondents (62.5%) identified as married, while less than a third (29.6%) identified as single. We can also see that only a small proportion (8.0%) identified as divorced. It is important to note that this table does not include all possible marital status categories (e.g., widowed, separated), so the results are limited to the categories provided.

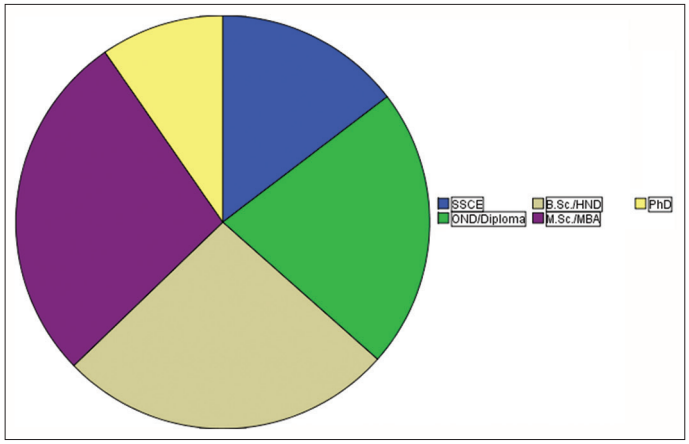
The data in Figure 5 relates to the education qualifications of the respondents. The table shows the percentage of respondents in each education category, with 14.6% having an SSCE qualification, 21.9% having an OND/Diploma qualification, 26.2% having a B.Sc./HND qualification, 27.6% having an M.Sc./MBA qualification, and 9.6% having a PhD qualification. These percentages tell us about the distribution of educational qualifications among the respondents in the sample. For example, we can see that the largest group (27.6%) have an M.Sc./MBA qualification, followed closely by those with a B.Sc./HND qualification (26.2%). We can also see that those with an SSCE qualification make up the smallest group (14.6%).

Figure 4: Marital status of the respondents



Source: Self-field survey, 2023

Figure 5: Education qualification of the respondents



Source: Self-field survey, 2023

The data in Figure 6 relates to the level of experience of the respondents. The table shows the percentage of respondents in each experience category, with 46.5% having less than 10 years of experience, 37.9% having 11-20 years of experience, and 15.6% having 21 years or more of experience. These percentages tell us about the distribution of experience levels among the respondents in the sample. For example, we can see that the largest group (46.5%) have less than 10 years of experience, while just over a third (37.9%) have between 11 and 20 years of experience. We can also see that only a small proportion (15.6%) have 21 years or more of experience.

4.2. Hypothesis Testing

- H_0: There is no significant relationship between vertical integration strategies and competitive advantage
- H_i: There is a significant relationship between vertical integration strategies and competitive advantage.

4.2.1. Pearson correlation result for hypothesis one

The result from the Pearson correlation in Table 4 shows a 78.2% correlation which implies a positive and significant relationship between Vertical integration strategies and competitive advantage. The result is however, significant at 1% level of significance i.e., 0.01 since its $P < 0.01$. This shows that there is conclusive evidence about the significance of the association between Vertical integration strategies and competitive advantage. Therefore, the alternate hypothesis which states that there is a significant relationship between Vertical integration strategies and competitive advantage, is accepted.

4.3. Hypothesis 2

- H_0: There is no significant relationship between horizontal integration strategies and competitive advantage.
- H_i: There is a significant relationship between horizontal integration strategies and competitive advantage

Table 4: Correlation analysis

Variables	Vertical Integration	Competitive Advantage
Vertical Integration		
Pearson Correlation	1	0.782**
Sig. (2-tailed)		0.000
n	301	301
Competitive Advantage		
Pearson Correlation	0.782**	1
Sig. (2-tailed)	0.000	
n	301	301

**Correlation is significant at the 0.01 level (2-tailed). Source: self-field survey, 2023

Table 5: Correlation analysis

Variables	Horizontal Integration	Competitive Advantage
Horizontal Integration		
Pearson Correlation	1	0.851**
Sig. (2-tailed)		0.000
n	301	301
Competitive Advantage		
Pearson Correlation	0.851**	1
Sig. (2-tailed)	0.000	
n	301	301

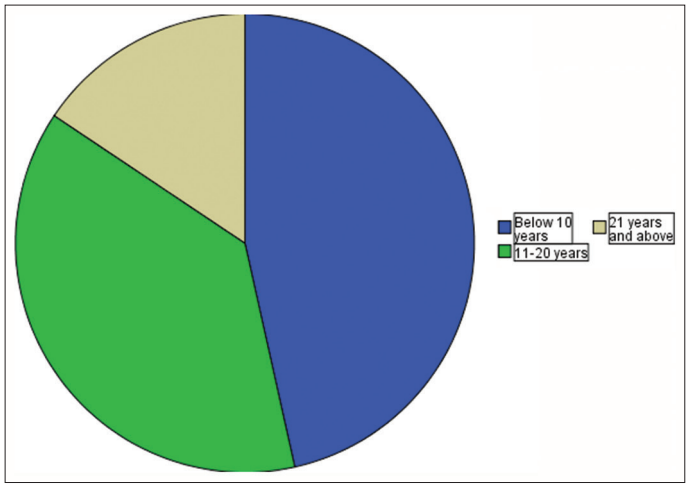
**Correlation is significant at the 0.01 level (2-tailed). Source: self-field survey, 2023

