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Abstract:
The paper examined innovative behaviour and firm's performance in the Nigerian manufacturing industry. Relevant literatures have emphasized the need to make a strong relevance for innovativeness to act as a catalyst for innovation to occur in the firm. While there has been significant research evidence on the conceptualization of innovation, more of the studies have focused on the descriptive nature of innovation. The population of the study was the staff in the selected company and questionnaire was distributed on the company's sample. The study employed the univariate analysis of variance (ANOVA) to ascertain the statistical significance and the level to which innovativeness give rise to variation in firm's performance in the selected organization. The study emphasized the immense benefit manufacturing firms and industrial policy makers will make towards the attainment of innovativeness to contribute adequately to the economic development of the nation and the social well-being of the citizens.

Keywords: Innovativeness; Innovation; Firm's Size; Firm's Performance

1.0 Introduction

The manufacturing sector of any nation, particularly the underdeveloped ones, is very relevant to her development (Sola, Obamuyi, Adekunjo & Ogunleye, 2013) and is seen as the preceding advantage of modernization and skilled job creation, pathway for the creation of products, betterment of incomes, as well as a catalyst for national development and sustainable transformation, hence the sector is frequently depicted as the hub of every nation's economy.

In the current global market, companies comprise of competitors, irrespective of industry (Marimuthu, Arokiasamy & Ismail, 2009). For a firm to display innovativeness and be named an innovative firm, it is required that the firm must have preceded others to have designed or generated or adopted new business, new process or new product (Kamaruddeen, Yusof & Said, 2010). The manufacturing sector in Nigeria could virtually be assumed to have a large potential for economic development due to plenteous labour force connected with the agricultural nature of the economy (Ojo & Ololade, 2014). Since independence, the performance of the Nigerian manufacturing sector has been unimpressive. The scenario consists of diverse elements of early mild growth and subsequent decline (Banjoko et al, 2012). Other problems include "poor infrastructure, high production costs, and limited scope of operation, poor financing, and competition from substandard and fake imported goods. Nigerian economic history is depicted by consistent policy reversals in addition to contradictory policy application, which has derailed the technological progression of the country, inexorably, required that technology be regularly imported from developed countries of the world.

In today's business world, a firm size is most important to its achievement as a result of economies of scale phenomenon; Attitude also plays an important role in employee behavior. Firms that engage in research and development activities may increase their chances to upgrade the quality of their products, increase sales, or reduce production costs, ultimately

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fueling productivity increase. Resources are the foundation for attaining and sustaining competitive advantage and eventually superior firm performance. Workers' autonomy which is the freedom to choose how to accomplish a task, may also have an impact on individual creativity, as such may stimulate positive business performance. Despite these strong beliefs, surprisingly little empirical evidence exists about the effect these innovation indicators (i.e, firm size, management attitude, research and development, organizational resources as well as workers autonomy) on a firm's performance (Demirkan, 2018).

On the basis of the aforementioned, the research paper will equally answer the question: What is the impact of innovativeness on firm's performance? Following the introduction of this paper, other sections of the paper are organized into four sections. The second section provides the review of literature. The third section discusses the methodology of the paper, and section four presents the results, analysis and discussion. Section five focuses on conclusion, recommendation and limitations and suggestions for further study.

2. Review of Literature

2.1 Concept of Innovation

Kamaruddeen et al., (2010) posited that innovation originated from the Latin word "innovare" which means to modify. They considered innovation to be the capacity of individuals to create new processes to meet the demands of the market and customers. The survival of a firm in the competitive business environment requires outstanding technologies to sustain the market growth. Garcia and Calantone (2002) focus on the two critical definitions of innovation. First, innovation comprises of the development of technology and the introduction of the technology into the market to meet the demands of consumers through the process of adoption and diffusion. Second, the process of innovation is repetitive and incorporates the first introduction of the new innovative product and its subsequent improvement. Innovation is typified by high levels of autonomy, risk taking, team cohesion and sufficient resources at the disposal of the people.

2.2 Concept of Innovativeness

Innovativeness has often been shown as one of the most important strategic orientations for firms to achieve long term success and there is no real consensus on the meaning of innovativeness because it is a multi-dimensional composite variable composed of radicalness, relative advantage, and the number of innovations adopted. Innovativeness refers to a firm's tendency to engage in and support new ideas, novelty, experimentation and creative processes that may result in new products, services or technological processes (Olayemi, 2014: Olayemi & Okonji, 2016).

