

## MANAGEMENT OF ORGANIZATIONAL LEARNING TO ENHANCE ORGANIZATIONAL COMPETENCIES DEVELOPMENT IN MANUFACTURING INDUSTRIES

ROMANUS C. IWUANYANWU<sup>1</sup>, KAVEH SHAMSA<sup>2</sup> & BHASKAR SINHA<sup>3</sup>

<sup>1</sup>Argosy University, Orange, California, USA

<sup>2</sup>Argosy University, Orange, California, USA

<sup>3</sup>National University San Diego, California, USA

### ABSTRACT

Researchers and managers have always been interested in searching different avenues to understand credible sources to gain competitive advantage for organizations. In most cases, the focus in these efforts have been directed to the organization's external environment, the opportunities and threats, and the internal environment, the strengths and weaknesses of the organization. The internal strengths, resources, and capabilities available to the organizations are the competencies which can be described as the attributes underpinning the behaviour of any organization. Using the data acquired from the manufacturing segment of Transnational Corporation (Transcorp), Plc. in Lagos, Nigeria, Africa, this research examined the influence of the management of organizational learning. The research was quantitative and regression analysis was used to determine the correlation between the variables. Cronbach's alpha was determined in each section of the research to test the internal reliability of the questions and the data. This study concludes that organizational learning and its management has positive effect on organizational competencies development in manufacturing enterprises.

**KEYWORDS:** Discontinuous Innovation, Disruptive Innovation, Knowledge Management, Organizational Competencies, Organizational Learning, Product to Market

### INTRODUCTION

Sustained competitive advantage in the marketplace cannot be created simply by evaluating environmental opportunities and threats, and then conducting business only in high-opportunity, low-threat environments [1]. Rather, creating sustained competitive advantage depends on the unique resources and capabilities that a firm brings to the competition in its environment. To discover these resources and capabilities, managers must look inside their firms for valuable, rare and costly-to-imitate resources and then exploit these resources through their organizations. Analysis concludes that the firm that optimizes its internal strengths to exploit the opportunities in the environments and at the same time neutralizes the external environmental threats while refusing to pay attention to its internal weaknesses are likely to make a significant gain on sustained competitive advantage landscape than others that choose not to follow this path [1]. The internal strengths, resources, and capabilities available to the organizations are the competencies which can be described as the attributes underpinning a behaviour in any organization [2].

Performance assessment is competence but the use of this terminology creates confusion regarding performance assessment [2]. Competence is often viewed as the underlying characteristic of a person to perform an effective or superior task [3]. Competence is the ability and willingness to do a given task [4]. It is also defined as a generic knowledge, motive,

trait, social role or skill of a person to do a job [5]. Spencer and Spencer [6] define competence as an aspiration for superior performance, and potential for business success or economic gain. In a move to differentiate competence from competency, competency is used to refer to two situations [7]: a) The proven ability to do a job competently (required in employment); and b) the sets of behaviour one must display in order to do a task and function of a job with competence. Competency is the underlying characteristics of a person that result in superior job performance or effective action, is a preference by American School as seen and promoted by Boyatzis [3] and Mitchelmore et al [8]. Competency is behaviours that individuals demonstrate and competencies, the minimum standards of performance [9]. Armstrong [10] defines competencies as what people need to do a job well; with the emphasis on doing in terms of the desired output. Moore [2] summarize the three terms as 1) Competence: this is an area of work; 2) Competency: desired behaviour supporting areas of work; and 3) Competencies: the attributes underlying a behaviour.

From 1980 to 1988, the western managers analysed how the Japanese firms were making inroads into the global markets; the high quality and low cost Japanese imports, invention and creation of new products and the subsequent enhancement of these products. To support this claim, Canon impressed consumers with personal copiers, Honda stretched itself from motorcycle to four-wheel drive, Sony gave the 8mm camcorder, Yamaha involved in digital piano, Komatsu rolled out underwater remote-controlled bulldozer, and Casio's salvo was the small-screen colour liquid crystal display (LCD) television. These landmark achievements were possible because of the harnessing of internal capabilities of these firm, called core competencies and the heart of core competencies is the collaborative mobilization and multiplication of internal resources by the top executives to create products that customers need that they have not even imagined [11]. The authors suggest that at the root of enduring competitive advantage is the ability of top management and managers to cultivate diffused organizational technological and productive skills that can quickly respond to the ever changing environmental business opportunities.

