Influence of Organizational Core Competencies on Strategic Product Innovation in Manufacturing Operations

Romanus C. Iwuanyanvu¹, Kaveh Shamsa² and Bhaskar R. Sinha³,*

¹Argosy University, Orange
California, USA

²Argosy University, Orange
California, USA

³National University San Diego, California, USA

*Corresponding author’s email: BSinha [AT] nu.edu

ABSTRACT—Since the popularity of core competencies in the 1990s, many organizations have been giving it a serious thought on how to strengthen the internal capabilities of the organization as a veritable asset for competition. The purpose of this research is to examine the influence of organizational core competencies on strategic production innovation in a manufacturing enterprise. Using the data acquired from the manufacturing segment of Transnational Corporation (Transcorp), Plc. in Lagos, Nigeria, Africa, this research, through surveys, examined the influence of organizational core competencies on strategic product innovation. The variables incorporated in this research were mainly perceptual in nature. The design was quantitative in which ninety survey questionnaires were administered to them. The study had two variables, organizational core competencies as the independent variable and strategic product innovation as the dependent variables. Regression analysis was used to determine the correlation between the two variables, independent and dependent. Cronbach’s alpha was also determined in each section of the questionnaires to test the internal reliability of the constructed questionnaires. This research concludes that core competencies and the emphasis on core competencies is essential for any organization that wants to gain a competitive edge in the marketplace. It is an intangible asset of an organization.

Keywords— Descriptive statistics, product to market, organizational learning, knowledge management, disruptive innovation, discontinuous innovation, innovation management, stage-gate process.

1. INTRODUCTION

Sun Tzu, who lived from 544 BC – 496 BC, was a Chinese war general and he was the author of an ancient and influential military strategy book. As a general, Tzu transformed the Kingdom of Wu from a semi-barbaric state into one of the most powerful regions in China. His methods also apply today in the world of business because strategy is the underpinning element for the success of any business venture [1]. One of the problems of some business leaders today is that they have no defined strategy in place. Some leaders do not know how to separate tactics from strategy, but tactics without strategy is a recipe for defeat, and strategy without tactics is the slowest route to victory [1]. Strategy is the thinking process required to respond to a change in the environment while tactics is the specific stepwise actions taken to implement the strategy [2]. Effective implementation of strategy is a key driver of financial performance. Organizations that fail to fully engage their workforce in the business strategy invariably fail to produce reliable, sustainable business results [3]. The link between employee engagement factors and successful strategy execution is vital.In a study of 29,000 employees in ten major firms covering Asia Pacific, Europe and America, the researchers explained how organizations executing strategy poorly can lead to poor business results [3]. The research findings continue by urging business leaders to align and engage the people, structure, capabilities or competencies and culture for effective strategy implementation and execution.

Organizations, both private and public, even government at various levels, often perform poorly because of lack of well-defined strategy in place. A case in point is the criticized former CEO of Sears, Alan Lacy, who had no strategy in place to grow Sears [4]. The criticism of Alan Lacy was his reluctance in opening many new stores and without a precise plan on how he would bring more customers to Sears’ existing franchise. James Schrager, a professor of strategic management at the University of Chicago’s Graduate School of Business, is quoted “that there would be great dangers of soldiering on without a clearly defined strategy and that, if one would want to see how it work, then one should just take
a look at Kmart.” Schrager points out that the strategies of Sears’ competitors like Wal-Mart Stores is “low prices—always”, Target Corporation is about cheap chic, and Kohl’s is about money saving on the stores’ brands. Successful organizations in the present and in the future will not be cost-obsessed by pushing low price products but by creating values to the consumers [5], and the author continues by showing how Apple has steadily created values in almost all of its products to be a global leader. Apple does this by having innovation in its DNA as one of the organizational strategic core competencies [5]. Many organizations are struggling in this area and it is through innovation that new products are created. Organizational competencies is varied and this study uncovered some of them. Culture and corporate social responsibility are among the many types of core competencies, and it will be recalled that Enron and Adelphia collapsed due to sharp unethical practices as the two organizations lacked well defined social corporate responsibility competencies.

