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# Work Re-Engineering and Organizational Competitiveness of Manufacturing Firms in Nigeria

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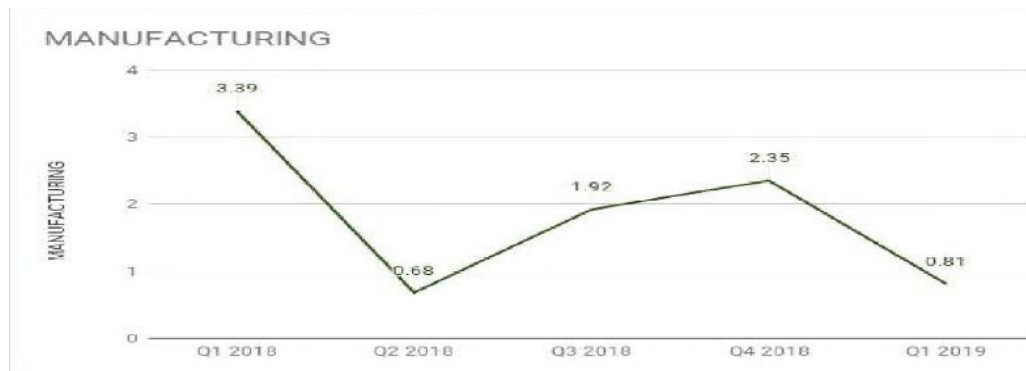
**Abstract:** *This study examined the relationship between work re-engineering and organizational competitiveness of manufacturing firms in Nigeria. The population consisted of 355 manufacturing firms in the South-South, South-East and South-West geopolitical zones of Nigeria. Using the Krecjie and Morgan Sample Size Determination Table, a sample size of 254 manufacturing firms was selected of which copies of questionnaire were administered and responses analyzed using the Pearson's Product Moment Correlation Coefficient. The findings revealed a significant relationship between work re-engineering and organizational competitiveness of manufacturing firms in Nigeria. Therefore, we conclude that manufacturing firms in Nigeria regularly review processes at work which led to a highly competitive environment. Based on this, we recommended that top management should ensure that organizational core practices, innovativeness and keen attention be encouraged in work processes especially as it relates to achieving customers' expectations and satisfaction.*

**Keywords:** *Organizational Core Practices, Innovativeness, Work Processes*

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## 1. INTRODUCTION

A world without competition will be void of innovation and survival because the human species learn to adapt to environmental pressures caused by uncertainty and change. Hence, the need for innovations, cost reduction and quality improvement by organizations in order to withstand competition and enhance their performance (Uddin, & Oserei, 2019). Competitiveness deals with the ability to compete with others using the following parameters: technology, staff knowledge and skills, level of strategic and operational planning, quality of management systems, and communication (Kireeva, Slepenskova, Shipunova & Iskandaryan, 2018). Competitiveness is a comparative measure of the ability and performance of a firm or sub-sector to sell and produce/supply goods and/or services in a given market (Utami, & Lantu, 2014). Bigsten and Soderbom (2006) noted that out of the three challenges - physical infrastructure problems, stiff competition from Asian Products and inappropriate technology- faced by manufacturing firms in Nigeria, 90% is accounted for by competition. The Manufacturing sector in Nigeria consists of thirteen activities: Oil Refining; Cement; Food, Beverages and Tobacco; Textile, Apparel, and Footwear; Wood and Wood products; Pulp, Paper and Paper products; Chemical and Pharmaceutical products; Non-metallic Products; Plastic and Rubber products; Electrical and Electronic; Basic Metal and Iron and Steel; Motor Vehicles and Assembly; and Other Manufacturing.



**Fig. 1: Quarterly Real Gross Domestic Product of Manufacturing Sector in Nigeria**

**Source: National Bureau of Statistics (2019)**

A vivid explanation of such competitive nature of this sector is as shown from information in figure 1, where the Real GDP growth in the manufacturing sector was 0.81% in the first quarter of 2019 (year on year). This was lower than in the same quarter of 2018 by -2.59% points, and the preceding quarter by -1.54% points.