According to [11], core competencies are the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies. Since Prahalad and Hamel [11] crafted the term core competencies in 1990, a lot of authors have given their own understanding of the term. Gupta [12] defines core competencies as "a unique capability acquired by a firm over a period of time in form of resources, operations facility, specially skilled manpower, knowhow or delivery of services which gives the firm sustained competitive advantage in fixture, in quality, design, production or distribution of a product/service or in cost of the product and is viewed as a relative value addition by a prospective customer". Srivastava [13] views core competencies as a dynamic learned organizational resource which evolves over time to respond to the changes that occur in the internal and external environmental situations. The idea of core competencies came from the resource-based view of the organization that lays emphasis on the fact that sustained competitive advantage revolves on the firm's ownership of skills, knowledge, resources and competencies that are very difficult to imitate [14][15]. Core competencies are defined as problem-defining and problem-solving epiphanies that can engender the development of peculiar strategic progress alternatives for organizations [16]. Since core competencies are a bundle of collective learned knowledge in any organization, the problem is identification and understanding the concept for organization to leverage them in drafting future strategies. More problematic is the paucity of research literatures on the management of this important concept and it is one of the goals of this research effort to bridge that gap. In their seminal work on core competencies, Prahalad and Hamel [11] advise managers and top executives to chart a path for the future but they remain silent on how to do this [13]. The pertinent

question that was posed to the strategy community was: who possess the skill of managing skills in organizations [17]. Srivastava [13] continues to suggest that the response to the question posed will be answered if one knows this skill of managing skill. The work of Montgomery [18] may answer some of these questions when she pushes back the job of formulation and implementation of organizational strategy to the executives in her work titled “The role of leadership in strategy”.

Review of the literature suggests that the core competencies are those attributes and behaviours that stand a particular firm out from the rest of the pack for the sole purpose of sustained competitive advantage and market leadership. Core competencies are dressed in various forms, technological awareness, customers service, marketing savvy, excellent organizational culture, innovation/creativity, leadership, teamwork and cooperation, accountability, results orientation, ethics, planning and organizing, commitment to continue learning, and communication [19][20]. Competencies are very fragile, intangible, not measurable, and if they are not put into practice, they easily wear away and when they are practiced too long and too tightly, they lost relevance, become rigid and can breed incompetence in responding to new challenges. Competencies and resources are also not easily identifiable nor easily put in isolation and the reason being that they are tacit, inimitable, collective in nature, interactive, integrative and deeply rooted and their joint effects are hard to separate from others in any given organization. Competencies are very difficult to manage and any attempt to manage core competencies comes with a lot challenges [21].

Competencies show up in organizations in different forms [22], though the normal expectation is for competencies to develop at the organization level, but this is not always the case; competencies start from the individual knowledge worker, and most organizational competencies develop in individual worker. The reason for this is that it is the individuals that have repository knowledge, skills, intuition and these nurtures to expertise. Organizational competencies start with a single worker, and small group articulated learning by praxis, instead of starting from the top executives’ management design. The author continues that the desired behaviour(s) supporting areas of work (competence) arise in part due to the action learning regime of the knowledge worker or individual by the art of reflective gathering of knowledge between cognition and praxis. Learning can also take place from the interactive nature of small group in organization and the consequent exchange in communities of practice [23]. It has been argued that some learning is shared in traditional form or informally or through the reciprocal methods of knowledge articulation, making tacit explicit knowledge and knowledge internalization, making explicit knowledge to be in-action know how in a particular situation [24][25].