The 1990s was marked with fierce competition that has dragged firms to relentless constant adaptation to survive, renewing, re-configuring and re-creating their internal resources and capabilities to respond quickly to the changing environment [6]. Without a well-crafted strategy, no organization can survive. Strategy is defined as the moves firms make to get sustained competitive advantage. Every organization wants to be ahead and secure a big chunk of the market share to strengthen its profit matrix within the ambit of decency and best practices. Strategy comes in many forms, structural or operations strategy, differentiation strategy, and focused approach strategy. Operations strategy works by arranging operations so they fit existing market conditions. An organization can structure the way it orders products or materials using existing supply chains. Hence, adopting the ways that suppliers already send products to organization’s competitors and cost leadership whereby business networks are established. Reason being, the cost for producing a product is less than the product cost of all competitors. However, this strategy may not work in markets in which many consumers pay more for a preferred brand. In a differentiation strategy, a firm can differentiate its products from competitors’ products so that a competitive advantage is achieved. This works by differentiating at least one niche of a product line that is very important to most consumers and controlling the cost of another product line or in sync with competitors’ costs for those same products. In a focused approach strategy, the firm could engage on either product differentiation or cost leadership that targets a niche market. This must be a market big enough for companies to compete in different price ranges. Some local coffee shop owners might believe they are focused on lowering their costs below Starbucks is in the higher-priced coffee market but they would not be able to use the same economy of scales to keep their costs down [7]. Carving out a strategy that cannot easily be imitated is difficult and this is one of the reasons why the war of competition and crafting of strategies to beat the next opponent is endless and fierce. “Essentially, there is need to find the various coherent systems that can be built out of many competitive dimensions, and create organizational processes which embody them all in the right proportion needed to face hyper-competition markets” [8]. The build-up of such process would be possible especially with one key resource; the knowledge worker, who will form the basis for a long-term sustainability of the process. Literature has defined knowledge management (KM) as a process that deals with the development, storage, retrieval, and dissemination of information and expertise within an organization to support and improve its business performance [9]. Organizations are realizing that knowledge is a crucial resource that must be managed judiciously. Organizations need to harness knowledge not only to stay competitive but also to become innovative.

So the question boils down to: how does an organization build and manages a strategy that is not easily imitated by a competitor? The answer lies in organizational core competencies, the platform to define and execute strategic maneuvers. The chief apostle of competency school is usually associated with David McClelland when he published his seminal work, titled “Testing for Competency Rather than Intelligence” [10]. It is suggested that the often relied academic aptitude test and knowledge possession test alone will not in any way predict the success of individuals in life; neither will it predict excellent job performance in organizations. McClelland recommends that individual characteristics or competencies can be a good predictor of high achievers. Contemporarily, competencies is used in many aspects of organizational life ranging from human resources management to performance management to strategic competitive analysis [10]. It is the area of strategic analysis in which organizations can build core competencies to stand out and be market leaders that forms the thrust of this research. The core competencies model was introduced and available in the literature [11]. Organizations do not operate alone in the field and they do not exist in a world of business monopoly. So many organizations compete in the market place in an unstable environment, and it is nothing short of war in the horizon: to lead, to corner the market share, to offer new products, to please the consumers, to play safe within the boundary of the laws of the land, and to maximize profits. In these conditions, fierce competitions are common. It is short-sighted doing what others are doing and hoping to survive. Some of the consequences are price wars, product dumping, and unwholesome behaviors. Some win while others lose and at the end of the day; it is the survival of the fittest, a form of evolutionary natural selection. What makes the difference is the type of strategy deployed by various organizations to survive in the market place in unstable and challenging business environments. The historical perspective of strategy is interesting and it has military connotation. Literature traces its origin to ancient Greeks where it was linked to a chief magistrate or a military commander and its usage in business world dates back to the twentieth century while its application in competitive landscape today is noteworthy [12]. Others support this view, stating that the language of strategy is heavily imbued with military references where chief executive officers in the headquarters and troops
commander in the front line of combat; hence strategy is all about confrontation and fighting an opponent to win in whatever is at stake [13].