There are multifaceted reports on the concept of innovativeness and to a limited extent counterproductive to argue which interpretation is right. Nasierowski asnd Arcelus (2012) advocated that a clear interpretation ought to be accepted and constantly used. They proposed innovativeness is difficult to establish an exact definition for the following concepts: innovation, creativity, invention, and entrepreneurship. However, Nasierowski and Arcelus submitted that differences as regards to the interpretations of innovativeness are classified into micro and macroeconomic perspectives. The microeconomic perspective focuses on problems of converting ideas into commercial success and is more "shop floor" oriented, whereas the macroeconomic perspective is appropriate for big inventive firms. The micro view tilts towards commercialization and the macro view tilts towards inventiveness. The micro and macro perspectives are distinct worlds – elaborated by state policies and international competiveness factors on one side, and a motivation to wax competitive position of the firm on the other (Olayemi and Okonji, 2016)

Whilst it is genuine that innovativeness is not adequate enough to yield innovation, it commonly serves as a catalyst for innovations to happen because it generates a firm's internal

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environment that cultivate the examination of customer information or new functional processes in ways that satisfy current unfulfilled and/or expected future needs. Ulusoy, Kılıç and Günday (2015) identified the factors of innovativeness at the level of the firm. The determinants are categorized into two subcategories: in-firm and out-firm. The in-firm basis consists of the firm structure such as organizational structure, culture, and intellectual capital; general enterprise characteristics/components and firm strategies, whereas out-firm factors include industrial conditions and relations.

2.2.1 Management Attitude

An attitude represents an individual's degree of likeness or dislike for an item. The attitude may represent the opinion an individual holds of a situation whether positive or negative. Arrey (2013) believes those attitudes denotes an individual's readiness to take up a particular task or expression of interest in an activity. Improvement in organizational and employee productivity may be achieved through the work attitude program that has been designed by management to stimulate and motivate employees in order to achieve the stated business objective. Attitude provides a basis for interpersonal relation and strong identification within the business entity or organization.

2.2.2 Firm Size

In today's business world, a firm size is most important to its achievement as a result of economies of scale phenomenon. Contemporary business organizations aim to improve their intensity to have a competitive advantage above their rivals by decreasing costs associated with production and enlarging market share. Larger enterprises have the ability to manufacture products at substantial costs than lesser firms. The size of the firm is the volume or collection of the ability to produce and wherewithal a firm has or the volume and variety of value a firm can simultaneously render to its customers (Shaheen & Malik, 2012). It also plays a great part in making manifest the style of connections it has inward and outward of its business surroundings.

There are two different methods commonly used in the literature to determine firm size. They are the use of employment data to classify firms that are small if they have fewer than 50 employees in their firm and, large firms are considered if they engage more than 500 employees. The second method is the use of wage to determine firm size. Large firms are considered high wage if they are in the top 20% (quintile) and small firms are classified low wage if they are in the bottom 20% (quintile) of the wage distribution (Christiano & Fitzgerald, 2003).

2.2.3 Research and Development

Research and development have been identified as a major propellant of progress and innovation, and much evidence in the literature explains that these efforts are linked to economic prosperity. Earlier studies on research and development intensity or innovation typically reported a positive association between research and development intensity or innovation and measures of firm performance (Ayaydin & Karaaslan, 2014). Investing in research and development can aid businesses to create innovative ideas, products and services. When new technology is introduced to industrial process, it may increase sales revenue and profit, expand market share and enhance the core competitiveness of company's products.

2.2.4 Organisational Resources

Barney (1991), firm's resources include all assets, capabilities, organizational processes, firm's attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness. Firm resources are the foundation for attaining and sustaining competitive advantage. Physical resources such as the plant, machinery, equipment, production technology and capacity contribute positively towards firm competitive advantage and eventually result in superior

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firm performance. Ombaka, Machuki and Mahasi (2015) stated that resources are useful in production and management of business environment, resources also spur innovation and invariably secure sustained performance.

2.2.5 Workers' Autonomy

A work organisation that creates employee autonomy is generally believed to be beneficial for a firm's new product performance. A work environment that stimulates employee creativity by encouraging employees' participation in decision making is generally believed to be beneficial for a firm's new product performance. People working in a creativity supportive environment may generate ideas that are useful for product innovation. Employees who are free to make adaptations and decisions in a timely and flexible fashion may benefit the business venture. If there is no flexibility in the workplace and subordinates are required to consult upper-level managers for every decision, the likely outcome is an unproductive business climate marked by slow work progression as well as employees who follow tight procedures and make uninformed decisions (Burcherth, Knudsen & Sundergaard, 2016).