Darlan, Janaina, Marie-Anne, Nelson and Rolf Hermann (2012) noted that in the modern business world, a firm’s capacity to compete depends on one hand, the consciousness to develop new strategic directions which considers novel ideas and solutions as a crucial role in terms of acquiring a competitive edge and on the other, its ability to change. On the development of new strategic directions, managers make strategic choices that will directly impact on the organizational performance and as well, results to the organization’s strategic adaptation to the external environment (Mainardes, Ferreira & Tontini, 2011 cited in Galih, & Nizar, 2019). While on the other, the ability to changes as driven by the market forces, competition and globalization (O’Neill & Sohal, 1999). Consequently, these changes will lead organizations to design and redesign its work or business processes to achieve the desired growth (Graham, 2010).

Work (business) reengineering is a growth driver that ensures a radical redesign of an organization core work or business processes by challenging its existing practices, doctrines, rules and activities to achieve new heights of growth in the organization (Setegn, 2013). Despite studies carried out in Work Reengineering and organizational competitiveness, to the best of the researcher’s knowledge, little or none has been carried out as it relates to Work reengineering and organizational competitiveness especially of manufacturing companies in Nigeria. Therefore, this study examined the relationship between work reengineering and organizational competitiveness of manufacturing companies in Nigeria.

## 2. LITERATURE REVIEW

This section reviews the related concepts and studies performed on work reengineering and organizational competitiveness.

### 2.1 THEORETICAL REVIEW

#### Resource-Based View (RBV)

This study derives its strength from the Resource-Based View (RBV). The RBV was theorized by Barney in 1991 and explains how the unique deployment and combination (referred to as ‘capabilities’) of tangible and intangible resources might assist companies to achieve a

sustainable competitive advantage (Penrose, 1959; Prahalad & Hamel, 1990; Grant, 1991; Priem & Swink, 2012). Barney (1991) identified value, rarity, exclusive and non-substitutability as essential characteristics of resources to generate barriers and advance competitive advantage. This study is underpinned on this theory as it finds relevance on how organizations should harness its resources and capabilities towards being amenable to business (work) re-engineering processes to fit into the competitive business environment.

## **2.2 CONCEPTUAL REVIEWS**

### **Work Reengineering**

Reengineering as a concept is the process of redesigning a work or business core processes for a better version (Robbins, 1997). It requires the dismantling old process and redesigning a new process for better effectiveness and efficiency as adopted by the Japanese in 1990. Reengineering as a term is one of the modern management approaches which ensures a rapid change in businesses through redesigning organizational strategies, structures, policies and values (Amer & Qebdeel, 2010). As a concept, it was introduced and applied to management of organizations as traced way back at 1990 by Michael Hammer. He asserted that reengineering is a process of radically rethinking and redesigning those processes by which value is created for customers.

It is pertinent to note that business process reengineering could also be known as business process redesign, work process reengineering, business transformation, or business process change management (Wikipedia,2020). Work reengineering looks holistically at the overall work shift, organizational structures, management techniques and organizational values for the purpose of achieving quantum leap across the organization (Jalali, *et al.*, 2013). Work/business process re-engineering is a business management strategy, originally pioneered in the early 1990s, which focuses on the analysis, design of workflows and how to improve customer service and cut operational costs within an organization to remain competitive in the market (United States General Accounting Office, May 1997).

Three main focus of work reengineering has been identified by Mukatash, *et al.*, (2009) as customer satisfaction, work design and competition which he asserted should ensure employees freely perform their task accordingly through work method, tools and results oriented for an effective re-engineering process.

### **Objectives of Work Reengineering**

Ahmad (2003) outlined five objectives of work reengineering process as the ability to radically change both performance and work methods, ensuring the needed speed for organization to perform its work as scheduled, enhancing quality of products and services to meet customer's needs, reduction in cost through the obliteration of non-value adding work processes and identification of actual demands.