World War II encouraged, among other things, the use of strategic thinking to guide management decisions and some have argued that management is not passive, but an adaptive behavior in taking actions to make the desired results come to pass [14-16]. Researchers have frowned at the attitude of economic theory that treats market as an impersonal force, beyond the taming of individual entrepreneurs and organizations, but in the time of multidivisional corporation, managing means responsibility for trying to draw the architecture of economic environment, for planning, initiating and seeing through changes in the economic environment, and pushing constantly the limitations of economic situations in the entrepreneur’s freedom of action [14-16]. This insight becomes the rationale behind business strategy that by constant formal planning, organizations can exert full control over market forces [12]. If the environment is stable and if the future can be predicted with some level of certainty and if the consumers can be loyal without fleeting tastes, then corporate executives and managers should not devote their time worrying about how to be leaders in the global market place or to win against threatening competitors. The unarguable conclusions suggests that change is the only constant in the matrix, and actors in the business world are always on their toes to manage change that is brought about by unannounced internal and external environmental business driver(s). It is argued that change is both the reason for and purpose of strategy; and without change in the environment, there will be no business opportunity. Change dresses itself in forms of new technologies, revolutionary outputs of honed and well managed organization’s core competencies, new products, new competitors, old competitors with new strategies, new regulations, consumers’ new tastes, new ways of communications, and the social media [17]. What then is strategy? From the available literature it becomes difficult to pin down one simple definition of strategy. One definition stands out where the author defines strategy as the moves organizations make to better achieve sustained competitive advantage [18]. These moves, according to the author, hinge on the organization’s ability to comprehend its opportunities and threats that exist in the organization’s external environment, and strengths and weaknesses that exist in its internal environment. Positioning the organization with respect to cost and quality of services it offers to its consumers is the domain of business strategy and understanding the external and internal environment helps the organization to decide what type of business they compete, is the domain of corporate strategy. One author [19] concludes that the use of strategy and its failures may originate from its definition. Strategy is derived from the Greek word, strategia, which is application of available resources to win a military war. The author also agrees with the fact that this etymological heritage generates a problem when applied to business world, as, to most managers, strategy means competition in the battle field. Since competition takes place at the offering level, most organization spend their energies in improving goods and services they offer to the consumers and this obsession on temporary success of a given offering can often mar the kind of thinking and emphasis that can lead to sustained success. When over indulged in this, the author argues, that organization is then distracted from larger questions of structure, mission and opportunity. She continues that organization should first and foremost concentrate on relating to its consumers, and not on its competitors or temporary objectives and she says, that is the heart of any real strategy [19].

In this study, the research questions was correlation-based and was used to focus the direction of this work. The purpose of this study was to investigate how strategic organizational core competencies can influence product innovation of an organization, to aid it to become a market leader. In this quantitative research, the authors propose an independent variable, core competencies, and a dependent variable, product innovation. The incorporation of these variables culminated into the research questions: How do core competencies of organizations influence strategic product innovation?

2. RESEARCH DESCRIPTION

Lack of innovation is linked to the single largest reason why organizations decline [15]. In order to survive the turbulent business environments, organizations have to renew themselves to be relevant in the eyes of the consumers, to meet their needs, and to create satisfactions in them. It is an unfolding event that many organizations are not doing it, and either they lose market shares, lag behind, or wither away entirely. No individual or group of investors will put their money in any firm and allow it to vanish. The purpose of investing capital in any organization is to reap profit. Primary role of business is to make money which trickles down to benefit the employees, investors, and the larger society. It is stated that businesses provide goods and services needed by the larger society and profit is a byproduct. Business makes profits when all parts of the business machineries are working fine, and when they are not, profits will be down and many other problems may arise. If care is not taken then such businesses may vanish. Thus, it will create problems for all the stakeholders due to a variety of factors which may include poor strategy to deal with changes in the environment. Fred and Adrian in [20] gave an example of IBM, the technological colossus, the most powerful corporation in the world in 1984. However, ten years later in 1994, it was fighting to exist. Microsoft also became powerful but later it was fighting a battle from the rear as it was challenged by Netscape and other emerging competitors. Google, Apple Computers, and Amazon emerged and rewrote the landscape of competition. The authors suggest that established leaders are falling behind for two reasons: first, customers face more choices due to competition, or are better educated about the existence of better choices, and they will change loyalties if necessary. Second, more entrepreneurial minded enterprises are coming to the scene to change the rule of the game to meet customers’ needs. The need for sustained winning strategy
has never been louder than now and there is no end to this clarion call. The authors in [20] conclude that to win the new game, and thereby capture value in the market, organizations must develop the ability to think several moves ahead of competitors and failure to play the new game carry a heavy penalty. Drucker in [15] continues that there are three important assumptions that executives should not neglect: 1) environmental assumption which gives definition to what the organization is paid for; 2) mission assumption which revolves around not only the reason why the organization exist but how the organization is making a lasting impacts in the economy and the larger society; and 3) the larger society and finally the core competencies assumption, a definitive stand of where an organization must show superior performance to maintain market leadership. Teece et al [21] support the idea of organizational renewal, constant adaptation, re-creation of resources and competencies or capabilities to match the environmental competitions. Many organizations are not even satisfied with the products they turn out to the market. The organizations compete internally with themselves as a hub of constant renewal which the Austrian economist, Schumpeter [22-23] called creative destruction. The reason for this, Drucker continues, is that an organization that tries to maintain the status quo is an organization that is beckoning disappearance or is on decline.

