

Business Turnaround in the Technological Era: The Study of Selected Manufacturing Industries in Nigeria

Madu Ikemefuna*

Abstract

Obsolesces has taking many products un-aware and as such, been wiped out of the market by their competitors who are environmental scanner, creative and innovators. However, this study examined the relationship between product change and the performance of manufacturing industries in Nigeria. The study employed a descriptive survey design methods of sample size technique to determine the study sample from thirty (30) selected manufacturing industries in Nigeria. This makes the study sample size to be twenty-two (22). The collected data were analyzed using an inferential and statistical equation with the aid of statistical packages for social sciences (SPSS). The findings reviewed that the inferential results indicates a significant correlation between independent and dependent variables of R-Square (R^2) which is computed as 95% of the variations in return on assets (ROA) which can be explained by firm size (FSZ), Leverage (LEV), Tangible assets (TGA), Liquidity (LIQ) and Growth (GRTH). It inculcate that turnaround nature in business through technological advancement has called on organizations to go for deep environmental scanning and be up to date in consumer taste. It recommends that organizations are to streamline their processes so as to reduce costs, lead time and improve performance. Finally, it also called for originality inculcation for organizational survival.

Keywords: Competitors, Creativity, Manufacturing industries and Product Change.

Introduction

Business environment are always changing and the survival of organizations highly depends on their ability to identify potential threats and opportunities and then come up with ways of dealing with them (Osisioma, Orogbu, & Mgbemena, 2015). The rapidness of these change is centered on technological advancement and for any organization to meet up with the 21st century of competitiveness in business, such organization must be creative. Organizational effectiveness depends on the creativity of the workforce to a large extent. For any given organization, measures of effectiveness vary, depending upon its mission, environmental context, nature of work, the product or service it produces and customer demands. Thus, the first step in evaluating organizational effectiveness is to understand the organization itself — how it functions, how it is structured, and what it emphasizes. The ability to make capacity operate competitively requires something more: the tacit knowledge, skills and experience related to specific technologies that is collected by enterprises and cannot be imported or brought in. These processes involve creating new skills, partly by formal education but usually and more importantly by training and the experience of new technologies. However, if business processes are left unattended and not consciously adapted to the changing environment, they become impediments to innovation (Prahalad & Krishnan, 2008). Creativity can appear in different form such as technology creativity (innovation), economic creativity (entrepreneurship) artistic and cultural creativity

* Department of Business Administration, Federal University, Gashua, Yobe State, Nigeria, efunam2003@yahoo.com, mriyke3@gmail.com

and attitude to change. All these sub-variables of creativity enhance the growth of every business enterprises. These processes involve creating new skills, partly by formal education but usually and more importantly by training and the experience of new technologies. Technological capability refers to the ability to make effective use of technological knowledge in production, engineering and innovation in order to sustain competitiveness in price and quality (Kraaijenbrink, Spender & Groen, 2010). Technological knowledge is built up using scientific methods described in books, tested by experiments and can make deliberate progress by doing practical things or producing things (Bell & Pavitt, 1993; Arnold & Thurriaux, 1997). Such capability enables a firm to create new technologies and to develop new products and processes in response to the changing economic environment (Linsu, 2010; Wiegratz, 2009; Page, 2010). Organizations in the competitive global economy require managers and team leaders that are capable of bringing out new ideas and techniques from their subordinates and can create environment in which new thinking is encouraged and welcomed (Dauda & Akingbade, 2011). All these when properly understood and managed promote technological innovations. But in spite of these, many organizations still fail to reap the benefits of their strategic innovations because these innovations are not supported by effective human resource strategies for their implementation (Dauda & Akingbade, 2011).