From the foregoing, it could be deduced that to undertake work reengineering process, organizations should be considered holistically - work processes, functions, structures and management activities. Bashein *et al.*, (1994) outlined what constitute a successful work reengineering process into two sub-categorizations as positively and negatively preconditions. Positive preconditions include; senior management commitment and sponsorship, realistic expectations, empowered and corroborative workers, strategic context of growth and expansion, shared vision, sound management practices, employee involvement and sufficient budget. Whereas the negative preconditions are; wrong sponsor, a do it to me attitude, cost-cutting and narrow technical focus, fear or lack of optimum and animosity, unsound financial condition and too many projects underway.

Ultimately, the success of work reengineering depends on who implements it and the detail application of the redesign business process.

### **Organizational Competitiveness**

Competitiveness as a concept has been on the debate since its evolution in the late 1980s and early 1990s to date, there has been no reconciled position of what it is or not (Sanfey & Zeh, 2012). As at now, there seems to be no generally accepted definition of competitiveness as its meaning and definition varies from firm, industry and national level. Competitiveness at the firm level explains the ability of a firm to make products and services available to both existing and prospective customers in an effective and efficient way than the related firm contestant (Rusibana, 2018). Also, organizational competitiveness is the capacity of an organization to create more economic value than other competing firms (Wilfred, *et al.*, 2014). According to Palanisamy and Sushil (2003) organizational competitive is the ability of an organization to respond to any changes with versatility, flexibility and innovativeness towards creating economic value above its competitors.

### **2.3 EMPIRICAL REVIEW**

Several empirical studies have been conducted on work reengineering and competitiveness. Such studies are as follows;

Mohammad (2018) performed a study on the impact of business processes reengineering on employees' performance in Jordanian electricity distribution company with a population consisted of all employees in Jordanian Electricity Distribution Company using regression analysis. The result showed that the calculated F-value equals 41.713, which is more than the tabulated F-value (1.96); it also showed that the calculated significance value is (0.000), which is less than 0.05 ( $\alpha = 0.05$ ). Furthermore, the correlation coefficient (R) value equals 0.771 and the coefficient of determination ( $R^2$ ) value equals 0.594. Furthermore, the study concluded that there is an impact of reengineering dimensions separately (procedures simplification, improving services quality, process implementation, and information technology) on Jordanian Electricity distribution company employees' performance.

Similarly, Rusibana (2018) conducted a study on organizational factors (namely leadership, market orientation and organizational resources) and competitiveness: A case study of medium and large manufacturing enterprises in Rwanda. The study adopted both correlation and regression analysis technique with a target population of 123 middle managers and a sample of 91 respondents, the findings revealed that organizational factors have moderately positive effect towards organizational competitiveness with market orientation ( $\beta = 0.425$  with P-value = 0.002); leadership ( $\beta = 0.51$ , P-value = 0.860); organizational resources ( $\beta = 0.199$  with P-value = 0.851). He concluded that the manufacturing enterprises in Rwanda should award employees' talents, creativity and innovation to increase the quality of production and be able to adapt to the changing market needs.

Finally, Dodakh (2017) carried a study on the effect of business process reengineering in improving the efficiency of electricity distribution company public shareholding in Jordan and the findings revealed that business processes re-engineering improves the efficiency of electrical service through cost reduction and time efficiency. From the empirical review above, this study argues that work re-engineering will enhance the level of competitiveness among manufacturing firms in Nigeria. Hence, it was hypothesized that;

H<sub>1</sub>: There is no significant relationship between work re-engineering and organizational competitiveness of manufacturing companies in Nigeria.

### 3. METHODOLOGY

The cross sectional research design was adopted for this study because it is not within the control of the researcher and involves a snap shot of study elements at a particular point in time. The target population consisted of all manufacturing firms in Nigeria. Copies of the questionnaire were 355 managers of manufacturing firms. The firms were selected from several aspects of manufacturing including paper, textiles, cement; food, beverages and tobacco, apparel, and footwear; wood and wood products; pulp, chemical and pharmaceutical products. However, only 254 returned the copies. This shows a response rate of 71.5% which is adequate for a valid conclusion (Baruch & Holtom, 2008).

