Impact of Entrepreneurial Orientation on Performance of Manufacturing Firms in Nigeria

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Abstract: The study investigated the impact of entrepreneurial orientation on performance of manufacturing firms in Nigeria. The specific objectives of this study were to: investigate the impact of risk-taking on the innovative performance, examine the influence of autonomy on the innovative performance and assess the moderating role of competitive environment on the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Nigeria. A purposive sampling technique was adopted to select the sample size of 373. Primary data were collected through the use of questionnaire and the data were analysed using descriptive statistics, simple linear regression and hierarchical regression. Hypothesis One indicated that there is a significant positive association between risk-taking and innovative performance ($R^2 = 0.728$, $p=0.000 < 0.05$). Similarly, hypothesis Two revealed a significant positive association between autonomy and innovative performance ($R^2 = 0.604$, $p=0.000 < 0.05$). Hypothesis Three showed that competitive environment moderates the relationship between entrepreneurial orientation and innovative performance (Adjusted $R^2 = 0.673$, $p=0.000 < 0.05$). The study recommends that consumer goods manufacturing firms should make continuous and intense efforts to increase their competitive aggressive stance by out-performing their industry rivals in all business activities. Secondly, they should be continually proactive, which implies that they should have the foresight to seize business opportunities at all times.

JEL Classification: M10; M13; M19.

Keywords: Entrepreneurial Orientation; Innovative Performance; Competitive Environment; Risk Taking, Autonomy.

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Introduction

Entrepreneurial Orientation (EO) is critical to improving a company's success (Okangi, 2019; Soininen, 2013). Entrepreneurial Orientation is a theoretical framework that incorporates various probabilities regarding management stance and behaviour to acquire a company's entrepreneurial mind-set and describe its performance, such as innovativeness, risk taking, competitive aggressiveness, pro-activeness, and autonomy (Wang, 2008).

According to previous research, entrepreneurial inclination dimensions may vary by country (e.g., Englen et al., 2014; Okangi, 2019; Olawoye, 2016). Several studies concentrated on Miller's (1983) first three aspects of entrepreneurial orientation (innovativeness, risk-taking, and pro-activeness), but others incorporated Lumpkin and Dess's two extra components of competitive aggressiveness and autonomy (1996). It's yet unclear if the variations have an impact on the association between entrepreneurial orientation and innovative performance.

There has been a lot of research done on the link between entrepreneurial orientation and performance. Despite the popular belief that business incubators across incumbent firms boost firm productivity, certain empirical data suggest that the link between entrepreneurial orientation and performance is ambiguous and inconsistent (Olowofeso & Ale, 2019; Namusonge et al., 2016).

A favourable association between entrepreneurial orientation and organizational performance has been demonstrated by several investigations (Arief et al., 2013; Jia et al., 2014; Mokaya, 2012). Others discovered a negative link between entrepreneurial orientation and performance (George et al., 2001; Shamsuddi et al., 2012).

Similarly, several authors have noted that the link between entrepreneurial orientation and performance is unclear and is influenced by a variety of individual and environmental factors such as organizational culture, organization framework, organizational availability of materials, competitive and rapidly changing atmospheres, and organizational readiness (Mohamad et al., 2011, Otache and Mahmood (2015)).

There are still several ways to start studying the link between entrepreneurial orientation and company performance. To begin with, entrepreneurship is related to a business strategy based on the notion that entrepreneurial actions generally payoff when carried out. Entrepreneurship provides for the recognition of economic prospects, the expectation of business development, revenue, and wealth generation for both setup and established businesses (Zur, 2015). Because entrepreneurship is a more logical subject with conclusions that are supposed to apply to the modern situation, academics owe professionals in this area a more responsible outcome. For instance, firms pursuing high entrepreneurial orientation are confronted with decisions involving risk taking. There is a possible drawback of taking risk especially when resources are scarce. Consequently, it is necessary to know not only whether entrepreneurial orientation has positive or negative impact on innovative performance but also to know the magnitude of the impact of entrepreneurial orientation on innovative performance when risk is involved.

Second, Zahra and Wright (2011) discovered that entrepreneurial orientation research is still fragmented because entrepreneurship academics come from a variety of fields and keep offering new perspectives. Because of the segmentation and public discussion, there is a risk of deviating from what may be the heart of entrepreneurship (Shepherd, 2011). Thus, continuous research must be carried out to keep re-emphasizing the relevance of the key dimensions that characterize an entrepreneurial orientated firm which include a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities.

Fourth, it appears that a review of additional entrepreneurial performance indicators is required. Several academics say that common entrepreneurship measurements do not give much thought
to the outcomes of the entrepreneurship activities and that more comprehensive assessment and metrics are needed (Musawa & Ahmad, 2019). Several researchers, such as Olawoye (2016) and Nyangau (2014), have conducted an empirical study on organizational performance, but have mostly restricted to particular performance indicators. For example, Olawoye (2016) evaluated the impact of the entrepreneurial approach on business performance, measuring performance using earnings, share price, and revenue volumes. In the realm of entrepreneurial orientation, maybe a closer examination of other factors of performance such as innovative performance is necessary. Despite the abundance of studies on entrepreneurial orientation, empirical research on the influence of entrepreneurial orientation on innovative performance remains limited (Musawa & Ahmad, 2019).