Table 6: Multiple regression result

Dependent Variable	Competitive Advantage			
Independent Variable	Coefficient	Standard Error	T-statistics	Prob
(Constant)	0.233	1.235	0.189	0.850
Vertical Integration	0.556*	0.053	10.581	0.000
Horizontal Integration	0.843*	0.050	16.787	0.000
R-square		0.800		
F-statistics		596.341*		
Sig F-statistics		0.000		

* and ** significant at 1% and 5% respectively. Source: Authors Computation, 2023

Figure 6: Level of experience of the respondents



Source: Self-field survey, 2023

4.3.1. Pearson correlation result for hypothesis two

The result from the Pearson correlation in Table 5 shows an 85.1% correlation which implies a positive and significant relationship between horizontal integration strategies and competitive advantage. The result is however, significant at 1% level of significance i.e., 0.01 since its $P < 0.01$. This shows that there is conclusive evidence about the significance of the association between horizontal integration strategies and competitive advantage. Therefore, the alternate hypothesis which states that there is significant relationship between horizontal integration strategies and competitive advantage, is accepted.

4.4. Hypothesis 3

- H_0: vertical integration strategies and horizontal integration strategies have no significant impact on competitive advantage.
- H_i: vertical integration strategies and horizontal integration strategies have a significant impact on competitive advantage

Table 6 shows the result of a regression analysis where the dependent variable is "Competitive Advantage" and the independent variables are "Vertical Integration" and "Horizontal Integration."

The constant coefficient is 0.233, which indicates the expected value of the dependent variable when both independent variables are equal to zero.

The coefficient for Vertical Integration is 0.556, with a standard error of 0.053. This suggests that a one-unit increase in Vertical Integration leads to a 0.556 increase in Competitive Advantage, all else being equal.

The coefficient for Horizontal Integration is 0.843, with a standard error of 0.050. This indicates that a one-unit increase in Horizontal Integration leads to a 0.843 increase in Competitive Advantage, all else being equal.

Both independent variables have a significant effect on the dependent variable, as indicated by their t-statistics (10.581 for Vertical Integration and 16.787 for Horizontal Integration) and their p-values (both 0.000).

The R-square value of 0.800 indicates that 80% of the variation in Competitive Advantage can be explained by the two independent variables.

The F-statistic of 596.341 and its associated P = 0.000 suggest that the overall regression model is statistically significant and that it provides a better fit to the data than a model with no independent variables.

Finally, from the result of the multiple regression analysis, it is evidence that both vertical integration strategies and horizontal integration strategies have a positive and significant impact on competitive advantage, hence the alternative hypothesis that states that vertical integration strategies and horizontal integration strategies have a significant impact on competitive advantage is accepted.

5. CONCLUSION AND POLICY IMPLICATIONS

This study investigated the influence of integration strategies on competitive advantage in in manufacturing sector in Ogun state. A total of three hundred and eighty-four (384) copies of the questionnaire were distributed to the selected respondents as arrived at using the Taro Ya-mane formula, and there was an 78.39% response rate from the 384 respondents implying that a total of three hundred and one (301) questionnaires were successfully retrieved from the respondents and analysed using statistical package for social sciences (SPSS). From the results, it was observed that both vertical integration strategies and horizontal integration strategies have a positive and significant impact on competitive advantage.

From the findings of this study, the following recommendations are made;

i. Foster collaboration: Collaboration between companies in the same industry can lead to improved vertical integration and increased competitive advantage. The government should encourage such collaboration through the creation of industry associations or other forums where companies can share knowledge and best practices.
ii. Encourage horizontal integration: Companies should be encouraged to pursue horizontal integration strategies as a means of gaining a competitive advantage. This could be done through tax incentives or other forms of government support.
iii. Promote research and development: Research and development can lead to new vertical and horizontal integration strategies that can help companies gain a competitive advantage. Governments as well as private organizations should support research and development in relevant fields through funding and other forms of support.
iv. Support education and training: Education and training programs can help companies develop the skills and knowledge needed to implement effective vertical and horizontal integration strategies. Governments and organizations should support such programs through funding and other forms of support.
v. Integration strategies creates an enabling environment to reduce transaction costs associated with product development strategies and contract negotiation. Hence, firms should consider vertical and horizontal integration strategies when trying to be cost-effective.

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