2.3 Firm Performance

The concept of firm performance or effectiveness holds a core position in the field of organizational research as well as in the management of private and public organizations. However, it is often limited to its financial facets. Actually, most assessment of firm performance are based on measures such as return on investment, profit per share, sales. In the field of strategic management, firm performance as a salient construct is often used as a dependent variable. There is no uniformity in its definition (Selvam, Gayathri, Vasanth, Lingaraja & Marxiaoli, 2016). The increase in the number of concepts used in the definition of performance is sometimes confusing as it has been used to imply productivity, profitability, competitiveness, and efficiency (Elena-Iuliana & Maria, 2016). A firm's success is visible via its performance at a particular period. People are encouraged to work for a firm that has a good performance, therefore, managers must step up efforts to increase a firm's performance by assessing its operations. Firm performance can be defined as the long-range effort to increase the problem-solving capacity of a firm to adapt to changes in its external operations.

2.4 Theoretical Framework

2.4.1 Resource-Based View Theory

Bharadwaj (2000) argued that the resource-based view affirms outstanding financial performance to the resources of the firm. The theory is ingrained in the strategic management literature, and avers that firms' competition revolves around firms' resources that are valuable, inimitable, non-substitutable and rare (Barney 1991). Dibrell et al (2013) adopting (Barney, 1991; Penrose, 1959), resource-based view, presented that firms create advantages by benefitting on or exploiting their assets. Resource-based view theory emphasizes firm innovativeness as a resource and that is why firms adopt innovation to commit to the efficiency of firm performance but nevertheless, these resource-based view perspectives on firm's innovativeness possibly influenced around inevitable environs capacities.

2.4.2 The Theory of Innovative Behaviour

Midgley and Dowling (1978) averred that the study of Rogers and Shoemaker (1971) showcased the theory of innovative behavior which is established around interpersonal communication and individual's behavior. They argued that the conceptualization of innovativeness at high levels of abstraction is needed, and that visible recognition should be given to the difficult processes of communication mediating between innovativeness and noticeable behaviour.

2.5 Empirical Literature

Calantone et al (2002) cited Drucker (1954) as one of the early scholars to focus on the significance of innovativeness and stressed its disregard in organizational research. However,

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they assert that considerable work on firm innovation know-how is present in the innovation diffusion literature. Nassar, Almsafir and Al-Mahrouq (2014) in their studies suggested several ways on how to measure a firm size. These are number of assets, employees, sales, market value and revenue. They affirmed that the commonly used indicator to measure firm size is the number of employees. Consequently, the disadvantage of this indicator led to the use of alternative indicators of firm size such as number of employees, assets and revenue (Fiala & Hedija, 2015). Ulusoy, Kılıç and Günday (2015) studied innovativeness in the manufacturing industry in Turkey by exploring 184 manufacturing companies. The study's framework investigated the relationship of wide-ranging factors of innovativeness in the firms. The study showed that in the elements of innovativeness, the strategies of manufacturing firms established an indispensable business philosophy because internal and external manufacturing strategies and growth have key drivers of firm success. The study results concluded that innovativeness could be applied towards supporting board of directors' goal of building strategic innovation along with policies.

3.0 Methods

A survey research was designed to evaluate the relationship between innovativeness and firm's performance in a selected organization. The population of the study in the selected company totalled 150. A sample size of 109 was determined using the Yamane formula. The questionnaire development was based on extant literature and pretested to measure mean completion time. Some of the questions were reworded and a total of 109 questionnaires were administered and 74 questionnaires were properly completed and returned representing 67.9% response rate while 35 questionnaires representing 32.1% were not returned. The internal consistency of the research instrument was assessed via Cronbach Alpha and a reliability coefficient of 0.834 resulted from the test. The research instrument passed through validation (content validity) and was structured using the Likert Scale ranging from strongly agree, agree, fairly agree, fairly disagree, disagree, and strongly disagree. The Yamane formula was used in determining the sample size of the study and is stated thus:

$$\frac{N}{1 + N(e)^2}$$

Where n = sample size, N = Population and e = error margin and calculated at 0.05%. The regression analysis was used to investigate the impact of the independent variable on the dependent variable. In addition, the inferential statistics was used to determine the relationship between innovativeness and firm's performance in the selected company.