#### Operational Measures of Variables

The predictor variable which is work reengineering was operationalized using a 12-items scale by Hammer and Champy (1993) on a five point Likert Scale ranging from ‘1’- strongly agree to ‘5’ – strongly disagree. While the criterion variable organizational competitiveness was operationalized using a 12-items scale by (Chandler & Hanks, 1994; Tuan & Takahashi, 2009; Grant, 2002; Wang & Ang, 2004) on a five point Likert Scale ranging from ‘1’- strongly agree to ‘5’ – strongly disagree.

#### Test of Validity and Reliability

The face and content validities were used to validate the instrument while the test-retest reliability method was adopted to determine the consistency of the instrument in measuring the constructs. Cronbach Alpha value of 0.7 and above is considered reliable (Nunnally & Bernstein, 1994). From the information in the table below, the constructs are reliable.

**Table 1: Reliability Test for Work Re-engineering and Organizational Growth**

Variable	Items	Cronbach Alpha
work reengineering	12	0.93
organizational competitiveness	12	0.81

**Source:** Field Survey (2020)

### 4. DATA ANALYSIS

The descriptive and inferential statistics were adopted for the analysis of this study. The descriptive statistics analyzed the demographic data using the percentages and averages; while the inferential statistics analyzed the study variables using the Pearson’s Product Moment Correlation Coefficient as this statistical tool examines the relationship between variables and the Z-test to test the hypothesis formulated. The model for the Pearson’s Product Moment Correlation Coefficient is as given below:

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

**Test of Hypothesis**

**H<sub>1</sub>:** There is no significant relationship between work re-engineering and organizational competitiveness of manufacturing firms in Nigeria

**Table 2: Correlations between Work Re-engineering and Organizational Competitiveness**

		work re-engineering	organizational competitiveness
work re-engineering	Pearson Correlation	1	.842**
	Sig. (2-tailed)		.000
	N	254	254

\*\* . Correlation is significant at the 0.05 level (2-tailed).

The results in table 2 revealed a significant relationship between work re-engineering and organizational competitiveness of manufacturing firms in Nigeria with a correlation  $r = .842$ ,  $p = .000$ .

**Discussion**

This study examined the relationship between work re-engineering and organizational competitiveness of manufacturing firms in Nigeria. From the result obtained, we failed to accept the formulated hypothesis. The findings of the study indicate that work re-engineering significantly contributes to organizational competitiveness. Thus, work re-engineering boost competitiveness by encouraging innovations, cost reduction and quality improvement. This submission is consistent with the finding of Agus, Yunizar and Azis (2018), who studied work re-engineering and competitive advantage in Indonesia and found that work re-engineering supports competitive advantage. Likewise, the finding of this study corroborates the submission of Mohammed (2018) who examined business process re-engineering and the performance of Jordanian electrical firms and opined that re-engineering increases the level of efficiency which results to higher competitiveness. Furthermore, Rusibana (2018) did a similar study among manufacturing firms in Rwanda and posited that manufacturing firms need to always re-engineer their processes to ensure competitiveness.

**5. CONCLUSION AND RECOMMENDATION**

This study shows that there is a significant relationship between work re-engineering and competitiveness of manufacturing firms in Nigeria. Effective work re-engineering will enhance the ability of the manufacturing firms to compete with rivals. Thus, it is of crucial that manufacturing firms frequently redesign their work processes to achieve higher competitiveness.

The study therefore recommends that management of the manufacturing firms ensure that they re-engineer their processes periodically especially as it pertains to the firm’s core competencies.