Research and development operators are focusing on product creativity, product innovation and technology to ensure new product design and development, new technology and new market to enhance organizational survival in order to gain competitive advantage in today's dynamic market place. This is not unconnected with the failure of their governments to encourage technology innovation and/or lack of commitment of their people to innovate. But the advanced countries of Europe, America, Russia and few emerging countries such as China have succeeded through creativity to transforming their material and human resources into goods and services and dominate the world market. In the developed countries, government and organizations provided enabling environments and rewards to motivate their scientists, engineers, technologists, technicians and artisans/craftsmen to innovate and be more creative. The major problems encountered in achieving success in manufacturing industries as it relates to research and development include cost

reduction, sales increase, or product improvement that would suit both customers' expectation and organizational objectives.

Based on these backdrops, this study general objective is to ascertain the influence of Business turnaround in the technological era: Linking it to selected manufacturing industries in Nigeria. Specifically, the study examined the relationship between product change and the performance of manufacturing industries in Nigeria.

Based on the above, a hypothesis was drawn to achieve the stated objective.

H_{01} : Product change has a positive relationship with the performance of manufacturing industries in Nigeria.

Review of the Literature

Considering the challenges and the need to adapt and survive in this present knowledge era, research and development department of any manufacturing industry need to be innovative and creative to implement actions that will increase the ability to develop, attract and retain talents. The recent increase in technological advancement has creates a strong change in productivity and performance in other part of the world, including Brazil, Russia, Indonesia, China and South-Africa 'BRICS' Nation. Most developing nations of Africa, Asia and Latin America could not harness their natural, material and human resources for socio-economic development as a result of their inability to utilize science and technology.

Literary, industrialization began during the era of industrial revolution in the 1760s with the steam engine and mechanized factory production while in the early 1970s proto-industrialization and its theoretical implications began to be developed (Walton, 1987) Industrial development is therefore the process of building technological capabilities through learning and translating them into product and process innovations in the course of continuous technological change (Sambo, 2015). However, industrial activities are commonly divided into different components, namely; primary sector, secondary sector and tertiary sector.

- **Primary sector:** Covers economic activity that is directly concerned with the use of natural environment such as Agriculture, fishing, forestry and mining.
- **Secondary Sector:** Involves the processing of raw materials and manufacturing. while

- **Tertiary Sector:** Involves the provision of services which include wholesale and retail sales, transportation and finance, insurance and construction industry.

Theoretical Framework

This study adopts the Resource-Based View Theory (RBV) by Penrose (1959) and Joseph Schumpeter's innovation theory of entrepreneurship (1949). The Resource-Based View Theory (RBV) conceived that firms' administrative organization and a collection of productive resources are both tangible (financial, technological, physical and human) while the intangible (brand-name, reputation and know-how) resources (Katua, Makulu&Gachunga, 2014). Material resources as well as human resources can provide the firm with a variety of services. The same resources can provide the firm with a variety of services that can be put to use in different ways according to the ideas of the firms on how to apply them (Ibrahim, 2014). The RBV of the firm is a model of firm performance that focuses on the resources and capabilities controlled by a firm as sources of competitive advantage (Pearce &Robbinson, 2007). This theory is applied to explain the differences in performance within the manufacturing industries (Hoopes, Madsen & Walker, 2003). Joseph Schumpeter's innovation theory of entrepreneurship (1949), view an entrepreneur as one having three major characteristics: innovation, foresight and creativity. Entrepreneurship takes place when the entrepreneur creates new product, introduces a new way to make a product, discovers a new market for a product, find a new source of raw material and finds a new way of making things or organization (Oghene, 2010) This theory ignores the entrepreneurs risk taking ability and organizational skills while placing more importance on innovation and creativity. The theory is mainly applicable to large-scale businesses because they have the forces it takes to adapt to economic change and be creative not like the small scales who have limited resources that makes them to be an imitators rather than been innovators (Alumonah, 2010). In other economists view, they have added a dimension to imitating as adapting to innovation. This entails that successful imitators bring out imitating product in a better way than the original product innovators which is called innovators innovation (Ile, 2003). Hence, this study adopts the theories.