The purpose of this study is to investigate the impact of entrepreneurial orientation on innovative performance in selected manufacturing firms in Nigeria. The competitive environment is investigated in the study to serve as moderating variable in the link between entrepreneurial orientation and innovative performance.

To address the above-stated problem, the study answered the following questions:

1. What is the impact of risk-taking and innovative performance of selected manufacturing firms in Nigeria?
2. How does autonomy affect the innovative performance of selected manufacturing firms in Nigeria?
3. What is the moderating role of competitive environment on the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Nigeria?

The broad objective of this research is to investigate the impact of entrepreneurial orientation on the innovative performance of selected manufacturing firms in Nigeria.

The specific objectives of the study are to:

1. investigate the impact of risk-taking on the innovative performance of selected manufacturing firms in Nigeria.
2. examine the influence of autonomy on the innovative performance of selected manufacturing firms in Nigeria.
3. assess the moderating role of competitive environment on the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Nigeria.

This research was predicated on the following null hypotheses;

H₀₁: Risk-taking has no significant impact on the innovative performance of selected manufacturing firms in Nigeria.
H₀₂: Autonomy has no significant influence on the innovative performance of selected manufacturing firms in Nigeria.
H₀₃: The competitive environment does not moderate the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Nigeria.

**Literature Review**

**Competitive Environment**

A competitive market is the wide variety of environmental framework in which a firm participates and performs (Mahmood & Wahid, 2012). According to the SMEDAN survey, an unfavorable market environment, such as an inadequate infrastructure and government
subsides, public and other sustainability considerations, as well as a lack of basic socioeconomic facilities and products such as power generation and roadways, are among the major barriers that impede manufacturing companies’ performance in Nigeria (Atawodi & Ojeka, 2012). Previous research on creative performance has emphasized the need for businesses to study and adapt to their surroundings (Aziz & Mahmood, 2011).

According to several studies, the competitive environment is based on entrepreneurial orientation and innovation performance. The association between entrepreneurial orientation and innovative performance is also mediated by a competitive setting (Musawa & Ahmad, 2019; Zahra & Garvis, 2000). Environmental dynamism and environmental hostility have been embraced by academics as competitive environmental variables that moderate the association between entrepreneurial orientation and innovative performance of Nigerian manufacturing enterprises.

**Environmental Dynamism**

Environmental dynamism is the degree/amount of industry modernization, market change, and uncertainty of competitiveness and purchasers (Khaldi & Khatib, 2014). The velocity of change, uncertainty, turbulence, and instability in the external environment are all terms used to describe environmental dynamics (Jansen et al., 2016). The instability of the company's marketplace, the changing patterns in technical circumstances, and the unforeseen changes in consumers and rivals are all examples of environmental dynamics (Aloulou & Fayolle, 2005).

The volatility created to a company's market by changing trends in products or component marketplaces is referred to as environmental dynamics (Sciacca et al., 2006). Changes in the political, social, economic, or technical environment provide possibilities, according to Drucker (1985) and Imran (2011). Conversely, Imran (2011) see the dynamic system as the emergence of new possibilities as foreign marketplaces alter. Environmental uncertainty is a major motivator for new solutions. The rationale for this is because environmental uncertainty is critical for product innovation, market adaptation, and the addition of new market sectors in order to achieve competitive advantages (Davis, et. al, 1991; Imran, 2011; Stevenson & Gumpert, 1985).

Various researches on the association between environmental uncertainty and business entrepreneurial attitude have been conducted (Rauch et al., 2009). A significant effect of environmental dynamics may improve the company's adoption of entrepreneurial orientation, allowing it to be more productive in seeking out new market possibilities (Rauch et al., 2009).

According to the researchers, an environmental context necessitates inventive behavior and the acceptance of increased degrees of risk. As a result, several studies have found that increased dynamism encourages the use of EO to be more productive and profitable in discovering and exploiting new possibilities (Rauch et al., 2009).

With a focus on creativity, it was discovered that environmental uncertainty drives businesses to adapt their goods and market places in order to remain afloat (Zhou et al., 2005). This need to continually innovate is exacerbated for companies that rely on technologies for their competitiveness since they must stay ahead of industry and rival developments in order to maintain competitive supremacy over time (Ireland et al., 2009).