## REFERENCES

- Agus, R., Yunizar, I. P. & Azis, Y. (2018). Re-engineering support for competitive advantage through organizational basis, information and communication technology: A literature review. *Problems and Perspectives in Management*, 16(3), 464-476.
- Ahmad, R. (2003). Benefit segmentation: A potentially useful technique of segmenting and targeting older consumersrizal ahmad. *International Journal of Market Research*, 45(3),373-388.
- Amer, S. & Qebdeel, S. (2010). *Organizational Development*, Dar El Fker, Amman, Jordan.
- Barney, J. B. (1991). The debate between traditional management theory and organizational economics: substantive differences or intergroup conflict? *Academy of Management Review*, 15(2), 382-393.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1),99–120.
- Baruch, Y. & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139–1160.
- Bashein, B. J., Markus, M. L. & Riley, P. (1994). Preconditions for business process success and how to prevent failures. *Information Systems Management*, 11(2),7-13. <https://doi.org/10.1080/10580539408964630>
- Bigsten, A. & Soderbom, M. (2006). What have we learned from a decade of manufacturing enterprise surveys in Africa? *The World Bank research observer*, 21(2), 241-265.
- Chandler, G. N. & Hanks, S. H. (1994). Market Attractiveness, Resource Based Capabilities, Venture Strategy, and Venture Performance. *Journal of Business Venturing*, 9,331– 349.
- Darlan, J. R., Janaina, P., Marie-Anne, S. P. L. L., Nelson, R. M. & Rolf, H. E. (2012). Organizational competitiveness factors. *Brazillian Business Review*, 9(1), 25-42.
- Dodakh, M. Y. (2017). The effect of business process reengineering in improving the efficiency of electricity distribution company public shareholding in Jordan, *Master Thesis Unpublished, Amman Arab University*.
- Galih, A. F. M. & Nizar, A. H. (2019). The influence of information technology and organizational climate on the competitiveness of private universities in Indonesia. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(1S), 142-145.
- Graham, R. S., (2010). Business process reengineering: Strategies for occupational health and safety. *Journal of Manufacturing Systems*, 18 (1), 53-65.
- Grant,D.,(2002). A wider view of business process reengineering. *Communications of the ACM*.

- Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, University of California, Berkeley, 33(3), 114-135. <https://doi.org/10.2307/41166664>
- Hammer, M. & Champy, J. (1993). *Reengineering the corporation*. Harper Collins, New York.
- Hammer, M. & Champy, J. (2001). *Reengineering the corporation: A manifesto for business revolution*. HarperCollins, New York.
- Jalali, M., Maroofi, F., Navid, J. & Mohammady R. (2013). Evaluation the relationship between ICT-adoption and business process reengineering in small and medium sized enterprises of Kermanshan province. *International Research Journal of Applied and Basic Sciences*,4(3).
- Kireeva, N., Slepenskova, E., Shipunova, T. & Iskandaryan, R. (2018). Competitiveness of higher education institutions and academic entrepreneurship. *Espacios*. 39(23),15.
- Mainardes, E. W., Ferreira, J. M. & Tontini, G. (2011). Creating a competitive advantage in higher education institutions: Proposal and test of a conceptual model. *International Journal Management Education*, 5(2/3),145.
- Michael Hammer, (1990, July-August). Reengineering Work: Don't Automate, Obliterate. *Harvard Business Review*, 104.
- Mohammad, I. A. (2018). Impact of business processes reengineering on employees' performance in Jordanian electricity distribution company. *International Journal of Business and Social Science*, 9(12), 97u- 107.
- Mukatash, G. N., Al-Rousan, M. & Al-Sakarna, B. (2009). Needs and demands of prosthetic treatment among two groups of individuals. *Indian Journal of Dental Research*,21(4),564-567.
- National Bureau of Statistics (2019). Quarterly Real Gross Domestic Product of Manufacturing Sector in Nigeria. <https://www.nigerianstat.gov.ng/#gdp>
- Nunnally, J. C. & Bernstein, J. H. (1994). *Psychometric theory* (3<sup>rd</sup> Ed.). New York: McGraw-Hill.
- Ofoegbu, W. C. & Onuoha, B. C. (2018). Dynamic capabilities and competitive advantage of fast foods restaurants. *International Journal of Management Science and Business Administration*, 4(3), 7-14.
- O'Neill, P., & Sohal, A. S. (1999). Business process re-engineering - a review of recent literature. *Technovation*, 19(5), 571- 581.
- Onuoha, B. (2013) Factors militating against the global competitiveness of manufacturing firms in Nigeria. *American international Journal of contemporary research*, 3(4), pp. 54 -63.