## **ORGANIZATIONAL LEARNING AND KNOWLEDGE MANAGEMENT**

Learning is a vital part of entrepreneurship [26] and no organization can develop core competencies without systematic and sustained learning. Learning allows an organization to combine new pieces of information and to determine the new correlation between them [27]. Organizational learning has been defined as the relationship between individual and organizational knowledge and how organizations unlearn past competencies and acquire new competencies, while knowledge management is defined as how organizations identify, share and exploit their internal competencies, in particular the knowledge of individuals [28]. Back to the statement credited to the United Nations Secretary-General, Kofi Annan, in which he says: “Organizational core competencies can be used as a base on which to build and strengthen other human resources systems, such as recruitment, placement, and development and performance appraisal.” Many performing organizations do not hire any type of human beings out there; they look for the brightest candidates, and some use

competency test to weed out undesirable candidates. In this research, competencies have been defined as the attributes of a behaviour, while competency is the desired behaviour supporting areas of work and competence is an area of a work. Steve Job was able to place Apple on a rarefied pedestal because of his ingenuity of design and Hamel [9] has said it many times that Apple has innovation as its DNA. Steve Job had specialized competencies in electronic design, it was knowledge he possessed, the attributes of a behaviour which was difficult to be replicated by the opponents of Apple in the industry.

Knowledge management is crucial in competencies development. In organizational competencies development, apart from individual and small group learning, the interactive specific skills, technical, assets, well-articulated processes, management roles and the attitudes and values inherent in the organization will also define competence and excellence as shared and valued objectives [29]. Knowledge management is the integration of people, processes, tools, and strategy, to create, use and distribute knowledge, to meet the goal of any organization [30]. Tirpak [30] states that the challenge facing many organizational managers is the selection of the appropriate knowledge management schemes that fit their organization and the usage of the available resources. Literature lists five effective knowledge management criteria [30]:

### **Compliance with the Law of the Land**

There has to be information disclosure or confidentiality in consonance with the existing legal standards. The export of information to another country or sharing of information with a foreigner should be subjected to export controls which require special attention, and multinational companies should respect the law of the land in which they do business. Attention should also be paid to the documentation and compliance with non-disclosure agreements and the Sarbanes-Oxley Act of 2002 has affected R&D organization regarding reporting and increased transparency and proper financial records. To avoid lawsuits, the intellectual property management systematic processes should be in place in order to have rights to patents and trade secrets.

### **Keep Eye on Best Practices**

Organizations should focus their attention to best practices that are known to give good results. Mentoring and apprenticeship are the best means to facilitate the acquisition of tacit knowledge, and this includes selling ideas, locating resources and the motivation of teams. A directory of experts in different fields can be a source of connection between knowledge seekers and knowledge users. Problem solving repositories which require update and validation can also be handy for R&D professional, e.g. lesson learned databases and web base seminars. Finally, much neglected sources of knowledge but most useful in product development is data mining tools.

### **Build Synergies with People, Process and Tools**

Socialization of tacit knowledge when junior researchers' team members review plans with senior team members can lead to the understanding of knowledge transformation within an organization. Tacit knowledge regarding program reviews can be externalized through the action of written procedures while explicit knowledge about research results can be internalized through individual education and peer reviews. Through a combination of different experimental data from different sources, a new result can be obtained. The duty of managers is to locate a balanced approach in fusing people, process and tools-centric knowledge management actions, the author continues. He advised that the Pareto 80/20 rule should apply, with people and process taking the front burner. He harps on the advice of the American Productivity and Quality Center (APQC) which stresses that the ability of prospective employee to share information in an organization will

depend on the prevailing group culture. Cultural change as he put it can be used as a knowledge management strategy that supports a shift to open innovation.

### **Establishing Sustained Leadership**

The success of knowledge management initiatives will largely depend on the effective leadership and the availability of resources. In case of corporate R&D group, the chief technology officer (CTO) is usually designated as the chief knowledge office (CKO). The duty of CKO is not only sponsoring knowledge management related projects but the strategic management of knowledge through the staffing and selection of R&D various projects. In knowledge management, “not invented here syndrome” is not encouraged, and it is the duty of the leadership to build bridges with outsiders like universities, customers, suppliers and business partners in which knowledge is shared and used. This could be in forms like work groups, research findings, technology fair, employee rotation programs and libraries.