The purpose of this work was to conduct a quantitative research study to determine if leveraging strategic core competencies leads to innovation through new product development offerings to the consumers to become a market leader in the market. Drucker in [15] suggests that organizations that fail to innovate will diminish or lag behind and the major reasons for the existence of firms are innovations, to produce arrays of new products and to market those products to the consumers. The building and management of core competencies, encouraging individual development of competence, and strengthening competency framework to enhance organization’s fortune were evaluated. Their contributions regarding organizational market leadership were the focus of this study. The result indicate that sustained competitive advantage can be achieved by focusing on the internal strengths and weaknesses of organizations. This includes directing organizational energies to the right competency and managing the important competencies and knowledge that will be diffused into the whole organization rather than dissipating too much energy into external competitive forces which cannot be sustained for too long (Porter, 1980). Organizational Competencies takes time to build and it is not easily imitated [24]. Through survey, this study uncovered how an organization needs to deploy its strategic intents and how it should focus on the development and management of core competencies. This supports their drive to develop new products to compete in the market with a push to leadership through innovation and creativity.

3. 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 behavior 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. This was a good sample of the population as they are involved in making strategic decisions and planning for the organization, and carrying out the supervision and implementation of the formulated strategies for the smooth running of the overall organizational machineries. This study involved stratification of the population: stratification means that specific characteristics of individuals are represented in the sample and the sample truly shows the true proportion in the population of those individuals with certain characteristics enumerated above. Creswell [25] states that when selecting people randomly from the population, these characteristics may or may not be present in the sample to a certain degree as in the population; so stratification allows their representation.

The sample design for this study used the simple-stage sampling procedure. According to [25], a single-stage sampling procedure is one in which the investigator has access to the names in the population and can sample the people directly. Sampling is the process of taking part of a targeted population to represent the entire population for survey research [26]. 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 strategic organizational core competencies is managed 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. According to [27], sampling technique is a method of selecting a group of subjects, called the sample, for study from an entire group, termed the population. Each individual is chosen entirely by chance and each member of the population has a possible equal chance of being included in the sample. There are benefits of using random sampling, and one of it is the likelihood of bias being reduced. Every subject here has equal chance of being chosen from the large population to form the sample size.
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 survey contained questions regarding core competencies and product innovations. The measure was based on a summated scale after 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.

Alreck and Settle [26] define reliability as “The degree to which the survey results are free from error, as opposed to systemic bias, often expressed in terms of confidence levels or confidence intervals”. From [27], reliability means the internal consistency of scores to items on research instrument; it stresses the importance of item response being consistence across constructs or stable over time span and whether there was consistency in test administration and scoring. Reference [28] gives explicit meaning of reliability when he traces it mundanely to simple comprehension. Reliability in this sense means dependable or trustworthy, but in a scientific research, he narrows the meaning of reliability to “repeatability” or “consistency”. He continues that a measure is understood to be reliable when it gives the same result over and over again, as long as what is being measured is constant and it has to do with quality of measurement. In this study, the two variables, independent and dependent, and the relationship between the two variables was measured. Bivariate or regression analysis was performed. To operationalize this, this researcher measured the influence of organizational core competencies has on strategic product innovation, through a summated scale after survey process, and organizational core competencies was represented by $x =$ independent variable while strategic product innovation was represented by $y =$ dependent variable. The Pearson correlation coefficient ($r$) is the most commonly bivariate correlations technique.

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2} \sqrt{\sum (y_i - \bar{y})^2}}$$

Or, regression Analysis, of the equation: $Y = mx + b$, where

- $x =$ Independent variable;
- $y =$ Dependent variable;
- $b =$ Intercept on $Y$ axis;
- $m =$ Slope (or gradient)

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.