Additionally, pro-activity aids businesses in reducing the risk of expiration, which is beneficial in diverse settings (Lumpkin & Dess, 2001). Dynamic settings stimulate a company's pro-activity in developing new target market sectors ahead of competitors' arrival. Furthermore, companies who take a more proactive approach will be better equipped to recognize and capitalize on possibilities provided by constant change in a dynamic market (Lumpkin & Dess, 1996).
Increased environmental dynamics may encourage the company to take greater risks, since it will be forced to pursue activities that are more prone to failure. As a result, the outcome of a new introduction in the early phases of the design is unknown in this sort of environment, since decision variables are fighting to set the company benchmark. As a result, environmental dynamics encourage businesses to take the right steps based on the unpredictability of their outcomes, putting them at greater risk. In summary, we recognize that changing surroundings drive businesses to adopt an entrepreneurial mind-set (Jose Ruiz-Ortega et al., 2013).

**Environmental Hostility**

Environmental hostility is defined as the extent of the environmental hazard to the corporate organization (Khaldi & Khatib, 2014). Environmental hostility depicts the connection between rivals in a certain industry (major competitors' market actions have grown less predictable more hostile affect the business in a variety of ways). If there is a significant rate of environmental uncertainty and antagonism, the marketplace setting is said to be volatile. For instance, in such marketplaces, it is advantageous for medium-sized enterprises to be mostly well notified about market developments, or even to structure them through significant concentrations of adaptable and assertive business strategy (Frank et al., 2017), or to be able to produce and build business connections (Cabrol et al., 2009).

As a result, a hostile environment constitutes a danger to a company, such as intense competition, an out-of-control market condition, a lack of business possibilities, and a hazardous working environment (Khaldi & Khatib, 2014). Earlier studies observed the link between environmental aggressiveness and a company's entrepreneurial drive. In principle, the data show that a competitive business environment is positively related with several aspects of company entrepreneurial orientation (Frank et al., 2017; Musawa & Ahmad, 2019).

Environmental hostility is a phenomenon that is very discernible in the environment of entrepreneurs because it manifests in different forms. Evidence in the literature describes hostility as emanating from both the internal and external environment of the business. From the internal perspective, researchers such as Jifri et al. (2016) broadly divided environmental hostility into various categories based on the 7 Ps of marketing. The personnel element of the manufacturing firm is an internal element that is capable of being a source of environmental hostility.

According to Covin et. al, (2006), hostility is a state of mind that alludes to a major danger to an organization's performance (Covin et. al, 2006). A hostile environment, according to Khandwalla (2001), is described as a 'risky, demanding, and controlling' environment that recognizes locations of great danger where one's life or company is at risk owing to a lack of facilities or competitiveness (Covin et. al, 2006).

**Innovative Performance**

In today's corporate environment, innovative performance is highly valued. Moreover, surveys employ a variety of metrics to assess creative success. The incorporation of organization's overall successes stemming from regeneration and enhancement activities in a distinct inventive feature of business name, procedures, goods, and architecture is known as innovative performance (Alzuod et. al., 2017).

Companies must develop Innovative Performance in order to guide them to develop new products, improve the efficiency of the supply chain and services, and develop an organizational structure that matches the competitive system's criteria (Khalili et al., 2013). As a result, if SMEs are to prosper and thrive, new product creation (innovation) must be prioritized (Reulink, 2012).
The term "innovative performance," which is utilized as the dependent variable in this study, is intimately linked to the term "invention," which has a small but significant distinction. Innovation is the development of new concepts or goods based on the thoughts of individual people or scientific studies. Innovation is the development that begins with the impression of a new market or new service potential for technology-based innovation and proceeds to duties such as research, manufacturing, and advertising aimed at ensuring the invention's financial performance (Garcia & Calantone, 2002; Reulink, 2012).

Evaluating inventive performance has sparked a lot of interest. Researchers have used several approaches and metrics to assess innovative success in research (Bigliardi & Galati, 2013). Some quantify inventive performance using a single metric; others use a combination of metrics (Musawa & Ahmad, 2019). Multiple network indicators may be established based on the notion of innovation.

To begin with, there is a distinction to be made between new product introductions. Product innovations are new and innovative goods, whereas lean techniques are improvements to the processes that contribute to product creation and commercialization. The majority of process innovations have been used to integrate new manufacturing processes, organizational structures, and availability of raw materials (Johannessen et al., 2001; Reulink, 2012).

The second distinction is between market-based and technology-based breakthroughs. Market-based innovations are goods that deviate from existing, mainstream markets by incorporating new and unique technology and generating a collection of peripheral, and often novel, the intention of customers for developing economies. Technology-based developments are goods that incorporate innovative and enhanced technologies to enhance customer improvement over conventional items in current businesses (Benner & Tushman, 2003; Chandy & Tellis, 1998; Reulink, 2012; Zhou et al., 2005). The research carried out by Zhou et al. (2005) suggested that both kinds of strategies are good for organizational performance, but technology-based innovations have a stronger effect than market-based development, according to the study.

The third and most talked-about contrast is between radical and incremental innovations, which also address the difference between market and technical innovation. Radical innovations are those that incorporate modern technology and lead to future infrastructure facilities. They "frequently do not answer a known want, but rather generate a desire that the customer was previously unaware of." "This additional supply breeds new sectors, complete with new rivals, businesses, distribution routes, and marketing strategies" (Garcia & Calantone, 2002, Reulink, 2012).