Data and Empirical Results

This study employed a descriptive survey design and uses thirty (30) selected manufacturing industries who are registered members of the Manufacturing Association of Nigeria (MAN) as the study population. The study adopts a sampling technique method in selecting firms that will serve as sample size to guide the study direction. The sample size of the study was drawn using the Ralph, Holleran and

Ramakrishnan (2002) in Ibrahim (2014) as follows:

$$n = \frac{\text{Log } \beta}{\text{Log } P}$$

Where:

n = Sample size

β = Level of precision (0.05)

P = Proportion of available financial report of the selected Manufacturing industries as at Dec. 2016.

Where:

$$P = \frac{x}{y}$$

y

x = Number of Manufacturing industries with available financial Statement as at 31st/12/2016.

y = Number of selected manufacturing industries in Nigeria as at 31st/12/2016.

Therefore;

$$P = \frac{26}{30} = 0.87$$

In view of the above, the sample size is computed thus:

$$n = \frac{\text{Log } 0.05}{\text{Log } 0.87}$$

$$= - \frac{1.30}{- 0.06}$$

$$= 21.67 \cong 22$$

From the above computation, twenty two (22) manufacturing industries were selected using simple random sampling, which represents 73% of the population. Random sampling was used in this study for valid generalization from the sample to the population. This is because every one of the thirty (30) quoted industries in Nigeria has equal probability to be selected into a sample. The study adopt the secondary source of data collection which was obtained from the annual reports of listed registered manufacturing industries that were

sourced from the internet, brochures, journals, articles and books. The collected data were analyzed via the use of regression analysis technique using the Statistical Packages for Social Sciences (SPSS).

This study ought to determine the relationship between product change and the performance of selected manufacturing industries. However, it adopts the regression technique with model analyze thus:

$$y = a + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \varepsilon$$

Where; y = the dependent variable

α = Constant term

α = the coefficient of the independent variable

x = the independent variables

ε = statistical error term

This study formulates its regression equation as follows:

$$y \text{ (ROA)} = \alpha + \beta_1 \text{ (FSZ)} + \beta_2 \text{ (LEV)} + \beta_3 \text{ (TGA)} + \beta_4 \text{ (LIQ)} + \beta_5 \text{ (GRTH)} + \varepsilon$$

Where: ROA = Return on Assets

FSZ = Firm size

LEV = Leverage

TGA = Tangible Asset

LIQ = Liquidity

GRTH = Growth

ε = Error of margin

Based on the formulated equation, the Statistical

Package for Social Sciences (SPSS) was employ in testing the research hypothesis. The study considered the selected manufacturing industries that have existed for at least five (5) years before the period of this survey. Alexander, Daven & Stevenson (2010), in Orugun (2016) opined that five (5) years is often used as a yardstick for survival by demographers to permit greater balancing of statistical power of test.

Variable Measurement

1. Return on Assets (ROA): It gives an idea on how to efficiently manage and use the organizational asset to generate earnings.
2. Firm Size (FSZ): This is to determine the growth of company because larger firms will have better risk diversification, more economics of scale advantage and the overall better cost efficiency. This study however proxy the total asset for firm size.
3. Tangible Asset (TGA): In this research, the Net tangible asset represents the Net book value of an organization. Its usefulness is to determine whether or not to purchase a stock of a certain organization or industry.
4. Leverage (LEV): with this method, the ratio is used to determine the organizational financing methods.
5. Liquidity (LIQ): this is used in the settlement of short-term loan from organizational total cash. At above 1.00 values, positive results is ascertained.
6. Growth (GRTH): Number of additional branches was used as proxy for growth.