4. RESULTS AND FINDINGS

Organizational core competencies is a new segment of strategic process. Its application in the industry resolves around effective organization learning, concerted development, management and executives’ support of the internal resources of the organization that will culminate in organizational innovation for new product development to take leadership of any marketplace. This study was designed to answer the research questions: How do core competencies of organizations influence strategic product innovation? The model was the relationship between the core competencies of organization as the independent variable, and product innovation as the dependent variable. Two hundred people completed the survey and it was a good response. The participants were selected randomly based on the crucial roles they play in product innovation 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. Frequency distributions of participants are given in Table 1 and Table 2.
Table 1 - Frequency Distribution of Respondents in Various Departments

<table>
<thead>
<tr>
<th>Department/ Sample</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>10</td>
</tr>
<tr>
<td>Executives</td>
<td>32</td>
</tr>
<tr>
<td>Production</td>
<td>20</td>
</tr>
<tr>
<td>Marketing</td>
<td>20</td>
</tr>
<tr>
<td>Customer Service</td>
<td>18</td>
</tr>
<tr>
<td>Technology</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2 - Frequency Distribution of Respondents in Rank/Position

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Ranking</th>
<th>Sample</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CEO</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deputy CEO</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>Executive Director</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Below Supervisor</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Production Engineers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Below Supervisor</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Marketing personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Below Supervisor</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Customer Service Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Below Supervisor</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Information Technology Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manager</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Below Supervisor</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

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 that range from 1 to 6, the questions relating to the attributes being measured [29]. It may be argued that the data generated from Likert scale should be used as ordinal values as well as interval values. For [26], the data is ordinal values but, in this research, data was used as interval values, Likert scale had to be modified so that the listed points have equal distance between them.
Data analysis is the process of the application of the arrays of statistical tests and methods in a specific progressive steps with the aim of examining a dataset [30]. In order to test the research, each variable cited was evaluated by averaging the answers to the questions posed for measuring that variable. Probability of type I error, α, in testing all hypotheses was 0.05. The result of reliability analysis, based on the acquired data, was analyzed. The Cronbach alpha measure for this survey turned out to be 0.798, which is moderate strong. All reliability and data analysis in this research utilized the Statistical Package for Social Sciences (SPSS). To determine to result of this research, a regression analysis was done in which organizational core competencies was the independent variable, and product innovation was the dependent variable. The results of this regression is shown in Figure 1.

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

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: productinnovation

Data analysis is the process of the application of the arrays of statistical tests and methods in a specific progressive steps with the aim of examining a dataset [30]. In order to test the research, each variable cited was evaluated by averaging the answers to the questions posed for measuring that variable. Probability of type I error, α, in testing all hypotheses was 0.05. The result of reliability analysis, based on the acquired data, was analyzed. The Cronbach alpha measure for this survey turned out to be 0.798, which is moderate strong. All reliability and data analysis in this research utilized the Statistical Package for Social Sciences (SPSS). To determine to result of this research, a regression analysis was done in which organizational core competencies was the independent variable, and product innovation was the dependent variable. The results of this regression is shown in Figure 1.

Normal P-P plot of Figure 1 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 core competencies positively influences the dependent variable. Furthermore, the adjusted $R^2$ of the test indicated 98% of variations of product innovation are explained by core competencies. This is very high explanation of variations of the dependent variable by the independent variable in regression model. Dependence of product innovation on core competencies is represented by the following equation.

$$\text{product innovation} = -1.589 + 1.293 \times (\text{core competencies}) + \varepsilon (\text{Error})$$

Based on this regression analysis this concludes that organizational core competencies has positive effect on motivation for product development 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 I error, α 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 linear 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 \( \beta = 0 \).

From the statistical analysis, the evidence gathered through the hypothesis testing concluded that the organizational core competencies has positive effect on motivation for product development in manufacturing enterprises. The adjusted R\(^2\) rather than the R\(^2\) 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\(^2\) bears the same relation to the standard error of the regression that R\(^2\) bears to the standard deviation of the errors [31]. In the analysis testing of this study, 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 core competencies positively influences the dependent variable, product innovation. Furthermore, the adjusted R\(^2\) of the test shows 98% of variations of product innovation which is explained by organizational core competencies.