3.1 Operationalizaton of Variables

The variables in this study are: independent variable = innovativeness (X), dependent variable = firm's performance (Y). So, therefore, Y=f(X).

Y=f(X_1 (management attitude), X_2 (firm size), X_3 (Research and Development), X_4 (organizational resources) X_5 (workers' autonomy).

3.2 Model Specification

The empirical model is premised on the linear functional relationship between innovative behaviour (X) and firm's performance (Y), that is, Y=f(X). The model specification for firm's performance is stated below:

$Y=\beta_0+\beta_1X+\mu_1$.....eqn. 1

Focusing on innovativeness and the assumed influence on firm's performance explains the investigation of the nexus between innovativeness and firm's performance.

3.3 Model Expectation and Model Estimation Technique

The expectation is that innovation should correlate positively with firm's performance and the priori expectation is: $\beta_0 > 0$, $\beta_1 > 0$. The Statistical Package for Social Sciences (SPSS) will be employed to determine the numerical values inherent in the parameters of the stated linear

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models and also examine the relationship between innovativeness and firm's performance. The SPSS output produced relevant statistics and other numerical estimates that further enhance the statistical analysis. The Analysis of Variance (ANOVA) was used in testing the level of significance of the effects and also to determine the variation caused in firm's performance by innovativeness (R^2). The significance value is shown below:
P value < 0.05 = Significant
P value > 0.05 = Not significant
The examination determined the model explanatory power to the extent that variations in the variables are described by the descriptive variable. The reliability and goodness of the model parameters fit are expressed to elucidate the variegation in the predictor variable (innovativeness). The R-Squared (R^2) and adjusted (R^2) are the relevant statistics.

4.0 Discussion

Table 4.1 ANOVA Results and Analysis of the impact of innovativeness on firm's performance

Firm's Performance				
Innovativeness	Df	F	Sig	R^2
Management Attitude	71	9.521	0.000	0.296
Firm Size	67	1.571	0.205	0.069
Research and Development	66	43.373	0.000	0.674
Organizational Resources	55	5.839	0.002	0.242
Workers' Autonomy	62	15.740	0.000	0.445

Field Survey, 2019

The results generated from the analysis of the impact of innovativeness on firm's performance further the objectives of the research and the research questions present in the study. The result presents that there is a positive significant effect of management attitude towards innovation as an instrument of innovativeness on firm's performance ($P < 0.05$). The variability in the dependent variable (firm's performance) accounted for 29.6% and was precipitated by management attitude towards innovation. Firm size as a tool of innovativeness presents an insignificant effect on firm's performance ($P < 0.05$). The variation in firm's performance (6.9%) is expounded by firm size. Research and development as an instrument of innovativeness presents a significant effect on firm's performance ($P < 0.05$), and the variation in firm's performance (67.4%) is explained by research and development. Moreover, organizational resources have significant effect on firm's performance ($P < 0.05$). The variation in firm's performance is explained by organizational resources at the level of 24.2%. Worker's autonomy has significant effect on firm's performance ($P < 0.05$) and the variation in firm's performance can be attributed to worker's autonomy at the level of 44.5%.

5.0 Conclusions

The study established that innovativeness is an indispensable tool for the measurement of the degree of newness. Innovation provides manufacturing firm the path to advance their product and technology for the purpose of increasing competitiveness and satisfying customers by examining the shape of the internal environment, and competition between firms in the external environment. This study makes it necessary that top management adapt into the firm's strategy and develop a leading work environment to put ideas into reality. The study recommends that manufacturing firms should invest in extensive research and development. By staying relevant in the market involves the ability to perceive a new idea to exploit change in the business environment. The manufacturing industry should integrate innovation into the firm's strategy. The study strongly supports the need for manufacturing firms to instill in their

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employees the spirit of brotherhood so as to chart a new direction for the success of the company and retain customer loyalty. Training workshops and seminars should be introduced to bring together managers and co-workers in an organization for the purpose of preparing them to embrace innovation.

The context of this study relates to the manufacturing industry and the generalizability of the findings may not be applicable to other industries. Moreover, the number of people at the firm is quite limited and may present limitations of the findings of the study. The study's findings are based on a selected company in Ogun State, Nigeria which makes the findings of the study to be of limited generalizability. However, further research needs to embark upon on entrepreneurial innovativeness and its effect on small and medium scale enterprises.