Table 1: Showing the Inferential and Statistical Results

Independent Variables							
Proxies	B	t-test	Sig.	Min.	Max.	Mean	Std. Deviation
FSZ	0.171	2.984	0.004	1.032	7.465	6.786	0.629
LEV	0.099	3.116	0.002	0.017	8.650	0.599	0.963
TGA	0.686	12.751	0.000	0.003	9.249	0.258	0.886
LIQ	0.016	2.640	0.010	0.213	22.729	4.017	3.263
GRTH	0.070	2.784	0.006	-0.609	9.082	0.466	1.064
Statistical Variables							
R							0.979
R-Square							0.958
Adjusted R-Square							0.956
F							472.247
A							0.959
E							0.403
Durbin-watson							0.767

Source: SPSS output

Discussion of Findings

The descriptive statistical results computed for this study presented the mean contribution earned under the FSZ, LEV, TGA, LIQ and GRTH as 6.79, 0.60, 0.26, 4.02 and 0.47 respectively. Statistically, the dispersion of the values is measured by the standard deviation. The dispersion of the values as computed showed 0.63, 0.96, 0.89, 3.26 and 1.06 for FSZ, LEV, TGA, LIQ and GRTH. The inferential statistics results presented above indicates a significant correlation between independent and dependent variables of R-Square (R^2) is also computed as 95% of the variations in return on assets (ROA) can be explained by the firm size (FSZ), Leverage (LEV), Tangible assets (TGA), Liquidity (LIQ) and Growth (GRTH). The statistics shows that all the variables are statistically significant at 5% level since the P-values of FSZ, LEV, TGA, LIQ and GRTH are presented as 0.004, 0.002, 0.000, 0.010 and 0.006 respectively.

The multiple regression equation above shows that the growth of the selected industries used for this study is positively related to FSZ, LEV, TGA, LIQ and GRTH which tends to increase the return on assets of the industries as at the period of this study. Based on the results of the study, the null hypothesis is rejected since there is an establishment on the relationship between organizational creativity and the performance of manufacturing industries in Nigeria. This by implication means that Firm Size, Leverage, Tangible Asset, Liquidity and Growth have significant impact on the performance of manufacturing industries in Nigeria.

Conclusion

Business turnaround through technological advancement has called on manufacturing industries to be more effective on environmental scanning in order not to be left behind in this competitive/global business environment.

Recommendations

Based on the findings, the following recommendations are appropriate for manufacturing industries to transit into its turnaround trend.

1. The owners/managers and staff of industries should update itself into today's market trends through regular and effective training and development programs.

2. Organizations are advised to be applying a retain earnings methods as this will increase organizational performance.
3. Organizations are to streamline their processes so as to reduce costs, lead time and improve performance.
4. Organizational growth can easily be reached through the number of branches established.
5. Finally, originality culture in the rebranding exercise should be an inculcating factor to every organization that wants to survive in this competitive/global business environment.

References

Academic Article

- Alumonah, J.A. (2010). Powering the Economy through Entrepreneurship: *Nigerian Academy of Management Journal*, 4(2), 82-97.
- Dauda, Y.A. & Akingbade, W.A. (2011). Technological Change and Employee Performance in Selected Manufacturing Industry in Lagos State of Nigeria. *Arabian Journal of Business and Management Research*, 1(5), 32-43.
- Hoopes, D., Madsen, T. & Walker, G. (2003). Why is there a Resource-Based View? Toward a theory of competitive heterogeneity. *Strategic Management Journal*, 24, 889-902.
- Katua T., Makulu, E., & Gachunga, H. (2014). Effect of Employee Resourcing Strategies on the performance of commercial Banks in Kenya. *International Journal of Business and Social Sciences*, 4(15), 213-219.
- Kraaijenbrink, J., Spender, J.C. & Groen, A.J. (2010). The Resource-Based View: A Review and Assessment of its Critiques. *Journal of Management*, 36(1), 349 – 372.
- Oghene, C.K. (2010). Entrepreneurial Marketing as a key factor in the realization of Nigeria's vision 2020: *Nigerian Academy of Management Journal*, 4(2), 67-81.
- Prahalad, C. & Ramswamy, V. (2004). Co-Creation Experience: the Next Practice in Value Creation. *Journal of Interactive Marketin*, 18(3), 5 – 14.
- Ralph, B.D., Holleran, S. & Ramakrishnan, R. (2002). Sample Size Determination. *Institute for Laboratory Animal Research Journal*, 43(4).

- Walton, J.C. (1987). Industrialization and Economic Development in Advanced Placement Human Geography. *Journal of Geography*, 99(3-4), 142 – 152.