5. CONCLUSIONS AND RECOMMENDATIONS

Irrespective of the size and shape, strategy is the life blood of any organization. Modern business strategy is a field of study and practice that emerged in 1960, but before then, the word strategy and competition never appeared in any prominent management literature [32]. It seems that strategy is a concept in which academics and practitioners rarely agreed on a single definition. Chandler [33] defines strategy as the determination of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Porter [34-35] defines strategy as the broad formula for an enterprise that plans to compete in the market, what its goals should be, and what policies will be needed to execute these goals; a combination of the ends (goals) for which the enterprise is striving, and the means (policies) by which the firm is seeking to arrive there. Mintzberg et al in [36] define strategy as follows:

- As a plan. A directed course of action to achieve an interned set of goals; similar to strategic planning.
- As pattern. A consistent pattern of past behavior, with a strategy, realized over time rather than planned or intended. If the realized pattern was different from the intent, it is called emergent.
- As position. Locating brands, products, or companies within the market, based on the conceptual framework of consumers or the stakeholders; a strategy determined primarily by factors outside the firm,
- As a ploy. A specific maneuver intended to outwit the competitor.
- As a perspective. Executing strategy based on a theory of business or natural extension of the mind or ideological perspective of the organization.

The main focus of this research is to understand the influence of organizational core competencies on strategic product innovation in a manufacturing enterprise. The leveraging of core competencies by any organization is a branch of strategy made popular by Prahalad and Hamel [11] in their seminal work: “The core competencies of a corporation”. The importance of this research is clarified when one takes a short review of the strategic tool; Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. This is a strategic tool that deals with the dynamics inside and outside the organization. The Strengths and Weaknesses (SW) deal with what the organization can control and the Opportunities and Threats (OT) deal with what the organization cannot control; it lies outside the organization’s power. This paper presents the SW dynamics which contains, among other things, the human resources, plant and machineries, tangible assets and the knowledge, skills and the competencies. The essence of strategy is winning and producing products that can beat the competitors in the marketplace and be a value-add to the consumers.

The analysis of the Cronbach’s alpha showed strong and robust reliability and the implication was that the survey questionnaires were constructed with internal consistency. They were reliable and valid. The adjusted R\(^2\) of the test showed 98% of variations of product innovation are explained by organizational core competencies, meaning that organizational core competencies have an influence on product innovation. The explanation of this phenomenon is that when the corporate leaders show support to their members of staff, the organizational core competencies management will proceed without a hitch and the whole organization stands to gain. The adjusted R\(^2\) measured in the regression model in this research was high, in proximity of 95%. This does not occur very often in regression analyses that incorporate data which is based on real events. The reason for high explanation of the dependent variable by the independent variable in this work may be due to mainly perceptual nature of the variables. Strategy that does not call for diagnosis, guiding policy and action, may be lacking some modicum of substance[37-39]. Strategy is all about action, but organization has
to find out the problems in order to direct the needed action, and there must be rules and policies on ground to follow in tackling the problem confronting the organization. The findings of this study confirm the importance of organizational core competencies in organizational prosperity and progress. The highpoints as a summation are that data analysis and results support the followings:

1. The positive effect of organizational core competencies on strategic product innovation.
2. These results lend robust credece to the positive outcome of this research objective that core competencies of organization influences strategic product innovation in the manufacturing segment of Transcorp Plc., Lagos, Nigeria, Africa.
3. This study is conclusive with SWOT analysis as a strategic tool.
4. Organizational core competencies is the intangible asset of any organization that can truly give a sustained competitive advantage and differentiation of firms that any executive can put in place in the long run.
5. A well-crafted purpose or mission is essential for defining a strategy, which is an articulated diagnosis of organizational challenges, with a guiding policy to tackle the organizational problems.

In conclusion, organizational core competencies is the intangible assets of an organization, and product innovatiosncreate the competitive advantage for any organization. This research concludes that organizational core competencies positively influence strategic product innovation; hence, these intangible assets of an organization have enhancing influence on organizational competitive advantage.

6. FURTHER RESEARCH OPPORTUNITIES

The context of this research was in a relatively small manufacturing organization. Further researcher is suggested in an advanced economy where competition and customer behaviors 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. Another possible area of research is to determine the correlation between organizational learning and organizational core competencies development and management. Studies could also be conducted in public enterprise in developed nations to see if core competencies have any bearing on effective service performances.

7. BIBLIOGRAPHY