### **Constant Measurement and Adjustment of Knowledge Management (KM)**

Tirpak [30] concludes that continuous monitoring and adjustment of KM schemes are very important to the success of any KM management initiatives. This include the definition of important metrics, using them as benchmarks for areas that need improvement in the organization processes and the important of change management can nonetheless be watered down. One important key metric is the return on investment (ROI) but this will depend on the interpretation of ROI by different stakeholders like customers, employees and shareholders. Other metrics are the degree of participation, which is the number of people using the patent disclosure system while program metrics include the number of technological transfer projects, technical publications and technology demonstrations. Any organization with intent to building a virile KM should make it part of its performance measurement and balanced scorecard initiatives. Knowledge creation by all rank and files of employees has to be encouraged and rewarded. According to Basu [31], many organizations win in the market place and become leaders due to various core competencies they appropriate to their own advantage. Such core competencies include innovation (Apple’s cutting edge design), quality (Japanese’s just-in time manufacturing and total quality management), superior customer service, and flexibility-exploring market niches and strategic customer targeting (Dell’s core competencies).

## **RESEARCH METHODOLOGY**

This research was conducted at Transcorp International Plc., located at Victoria Island in Lagos, Lagos State; the former capital city of Nigeria and now the hub of business activities in Nigeria, in the western hemisphere of the African continent. The process used a survey method plan. The purpose of the survey was to extrapolate from sample to population using inferential statistics to make some assumptions about characteristic, attitude, or behaviour of the population under investigation. The population at Transcorp International Plc was the rank and file of all workers in the organization. The targeted population was the sampled workers, male and female drawn from the larger population, who have university education and those that have, at least, Ordinary National Diploma (OND) and West African Examination Certificates (WAEC). These comprised executives, middle level managers, supervisors, and workers below the supervisors. They also include staff members, such as engineers, accountants, technicians and administrative supporting staff, who are deeply involved in the day-to-day activities in the organization to create values for the consumers.

The sample design for this study used the simple-stage sampling procedure [32]. The authors suggest that the alternative to this method of sampling is enumeration, which is counting the entire population. In this research, the intent was to distribute the survey questionnaires among executives, middle level managers, supervisors and the rest of the workers, to know how organizational learning and management affect strategic organizational core competencies development to initiate product innovation that helps the organization become a leader in the industry in the African market landscape. Due to limited resources and financial support, it was decided that the best method to use was the random sampling method and then extrapolate the result to the entire population. Survey technique was applied via the questionnaire and the statistical significance of relationships between survey items were determined. Most of the questionnaires were filled in and returned. Number of participants in each group was large, a total of 200 employees made up of the executives, middle level managers, supervisors, and lower level employees in different divisions of Transcorp Plc. The questionnaires were distributed to all of the subjects or participants by mail and it was anonymous. This investigator will get them back at the end of the process within one week by express mail depending on the work schedules of the participants, but this researcher will not be there when the process will be on to avoid the possibility of bias. The measure was based on Likert scale. This was a quantitative research project via survey process with empirical evidence that used the sample data to extrapolate to the larger population with near precision. Each stratum of the employees got three of the sets of the questionnaires to clearly get the overall picture of what was happening in the organization regarding core competencies management and development. Information was summarized on how this organization managed its intangible assets to become a market leader through product innovation. The motive for the survey was to understand whether the organization understood core competencies, its development, management and utilization for the organizational competitive advantage in product innovation during these times of evolving technology.