Book

- Bell & Pavit, K. (1993). *Technological Accumulations and Industrial Growth: Contracts between Developed and Developing Countries*. Industrial and Corporate Change. Cambridge University Press, 2(1).
- Ile, N.M. (2000). *Comparative and International Management*; Enugu: Ochumba Press Limited Publishers.
- Ile, N.M. (2003). *Entrepreneurship Development: THE NIGERIAN PERSPECTIVE*; Enugu: Chiezugo Ventures Publishers.
- Pearce, J., & Robinson, R. (2007). *Strategic management formulation, implementation and control*. (10th Ed). New York: McGraw Hill.
- Penrose, E. T. (1959). *The theory of the growth in the firm*. Oxford: Basil Blackwell Publisher, 2nd Ed. New York.
- Schumpeter, A.J. (1950). *Capitalism, Socialism and Democracy*. 3rd Ed. New York: Harper and Row.
- Zimmerere, T.W. & Scarborough, N.M. (2005). *Essential Entrepreneurship and Small Business Management* (4th Edition), New Delhi: Prentice-Hall of India.

Website/Online Report

- Linsu, K. (2010). *The Dynamics of Technology Learning in Industrialization UNV/INTECH Discussion Papers* (Online) ISSN 1564 – 8370 Available at <http://www.google.com> Retrieved on 13th May, 2014.
- Madu, I. (2016). *Production Techniques and Technological Orientation on the Performance of Manufacturing Industries in Nigeria*. International Business and Management. www.cscanada.net ISSN 1923-841X (Print) ISSN 1923-8428 (online). 13(1), 29-35. DOI:10.3968/8745
- Orugun, J.J. (2016). *Poverty Issue and the Entrepreneurial Engagement of Small Scale Enterprises in Nigeria: An Empirical Study*: European Journal of Business and Management www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) 8(19), 45-54.

- Osisioma, H.O., Orogbu, L.O. & Mgbemena, I.C. (2015). *Process Flexibility and the Productivity of Selected Deposit Money Banks in Nigeria*. Industrial Engineering Letters. (Online) ISSN 2224-6096 (Paper) ISSN 2225-0581 (online) Available at <http://www.iiste.org> Retrieved on 27th June, 2017. 5(9), 38-43.
- Page, J. (2010). *Should Africa Industrialize?* Public Lecture in Kampala. UNU World Institute for Development Economics Research (UNU-WIDER) the Brookings Institution. www.google.com
- Wiegratz, J. (2009). *Africa's Human Resource Challenge: Training, Business Culture and Economic Development*. Fountain Publishers, ISBN 978 – 9970-02-968-1. www.google.com Accessed on 15th March, 2014.

Technical Reports/Unpublish Materials

- Epetimehin, O.S. (2008). *Impact of organizational creativity and innovation on Entrepreneurial success*. M.Sc. Thesis, Department of Business Studies; Covenant university Ota, Ogun State, Nigeria.
- Ibrahim, H. (2014). *Analysis of Determinants of insurance companies' performance in Nigeria*. Department of Business Administration proceedings. Faculty of Administration, Ahmadu Bello University, Zaria.
- Johnson, M. (2011). *Getting Nigerian Business Online Initiative*. A Speech Delivered by the Minister of Communication Technology at the Opening Ceremony of the GNBO SMB Fair in Lagos, Nigeria.
- Sambo, A. (2015). *An Assessment of the Impact of Technology on the Performance of Small Business Enterprises in Some Selected Cities of Northern Nigeria*. An Unpublished Ph.D Dissertation Proposal, Department of Management and Information Technology, AbubakarTafawaBalewa University, Bauchi.
- Sanusi, L.S. (2011). *Growth Prospects for the Nigerian Economy*. Convocation Lecture Held at the University of Benin, Nigeria, Nov.
- Vision 2020 (2009). *Report of the SMEs Sector National Technical Working Group on Small and Medium Enterprises (SMES)*, Abuja, Nigeria.