6.0 References

Arrey, O.B. (2013). Attitude to work by Nigerian workers: a theoretical perspective. *Global Journal of Management and Business Research*, 13(12), 1-5

Ayaydin, H., & Karaaslan, I. (2014). The effect of research and development investment on firms' financial performance: evidence from manufacturing firms in Turkey. *The Journal of Knowledge Economy & Knowledge Management,* 2, 43-59.

Barney, J. B. (1991) Firm resources and sustained competitive advantage. *Journal of* Management, *17*, 99-120.

Bharadwaj, A.S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly*, *24*(1), 169-196.

Burcherth, A., Knudsen, M.P., & Sundergaard, H.A. (2016). The role of employee autonomy for open innovation performance. *Business Process Management Journal*, 23(6), 1245-1269.

Calantone, R.J., Cavusgil, S.T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management*, *31*,515– 524.

Christiano, L. J., & Fitzgerald, T.J. (2003). The band pass filter. *International Economic Review, 44*, 435–465.

Demirkan, V.N.I. (2018). The impact of firm resources on innovation. *European Journal of Innovation Management*, 21(4) 672-694.

Dibrell, C., Craig, J.B., & Neubaum, D.O. (2013). Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance. *Journal of Business Research*, *30*, 1-8.

Elena-Iuliana, I., & Maria, C. (2016). Organizational performance – A concept that self- seeks to find itself. *Annals of the Constantin Brâncuşi*, *4*, 179-183.

Fiala, R., & Hedija, V. (2015). The relationship between firm size and firm growth: The case of the Czech Republic. *Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis*, *63*(5), 1639-1644. doi: 10.11118/actaun201563051639

Garcia, R., & Calantone (2002). A critical look at technological innovation typology and innovativeness terminology: a literature review. *The Journal of Product Innovation Management*, *19*, 110-132.

Kamaruddeen, A.M., Yusof, N.A., & Said, I. (2010). Innovation and innovativeness: difference and antecedent relationship. *IUP Journal of Architecture*, *2*(1), 66-78.

Marimuthu, M., Arokiasamy, L., & Ismail, M. (2009). Human capital development and its impact on firm performance: evidence from developmental economics. *The Journal of International Social Research, 2*(8), 265-272.

Midgley, D.F., & Dowling, G.R. (1978). Innovativeness: The concept and its measurement. *Journal of Consumer Research*, *4*, 229-242.

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Special Edition Vol. 20, No.1, 2020, 98-105

Nasierowski, W., & Arcelus, F.J. (2012). What is innovativeness: Literature review. *Foundations of Management*, *4*(1), 63-74.

Nassar, I.A., Almsafir, M.K., & Al- Mahrouq, M.H. (2014). The validity of Gibrat's law in developed and developing countries (2008–2013): Comparison based assessment. *Procedia – Social and Behavioral Sciences*, *129*, 266–273.

Ojo, S.A., & Ololade, F.O. (2014). An assessment of the Nigerian manufacturing sector in the era of globalization. *American Journal of Social and Management Sciences*, *5*(1), 27-32.

Olayemi, O.O., & Okonji, P.S., (2016). *Entrepreneurial Orientation Dimensions as Determinants of Business Performance in Nigeria*, *UNILAG Journal of Business*, *2*(2), 13-25.

Olayemi, O.O., (2014). *Entrepreneurial Orientation Dimensions as Determinants of Business Performance in Nigeria*, Unpublished Doctoral Dissertation, University of Lagos, Akoka Yaba.

Ombaka, B., Machuki, V.N., & Mahasi, J. (2015). Organizational resources, external environment, innovation and firm performance: a critical review of literature. *DBA Africa Management Review,* 5(1), 60-74

Selvam, M., Gayathri, J., Vasanth, V., Lingaraja, K., & Marxiaoli, S. (2016). Determinants of firm performance: A subjective model. *International Journal of Social Science Studies*, *4*(7), 90-100.

Shaheen, S. and Malik, Q.A. (2012). The impact of capital intensity, size of firm and profitability on debt financing in textile industry of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, *3*(10), 1061-1066.

Ulusoy, G., Kılıç, K., & Günday, G. (2015). A determinants of innovativeness model for manufacturing firms. *Int. J. Innovation and Regional Development, 6*(2), 125-158.