In this study, the relationship between the independent and the dependent variables was measured using bivariate or regression analysis. To operationalize this, the authors measured the influence of organizational learning management on the core competencies development, through a summated scale after survey process. Organizational learning management was represented by  $x$  = independent variable while the core competencies was represented by  $y$  = dependent variable. The Pearson correlation coefficient ( $r$ ) is the most commonly bivariate correlations technique. Additionally, Statistical Package for Social Science (SPSS) was used for statistical analysis in this research to determine the degree of relationship between the independent and the dependent variables.

## RESULTS AND DISCUSSIONS

The focus of this research was to understand the influence of the management of organizational learning on the development of core competencies in an organization, which, in turn, enhances organizational innovation for new product development, to take leadership of any marketplace. This study was designed for the research questions: How does the management of organizational learning influence the development of core competencies of the organization? Objective was to determine the relationship between the organizational learning as the independent variable, and core competencies development of the organization as the dependent variable.

**Table 1: Frequency Distribution of Respondents in Rank/Position**

Respondent	Ranking	Sample	Total Sample
Executive	CEO	1	10
	Deputy CEO	1	
	Executive Director	8	
Production Engineers	Manager	4	32
	Supervisor	12	
	Below Supervisor	16	
Marketing Personnel	Manager	2	20
	Supervisor	4	
	Below Supervisor	14	
Customer Service Personnel	Manager	2	20
	Supervisor	3	
	Below Supervisor	15	
Information Technology Personnel	Manager	2	18
	Supervisor	2	
	Below Supervisor	14	

The participants were selected randomly based on the crucial roles they play in a typical manufacturing process of an industry. They were mainly the executives, the production engineers, the marketing workforces and the customer service and information technology personnel. Distributions of participants are given in Table 1. The results of this regression analysis are in Tables 2 through 5 and Figure 1.

**Table 2: Descriptive Statistics of the Variables in the Regression Analysis**

Descriptive Statistics			
	Mean	Std. Deviation	N
Organizational competencies development	4.285999999999999	.745524318543562	100
Organizational learning	4.390000000000002	1.014435648893685	100

**Table 3: Summary of the Regression Model**

Summary				
Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate
1	.966 <sup>a</sup>	.933	.932	.194419865706324
a. Predictors: (Constant), organizational learning				
b. Dependent Variable: organizational competencies development				

**Table 4: Significance of the Regression Model**

Anova <sup>a</sup>						
	Model	Sum Of Squares	Df	Mean Square	F	Sig.
1	Regression	51.321	1	51.321	1357.719	.000 <sup>b</sup>
	Residual	3.704	98	.038		
	Total	55.025	99			
a. Dependent Variable: organizational competencies development						
b. Predictors: (Constant), organizational learning						

**Table 5: Coefficients of the Regression Model**

Coefficients <sup>a</sup>						
	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.170	.087		13.487	.000
	Organizational learning	.710	.019	.966	36.847	.000
a. Dependent Variable: organizational competencies development						

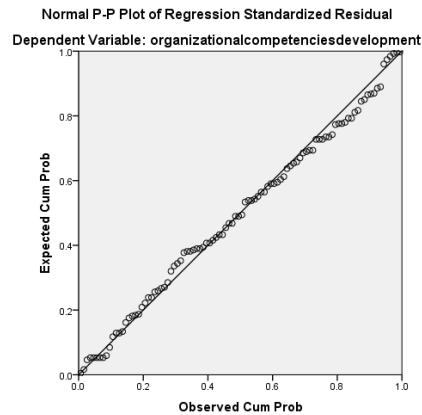
Likert Scale or Summated Instrument Scale was used throughout the survey. The instruments developed required participants to respond in their level of agreement or disagreement. Normal P-P plot resembles the straight line connecting (0,0) and (1,1) very well, indicating that normality assumption of residuals is met. The p value of the F statistic of the test is almost 0, indicating significance of regression. The right tailed p value of coefficient of core competencies in the regression model is almost 0, indicating that organizational learning positively influences the dependent variable. Furthermore, the adjusted R<sup>2</sup> of the test indicates 93% of variations of core competencies development are explained by organizational learning. This is very high explanation of variations of the dependent variable by the independent variable in regression model. Dependence of competencies development on organizational learning is represented by the following equation.