**Theoretical Review**

**Cartesian Approach of Entrepreneurial Orientation**

Numerous researchers have used the Cartesian technique (e.g., Covin et al., 2006; Moreno and Casillas (2008); Pearce et al., 2010; Walter et al., 2006;). Moreno and Casillas (2008), for example, investigated how entrepreneurial approach relates to performance in the context of the firm's operating environment. Walter et al. (2006) studied the link between entrepreneurial orientation and practices on performance of the firm's various degrees of internet connectivity in a comparable pattern. They argue that organizations that improve their internet connectivity also improve their entrepreneurial orientation's commitment to company performance. These are exemplary instances of Cartesian-based entrepreneurial orientation studies.

Companies, according to the Cartesian perspective of contingency fit, adapt through time and continually change their structure to new demands. Because researchers who hold this perspective generally concentrate on two independent variables, it is easy to be exact and describe this specific connection with a high level of detail (Drazin & Van de Ven, 1985;
Linton, 2016). These bivariate correlations between a fundamental variable and its contingency component are predicted to be linear or curvilinear, and they can be linear or curved (Donaldson, 2001).

**Configuration Approach of Entrepreneurial Orientation**

The configuration perspective of contingency fit theory is another viewpoint. Configurationally, like the Cartesian perspective, implies that fit between variable(s) and surroundings contributes to fit. Some of the theoretical reasons, on the other hand, are completely separate. The compositional method is based on the idea that companies have a finite number of internal consistency levels based on a set of theoretical properties. Because there are only a few states of fit, businesses who want to make modifications must do so quickly (i.e. quantum leaps) to avoid in-between states (Drazin & Van de Ven, 1985; Linton, 2016).

Exactly a few researchers have examined at entrepreneurial orientation from a compositional perspective. Kreiser and Davis (2010), for example, used a parametric method to organize the sub-dimensions of entrepreneurial attitude, organizational structure, and distinct external circumstances into typology.

Andersén (2010), who takes a configurational approach, experimentally creates six manufacturing business combinations based on a variety of resources and skills, and relates each arrangement to its entrepreneurial attitude degree. Both of these investigations are extreme occurrences of entrepreneurial orientation research that employs reconfiguration frameworks.

The reconfiguration method considers the organization's underlying themes and methodical characteristics. These reconfiguration elements could stem from the CEO's mission, which encompasses the entire organization, i.e., an all-encompassing theme that makes all the decisions for all aspects of the business, including strategy and organizational culture (Linton, 2016). The benefit of having a main theme for a company is that it provides a cohesive direction. This facilitates coordination and concentrates activities and interrelatedness across initiatives, leadership styles, and product offers, for instance.

Unique mixes of organizational aspects that complement one another might generate a specific combined impact; for example, a particular strategy can be more effective in a corporation with a conservative leadership approach and that is located in a specific circumstance (Miller, 1983; Linton, 2016).

**Empirical Review**

Okunbanjo et al. (2017) investigated the impact of an entrepreneur's personality on the success of small businesses in Lagos State. This study relied on survey research, which was conducted by sending questionnaires to SMEs in Lagos State. The respondents were sent 260 questionnaires, of which 231 were returned. To verify the hypotheses, the regression technique of analysis was used, and the results indicated that taking risks has a small positive impact on the financial, while competitive aggressiveness and innovativeness have a large positive effect on SMEs' market growth in Lagos State.

Based on a case study of SMEs in the Czech Republic, Kozubikova et al. (2017) discovered a link between entrepreneurial motives and the selected constructs of entrepreneurial orientation (innovativeness, proactiveness, and competitive aggressiveness). In 2015, data was collected from 1141 SMEs in 14 Czech Republic regions. The Pearson coefficient of contingency was used to test statistical hypotheses. The results demonstrate that there are statistically significant variations in innovativeness, proactiveness, and proactivity between entrepreneurs who are driven by money and those who are motivated by a purpose.
The survival strategies for small and medium firms in Nigeria were explored by Etim et al. (2017). For the study, 150 SMEs were chosen at random from a business industrial cluster in Lagos (South West) Nigeria. Data was collected through secondary and data sources. The data was summarized using frequency tables, and descriptive statistics were utilized to complete the analysis. The effects of entrepreneurial orientation and network models on SME survival were measured using a multivariate regression model. The findings show that entrepreneurial orientation characteristics (innovation, risk-taking, and proactiveness) have a considerable beneficial impact on SME survival. Entrepreneurial orientation characteristics showed a favorable effect on SME survival, according to both regression and correlation analyses. While proactiveness was the most significant with a correlation relationship of 43.3 percent combined strategies to influence SME survival, profitability, growth, and sustainability in Nigeria, innovation was the most significant with a correlation coefficient of 0.915 elements of entrepreneurial orientation influencing SME survival in Nigeria.