- Onyemenam, C. E. (2004). *Firm level competitiveness in Nigeria*. Paper presented at the ODIN-ESG Seminar on Maximizing Pro-poor growth: Regenerating the Socio-Economic Database in Nigeria, City University, Northampton Square, London, UK.
- Palanisamy, R. & Sushil, (2003). Achieving organizational flexibility and competitive advantage through information systems flexibility: A path analytic study of information systems. *Journal of Information & Knowledge Management*, 2(3), 261-277.
- Penrose, E.T. (1959). *The theory of the Growth of the Firm*. New York: John Wiley.
- Porter M., Rivkin J. & Kanter R. (2013). *Competitiveness at a Crossroads*, Harvard Business School Survey on U.S. Competitiveness, Harvard Business School, Boston.
- Porter, M. (1990), *The Competitive Advantage of Nations*, Free Press: New York.
- Porter, M., Scott, S., & Michael, G. (2015). *Social Progress Index 2015*, Social Progress Imperative: London.
- Prahalad, C.K., Hamel, Gary, “The Core Competence of the Corporation,” *Harvard Business Review* (May/June 1990), 79–91.
- Prahalad, C. K. & Hamel, G. (1990). The core competence of the corporation. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship, <https://ssrn.com/abstract=1505251>
- Priem, R. L. & Swink, M. (2012). A demand-side perspective on supply chain management. *The Journal of Supply Chain Management: A Global Review of Purchasing and Supply*, 48(2) 7-13.
- Robbins, C. (1997), “Re-engineering the financial functions”, *CMA Magazine*,69(8),24-9.
- Rusibana, C. (2018). Organizational Factors and Competitiveness: A case study of medium and large manufacturing enterprises in Rwanda. *Journal of Business & Financial Affairs*, 7(4), 1- 11.
- Sanfey P., Zeh S. (2012), Making sense of competitiveness indicators in south-eastern Europe, Working Paper No. 145, *European Bank for Reconstruction and Development (EBRD)*, London, June 2012.
- Setegn, D. (2013). Assessing The effect of business process re-engineering on organizational performance: A case study of bureau of finance and economic development (Bofed), Oromia Regional State, *Ethiopia, Journal of Arts, Science & Commerce*, 4(1).
- Tuan, N. P. & Takahashi, Y. (2009). Resources, organizational capabilities and performance: Some empirical evidence from Vietnam’s supporting industries. *International Review of Business Research Papers*,5(4),219-231.

- Uddin, G., & Oserei, K. (2019). Positioning Nigeria's manufacturing and agricultural sectors for global competitiveness. *Growth and Change*, 50,1218–1237.
- Utami, R. M., & Lantu, D. C. (2014). Development competitiveness model for small-medium Enterprises among the Creative Industry in Bandung. *Procedia - Social and Behavioral Sciences*, 115(20), 305 – 323.
- Wang, C. K. & Ang, B. L. (2004). Determinants of venture performance in Singapore. *Journal of Small Business Management*, 42(4), 347-363. <https://doi.org/10.1111/j.1540-627X.2004.00116.x>
- Wilfred, N. M., Matoke, J., Yegon, R. & Egessa, R. (2014). Moderating effect of organizational factors on the relationship between diversification strategies and competitiveness: Case of sugar firms in Kenya. *European Journal of Business Management*, 3(5), 6-14.
- [https://en.wikipedia.org/wiki/Business\\_process\\_re-engineering](https://en.wikipedia.org/wiki/Business_process_re-engineering)
- <https://www.govinfo.gov/content/pkg/GAOREPORTS-GAO-02-816T/html/GAOREPORTS-GAO-02-816T.htm>