$$\text{Competencies Development} = 1.17 + 0.71 * (\text{Organizational Learning}) + \epsilon (\text{Error})$$

Based on the above regression analysis this research concludes that organizational learning has positive effect on competencies management in manufacturing enterprises. Furthermore, in this research, the reliability of the survey questionnaires gave strength to the research and this was evident from the analysis of the Cronbach's alpha. Cronbach's alpha is the index of reliability. Validity and reliability are the two primordial factors in the evaluation of a measurement instrument. Since validity is concerned with the extent to which instrument evaluates what it is intended to measure, reliability is saddled with the ability of an instrument to measure items consistently. In this research, the measurement of reliability of an instrument is connoted with the coefficient of Cronbach's alpha. In this study, the Cronbach's alpha Coefficient came out to be 0.798, which is moderately strong. For the strategic product innovation, the Cronbach's Coefficient alpha was 0.909, which indicates a robust reliability. This demonstrates the internal consistencies of the questionnaires on organizational core competencies and on strategic product innovation. These met the required academic rigors. In all the analysis in this study, the probability of type 1 error,  $\alpha$  is 0.05 (p. value). Regression analysis was done to test the hypothesis for all questions. Generally, it is assumed that the error term  $\epsilon$  in the liner regression model is independent of x, and is normally distributed, with zero mean and constant variance. In this situation, the researcher can decide where there is any significant relationship between the independent variable x and dependent variable y by testing



the hypothesis that  $\beta = 0$ .



**Figure 1: Normal P-P Plot of Standard Residual in the Regression Analysis**

## CONCLUSIONS AND RECOMMENDATIONS

The leveraging of core competencies by any organization is a branch of strategy made popular by Prahalad and Hamel [11]. The focus of this research was to understand the influence of the management of organizational learning on the development of core competencies in an organization. The essence of the strategy is winning and producing products that can beat the competitors in the marketplace and be a value-add to the consumers. In this research, the reliability of the survey questionnaires gave strength to the research and this was evident from the analysis, which is an index of reliability. The Cronbach's alpha was determined to be 0.909, which is considered a robust strong reliability. In all the hypothesis testing, the probability of type 1 error,  $\alpha$ , was 0.05 (p. value). Regression analysis was done to test the hypothesis. Generally, it was assumed that the error term  $\mathcal{E}$  in the liner regression model was independent of  $x$ , and normally distributed, with zero mean and constant variance. The researcher determined that there was a significant relationship between the independent variable  $x$  and dependent variable  $y$  by testing the null hypothesis that  $\beta = 0$ . From the statistical analysis, the evidence gathered through the hypothesis testing confirmed the hypotheses that the management of organizational learning influenced the development of core competencies. The adjusted R-squared rather than the R squared is the most important in the standard error of the regression. These are the unbiased estimators of the deviation from the regression line where  $n$  is the number of sample size and  $k$  is the number of independent variables. Adjusted R-squared bears the same relation to the standard of error of the regression that R-squared bears to the standard deviation of the errors [33]. In the analysis testing of research hypothesis one, the normality of the assumption of the residuals is met, the p value of the f statistic almost 0, showing significant regression and the right tailed p value of core competencies in the regression was almost 0, indicating organizational learning and its management positively influences the dependent variable, core competencies development. Furthermore, the adjusted R squared of the test shows 93.3% of variations of product innovation which is explained by organizational core competencies. Overall, the data analysis confirmed the influence of the management of organizational learning on the core competencies development on product innovation in a manufacturing enterprise in Nigeria, Africa.

The context of this research was in a specific manufacturing organization. Further research is suggested in an advanced economy where competition and customer behaviours are robust. A different research design may be chosen

using quantitative and qualitative parameters that will incorporate interviews. Innovative products in an organization may be observed to determine the correlation between the theoretical results and the practical evidence of the products produced. Studies may also be conducted in public enterprise in developed nations to see if the management of organizational learning enhances the development of core competencies in an organization.

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