Oluwale et al. (2016) studied the factors that influence smallholder farmers' entrepreneurial orientation in Nigeria. A total of 240 surveys were distributed to smallholder farmers in the two states, with a response rate of 92.5 percent, with 90.8 percent of the questionnaires being well-completed and appropriate for analysis. The hypotheses were tested using analysis of variance (ANOVA). The majority of the farmers (67.9%) were men, and the majority of the respondents (72%) were young adults (21-50 years) who were married (80.8 percent). A small percentage of farmers (19.3%) had a university degree, whereas the majority (29.4%) had no formal education. About 81.2 percent of the respondents were involved in basic farming operations, whereas only a minority was involved in commerce. In addition, the results revealed a medium level of inventiveness, proactiveness, and risk-taking capacity. Farmers' levels of innovation were impacted by their expenditures on new product development, R&D, educational attainment, and idea creation. The introduction of new technology and high-cost project investment were two other characteristics that affected proactiveness and risk-taking abilities.

Otache and Mahmood (2015) researched the relationship between entrepreneurial approach and commercial bank performance in Nigeria, as well as the role of teamwork in mediating the relationship. A self-reported questionnaire was used to collect data from 297 bank managers. SmartPLS-SEM was utilized to analyze the data and evaluate the hypotheses that had been proposed. The structural model revealed that entrepreneurial orientation and performance had a favorable and substantial association. The structural model was further examined, and it was shown that collaboration completely mediated the link between entrepreneurial approach and organizational performance.

Bchini (2015) investigated the link between three basic elements of entrepreneurial attitude and the performance of 100 Tunisian businesses. The hypotheses were tested using regression analysis. The three characteristics of entrepreneurial orientation, namely innovation, risk-taking, and pro-activeness, and performance, were shown to have a direct and positive link in a study of 100 small and medium businesses. They concluded from this research that the more proactive Tunisian enterprises are, the more they take the risk of success or failure, and the more they support innovation, the better their performance.

**Methodology**

This study used a survey research design. The survey research design was used because the study focused on obtaining subjective opinion of respondents and aims at drawing correct assessment of the entire population by studying samples derived from the population through the use of questionnaire.

The area of study for this research work is Lagos State, Nigeria. This area was chosen because this is where the five selected companies have their headquarters and on the fact that Lagos
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was deliberated the money-making capital of Nigeria with up-to-date commercial infrastructure and socio-economic undertakings that encourage entrepreneurship accomplishments in the modern days. Lagos has the highest concentration of consumer goods manufacturing firms compared to other states. Consequently, a choice of any other area in Nigeria might not provide a large and sufficient population of consumer goods companies required for this type of study (Olawoye, 2016).

Population of the Study

The population of this study consist of 5592 employees of the five selected consumer goods companies quoted on the Nigerian Exchange Group (NGX) and which are in the category of medium and large scale firms and that has submitted their five-year financial reports and have been in existence for at least 10 years. See Table 1 for the population distribution. The selection of the target population for this study was based on the fact that manufacturing firm in the consumer goods sector has potential for contributing to the nation’s economic growth, job creation and contribution towards sustainable development and improved gross domestic product (GDP).

Table 1. Population

<table>
<thead>
<tr>
<th>S/N</th>
<th>Selected Consumer Goods Manufacturing Firms</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PZ Cusson Nigeria</td>
<td>1392</td>
</tr>
<tr>
<td>2</td>
<td>Unilever Nigeria</td>
<td>994</td>
</tr>
<tr>
<td>3</td>
<td>UAC Foods Limited</td>
<td>220</td>
</tr>
<tr>
<td>4</td>
<td>Nestle Nigeria</td>
<td>2201</td>
</tr>
<tr>
<td>5</td>
<td>Honeywell Flourmill</td>
<td>785</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5592</td>
</tr>
</tbody>
</table>


Sample Size and Sampling Techniques

The sampling size, for the questionnaire respondent, was determined using Taro Yamane (Yamane, 1973) formula with a 95% confidence level. The calculation formula of Taro Yamane is presented as follows;

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

Where:

- \( n \) = Sample size population;
- \( e \) = Allowable error (e.g., 95% confidence level).

Computing with the above formula, the sample size is obtained:

\[ n = \frac{5592}{1+5592(0.05)^2} \Rightarrow n = \frac{5592}{14.98^2} \Rightarrow n = 373.2977303071 \]

Approximately = 373.

Then sample size was proportionately distributed across firms. See Table 2 for the firms’ sample size. Furthermore, the study adopted a purposive sampling technique. Purposive sampling technique was used to select the participant based on the variability in the characteristics attached which is the management category or level (middle and top level).
Table 2. Sample Size Summary

<table>
<thead>
<tr>
<th>S/N</th>
<th>Selected Consumer Goods Manufacturing Firms</th>
<th>Number of Employees</th>
<th>Sample Size Distribution</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PZ Cusson Nigeria</td>
<td>1392</td>
<td>1392 ÷ 5592 x 373 =</td>
<td>92.8</td>
</tr>
<tr>
<td>2</td>
<td>Unilever Nigeria</td>
<td>994</td>
<td>994 ÷ 5592 x 373 =</td>
<td>66.3</td>
</tr>
<tr>
<td>3</td>
<td>UAC Foods Limited</td>
<td>220</td>
<td>220 ÷ 5592 x 373 =</td>
<td>14.6</td>
</tr>
<tr>
<td>4</td>
<td>Nestle Nigeria</td>
<td>2201</td>
<td>2201 ÷ 5592 x 373 =</td>
<td>146.8</td>
</tr>
<tr>
<td>5</td>
<td>Honeywell Flourmill</td>
<td>785</td>
<td>785 ÷ 5592x 373 =</td>
<td>52.3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>5592</strong></td>
<td></td>
<td><strong>373</strong></td>
</tr>
</tbody>
</table>

Source: Author’s computation, (2022).

Results

Test of Hypotheses

Hypothesis One: \( H_{01} \): Risk-taking has no significant impact on the innovative performance of selected manufacturing firms in Lagos State Nigeria.

Table 3 shows the model summary of the regression analysis of the interaction between risk-taking and innovative performance of the selected manufacturing firms. With (R) value of .853 (85%), this indicates a positive strong association between risk-taking and innovative performance. This magnitude of direct interaction is statistical significance at a 5% level of significance. The R Square value of 0.728 implies that 73% of changes in the level of innovative performance are explained by the risk-taking stance of the selected manufacturing firms. While the remaining 27% of variations are caused by other factors or variables which are not included in this model but captured under stochastic error term. Durbin Watson’s statistics result is 1.517 which is close to two and this indicates that positive autocorrelation is present in the model.

Table 3. Analysis of the Interaction between Risk Taking and Innovative Performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.853a</td>
<td>.728</td>
<td>.725</td>
<td>.597</td>
<td>1.517</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Risk Taking (EORT4, EORT3, EORT1, EORT2)
b. Dependent Variable: Innovative Performance (INNPERv)

Source: Author’s computation, (2022).

Table 4 shows the F-statistics value for regression to test the overall significance of the independent variables in explaining the criterion variable. Figures in Table 4: shows that proactiveness in the selected study area significantly predicted innovative performance \( F(1,249), 246.357, \) \( p \)-value < 0.05 (Sig .000). This points out strong evidence against the null hypothesis, as there is less than a 5% probability that the null hypothesis is correct. F-statistics indicates that the overall regression model is highly statistically significant in terms of its goodness of fit since the value of \( F_{\text{tab}} (1, 249) > F_{\text{cal}} (246.357) \).

Table 4. Regression Showing Significance of Predictors to Innovative Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>351.509</td>
<td>4</td>
<td>87.877</td>
<td>246.357</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>131.268</td>
<td>368</td>
<td>.357</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>482.777</td>
<td>372</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Innovative Performance (INNPERv)
b. Predictors: (Constant), Risk Taking (EORT4, EORT3, EORT1, EORT2)

Source: Author’s computation, (2022).
Table 5 shows the regression coefficients of the contribution of each independent variable to the criterion variable. The results show that EORT2 standardized beta coefficient is 0.523 and makes the highest exclusive influence in explaining innovative performance when the variance explained by all other variables in the model is measured. This indicates that firms typically prefer to engage in investments that show incremental behaviour. The results show that EORT1 standardized beta coefficient is 0.265. This also contributes uniquely to explaining innovative performance. That is the selected firms prefer to take moderate risks. The results show that EORT4 and EORT3 standardized beta coefficients are 0.196 and 0.153 respectively. Both variables contribute uniquely in explaining innovative performance but not as much as the first two variables.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.157</td>
<td>.120</td>
<td>1.304</td>
</tr>
<tr>
<td></td>
<td>EORT1</td>
<td>.235</td>
<td>.027</td>
<td>2.65</td>
</tr>
<tr>
<td></td>
<td>EORT2</td>
<td>.528</td>
<td>.034</td>
<td>15.43</td>
</tr>
<tr>
<td></td>
<td>EORT3</td>
<td>.147</td>
<td>.028</td>
<td>1.53</td>
</tr>
<tr>
<td></td>
<td>EORT4</td>
<td>.179</td>
<td>.027</td>
<td>1.96</td>
</tr>
</tbody>
</table>

*Source:* Author’s computation, (2022).

From the results obtained from table 5: the *p*-value calculated for 0.000 is lesser than 5%, 0.05 critical value. Hence the null hypothesis was rejected. The study, therefore, concluded that risk-taking has a significant impact on the innovative performance of selected manufacturing firms in Lagos State Nigeria.

**Hypothesis Two:** $H_{02}$: Autonomy has no significant influence on the innovative performance of selected manufacturing firms in Lagos State Nigeria.

Table 6 shows the model summary of the regression analysis of the interaction between autonomy and innovative performance of the selected manufacturing firms. With (R) value of .777 (78%), this indicates a positive strong association between autonomy and innovative performance. This magnitude of direct interaction is statistical significance at a 5% level of significance. The R Square value of 0.604 implies that 60% changes in the level of innovative performance are explained by the autonomy stance of the selected manufacturing firms. While the remaining 40% of variations are caused by other factors or variables which are not included in this model but captured under stochastic error term. Durbin Watson's statistics result is 1.702 which is close to two and this indicates that positive autocorrelation is present in the model.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.777*</td>
<td>.604</td>
<td>.601</td>
<td>.720</td>
<td>1.702</td>
</tr>
</tbody>
</table>

*a. Predictors: (Constant), Autonomy (EOAU3, EOAU2, EOAU1)

b. Dependent Variable: Innovative Performance (INNPERv)

*Source:* Author’s computation, (2022).

Table 7 shows the F-statistics value for regression to test the overall significance of the independent variables in explaining the criterion variable. Figures in Table 7 shows that pro-activeness in the selected study area significantly predicted innovative performance F (1,249), 187.538, *p*-value < 0.05 (Sig .000). This points out strong evidence against the null hypothesis, as there is less than a 5% probability that the null hypothesis is correct. F-statistics indicates that the overall regression model is highly statistically significant in terms of its goodness of fit since the value of $F_{ab}$ (1, 249) > $F_{cal}$ (187.538).
Table 7. Regression Showing Significance of Predictors to Innovative Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>291.556</td>
<td>3</td>
<td>97.185</td>
<td>187.538</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>191.222</td>
<td>369</td>
<td>.518</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>482.777</td>
<td>372</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Innovative Performance (INNPERv)
b. Predictors: (Constant), Autonomy (EOAU3, EOAU2, EOAU1)

Source: Author’s computation, (2022).

Table 7 shows the regression coefficients of the contribution of each independent variable to the criterion variable. The results show that EOAU3 standardized beta coefficient is 0.367 and makes the highest unique contribution in explaining innovative performance when the variance explained by all other variables in the model is controlled. This indicates that the firms favour new ideas beyond rules and regulations. The results show that EOAU1 and EOAU2 standardized beta coefficients are 0.266 and 0.265 respectively. Both variables contribute uniquely in explaining innovative performance but not as much as the first two variables.

Table 8. Contribution of Each Predictor Variable on Innovative Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.157</td>
<td>.120</td>
<td>1.304</td>
</tr>
<tr>
<td>EOAU1</td>
<td>.235</td>
<td>.027</td>
<td>.265</td>
<td>8.575</td>
</tr>
<tr>
<td>EOAU2</td>
<td>.528</td>
<td>.034</td>
<td>.523</td>
<td>15.436</td>
</tr>
<tr>
<td>EOAU3</td>
<td>.147</td>
<td>.028</td>
<td>.153</td>
<td>5.256</td>
</tr>
<tr>
<td>EOAU4</td>
<td>.179</td>
<td>.027</td>
<td>.196</td>
<td>6.591</td>
</tr>
</tbody>
</table>

Source: Author’s computation, (2022).

From the results obtained from table 4.16, the p-value calculated for 0.000 is lesser than 5%, 0.05 critical value. Hence the null hypothesis was rejected. The study, therefore, concluded that autonomy has no significant influence on the innovative performance of selected manufacturing firms in Lagos State Nigeria.

Hypothesis Three: H03: Competitive environment does not moderate the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Lagos.

Table 9 revealed the result of the hierarchical multiple regression analysis conducted in the study. Thus, adjusted $R^2 = .348$, indicates that (risk-taking variable) has been imputed. Therefore, the resulting model explains 35% of the variance in innovative performance. Similarly, model 2 variables (competitive aggressiveness) adjusted $R^2 = .570$. This denotes that the overall model explains 57% variance in innovative performance. Furthermore, model 3 variable (autonomy) adjusted $R^2 = .642$. This revealed the overall model to be 64% of the variance in innovative performance. Again, another variable was added (pro-activeness) adjusted $R^2 = .657$ which explains 66% of the variance innovative performance.
Table 9. Analysis of the Interaction between Moderating Factor (Competitive Environment), Entrepreneurial Orientation on Innovative Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.592a</td>
<td>.350</td>
<td>.348</td>
<td>.920</td>
</tr>
<tr>
<td>2</td>
<td>.757b</td>
<td>.573</td>
<td>.570</td>
<td>.747</td>
</tr>
<tr>
<td>3</td>
<td>.803c</td>
<td>.645</td>
<td>.642</td>
<td>.681</td>
</tr>
<tr>
<td>4</td>
<td>.813d</td>
<td>.660</td>
<td>.657</td>
<td>.668</td>
</tr>
<tr>
<td>5</td>
<td>.823e</td>
<td>.677</td>
<td>.673</td>
<td>.652</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Risk-Taking
b. Predictors: (Constant), Risk Taking, Competitive Aggressiveness
c. Predictors: (Constant), Risk Taking, Competitive Aggressiveness, Autonomy
d. Predictors: (Constant), Risk Taking, Competitive Aggressiveness, Autonomy, Proactiveness
e. Predictors: (Constant), Risk Taking, Competitive Aggressiveness, Autonomy, Proactiveness, Competitive Environment CEEH

Source: Author’s computation, (2022).

Finally, moderating variable was included, after all, variables have been included, the model as a whole explains adjusted R\(^2\) = .673, which indicated 67% in innovative performance. It is also important to note that this fifth R\(^2\) square value includes all the variables (risk-taking, competitive aggressiveness, autonomy, pro-activeness and competitive environment) from all the variables, the value after the moderating variable was included increased, this shows the power of moderating variable on the entire variable initially included in the model.

Discussion of Findings

This study is designed to investigate the impact of entrepreneurial orientation on the innovative performance of selected manufacturing firms in Lagos State Nigeria. Five key hypotheses were formulated in consonance with the broad objective, the hypothesis was tested and below are the discussion of the results in detail.

The Null Hypothesis (H1) states that risk taking has no significant influence on innovative performance. The result of the analysis showed a positive and significant association between the two variables, hence the alternative hypothesis was accepted, while the null hypothesis was rejected, which implies that there is significant association between risk taking and innovative performance of selected manufacturing firms in Lagos State Nigeria.

The findings are supported by R\(^2\) value of 0.728 which means that 73% changes in the level of innovative performance is explained by risk taking propensity of the selected firms. The result is consistent with findings of Adisa et al. (2016) who opined that risk-taking involves taking bold, moderate and calculated risk actions by venturing into the unknown and committing significant resources to ventures in uncertain environments. The capacity of firms to remain competitive in the market is linked to extent of risk taken. Risk taking decisions are dire for the attainment of innovative performance. Some of the risks that consumer goods firms have to consider during the innovation process may include the variations in product design and changes in customer demands.

The Null Hypothesis (H2) states that autonomy has no significant influence on innovative performance. The result of the analysis showed a positive and significant association between the two variables, hence the alternative hypothesis was accepted, while the null hypothesis was rejected, which implies that there is significant association between autonomy and innovative performance of selected manufacturing firms in Lagos State Nigeria.

The findings are supported by R\(^2\) value of 0.604 which means that 60% changes in the level of innovative performance is explained by autonomous capability of the selected firms.
The finding of the research shows that the firms are reasonably autonomous because freedom is given to an extent to employees when making decisions. The result aligns with the view of Koza et al. (2018) that the lack of independence and freedom inhibits the firms from receiving new ideas that contribute to the success of the firm. Consequently, the innovative performance of the firms hinge on the collective skills of the employees rather than being the outcome and effort of the managers only.

The Null Hypothesis (H3) states that competitive environment does not moderate the relationship between entrepreneurial orientation and innovative performance. The result of the analysis showed a positive and significant association between entrepreneurial orientation, innovative performance and the moderating variable, hence the alternative hypothesis was accepted, while the null hypothesis was rejected, which implies that competitive environment moderates the relationship between entrepreneurial orientation and innovative performance of selected manufacturing firms in Lagos State Nigeria.

The findings are supported by Adjusted R Square value of 0.673 which means that 67% changes in the level of innovative performance is explained by the moderating variable competitive environment of the selected firms after all variables of entrepreneurial orientation have been included. The result is consistent with the view of Muswa and Ahmad (2019) that if firms chase entrepreneurially oriented goals such as being more risk conscious, competitive aggressive, proactive, encouraging autonomy, these entrepreneurial activities will automatically provide necessary support for innovative performance. In order to achieve its goals and strategies in the long run, firms must consider the factors in their competitive environment that is how dynamic or hostile the environment they operate is. As a result, entrepreneurial orientation contribution to innovation performance is expected to automatically increase when competitive environment is added as a moderating variable.

**Conclusion**

It can be concluded that all the dimensions of entrepreneurial orientation are positively associated with innovative performance indicators and the moderating variable competitive environment has a strong connection with innovative performance. The implication of this research is that firms must be willing to outdo their competitors, be opportunity seeking, take risk and allow a level of employee independence to perform innovatively in a competitive environment. Managers in the consumer goods sector of Nigeria should develop policies that promote competitive aggressiveness, pro-activeness, risk taking and autonomy among employees in managing their firms. The findings of the study revealed that individual entrepreneurial orientation dimensions have different impacts on the innovative performance of firms.

This can be explained by how a firm becomes innovative when emphasis are placed on the development of new and improved processes, product, services, resource organization methods, market developments and adjusting organizational strategy to the changing competitive environment which transforms to growth in innovative performance.

**Recommendations**

In line with the findings and conclusion, the study recommends that:

- Consumer goods manufacturing firms ought to be ready to take calculated risks so that they can grab massive market potentials.
• In addition, the firms in the consumer goods sector have to consider introducing an element of liberty at work place. This would encourage brilliant employees to contribute to the growth of the firm.

• Lastly, firms in the consumer goods sector with a high level of entrepreneurial orientation must continually test and observe their competitive environment to treasure fresh chances and identify possible threats to increase their competitive advantage which will, in turn, increase their innovative performance.

References


