The Moderating Role of Organizational Technology on the Relationship between Strategy Process and Employee Productivity in Manufacturing Companies in Port Harcourt

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Abstract
This study examined the moderating role of organizational technology on the relationship between strategy process and employee productivity in manufacturing companies in Port Harcourt. The study adopted a cross sectional survey method. The study population was four hundred and fifty one (451) employees of five selected manufacturing companies in Port Harcourt. The sample size of the study was determined by Taro Yamane sample size determination formula, the sample size was two hundred and twelve (212) employees that were randomly selected. Primary data was obtained using questionnaire as the research instrument. The inferential and descriptive statistical tools were used in the analysis of data for the study. The internal reliability of the research instrument was tested using Cronbach Alpha Coefficient and only items that have an alpha reading of 0.70 and above were considered. The partial correlation technique was used to test the moderating effect of organizational technology. The study finding confirmed that organizational technology significantly moderates the relationship between strategy process and employee productivity in manufacturing companies in Port Harcourt. The study recommended the adoption of technologies should be well suited to match the requirements and changes of the context of the organization. This is as the success or progress of Strategy process is most often linked to the organizations technological platforms and the extent to which it enables efficiency and the effective integration of the systems.

Key Words: Strategy Process, Employee Productivity, organizational Technology, Manufacturing Firms

Introduction
The concept of strategy has developed as an important aspect of management due to the dynamics and complexity of the world as well as an increasingly turbulent business environment (Kibicho, 2015). Strategy encompasses the process, organizational restructuring and the outcomes of chosen long-term directions (which can either be conscious, planned or a
series of events), which lead to a desired objective. It also involves the evaluation of the impacts of both the external and internal organizational environments on the long-term goals of the organization (Mintzberg, Ahlstrand and Lampel, 1998).

According to Njagi and Kombo (2014), the modern business environment has become very competitive, making it necessary for firms to practice strategic management, which consists of the analysis, decisions and actions an organization takes in order to develop and sustain competitive advantage. Davenport (2007) argues that executing a strategy, no matter how brilliant, requires a planned approach. Njagi and Kombo (2014) agree, saying that in order to achieve intended results strategies have to be properly implemented. Strategic management process involves organization, management and the environment as a whole. Burnes (2009), posts that link between strategic management process and performance encompasses three specific areas of firm outcomes such as financial performance (profits, return on assets, return on investment), product market performance (sales, market share) and shareholder return (total shareholder return, economic value added). Within corporate organizations, there are three primary outcomes analyzed including financial performance, market performance and shareholder value performance, (Pearce and Robinson, 2007).

Strategic management, according to Robbins, Bergman, Stagg and Coulter (2009), can be described as what managers do in order to develop the firm’s strategies. Strategic management process helps us to understand what the organizations do to attain the strategic and the maintenance of its competitive advantage. In the light of this statement, some organizations are able to reach a competitive position and others cannot. Strategic management process involves organization, management and the environment as a whole. Burnes (2009), posts that link between strategic management process and performance encompasses three specific areas of firm outcomes such as financial performance (profits, return on assets, return on investment), product market performance (sales, market share) and shareholder return (total shareholder return, economic value added). Within corporate organizations, there are three primary outcomes analyzed including financial performance, market performance and shareholder value performance, (Pearce and Robinson, 2007).

The strategic management process involves evaluating the organizational performance of recurring activities to establish organizational goals, monitoring progress toward the goals, and making adjustments to achieve those goals more effectively and efficiently, with the overall objective of improving a firm’s performance (Njagi and Kombo, 2014). There has been an increasingly growing recognition by researchers and practitioners that issues in strategic management are not primarily as a result of strategy formulation but as a result of strategy implementation. Recent research indicates that strategy implementation and strategy formulation are both important for excellent business performance although this wasn’t the case for many decades prior as strategy formulation was regarded as a more important component of the strategic management process than strategy implementation (Holman, 1999; Flood, Dromgoole, Carrol and Gorman, 2000; Kaplan and Norton, 2000).

Every organization performs its task with the help of resources as men, machine, materials and money. Except manpower other resources are non-living but manpower is a live and generating resource. Manpower utilizes other resources and gives output. If manpower is not available then other resources are useless and cannot produce anything. Out of all the factors of production manpower has the highest priority and is the most significant factor of production and plays a pivotal role in areas of productivity and quality. In the case or instance of lack of attention to the other factors, those are non-living and may result in reduction of
profitability to some extent; however, ignoring the human resource can prove to be disastrous (Armstrong, 2006; Bloisi, 2003).

Olajide (2000) notes that in a country where human resource is abundant, it is a pity that they remain under-utilized; this as individuals within organizations comprise a large number of individuals of different sex, age, socio-religious group and different educational or literacy standards. These individuals in the workplace exhibit not only similar behaviour patterns and characteristics to a certain degree but also they show much dissimilarity. Technology alone, however, cannot bring about desired change in economic performance of the country unless human potential is fully utilized for production. The management must therefore be aware not only organization but also employees and their needs.

Similarly Bloisi (2003) opined that the principal component of an organisation is its human resources or ‘People at work’. Human resources have been defined from the national point of view as, the knowledge, skills, creative abilities, talents and aptitudes obtained in the population: whereas from the view point of the individual enterprise, they represent the total of the inherent abilities, acquired knowledge and skills as exemplified in the talents and aptitudes of its employees. These resources are most often referred to as ‘human factors’ which comprise a whole consisting of inter-related, inter-dependent and interacting physiological, psychological and ethical components. It is this human resource which is of paramount importance in the success of any organisation because most of the problems in organizational settings are human and social rather than physical, technical or economic. Failure to recognize this fact causes immense loss to the nation, enterprise and to the individual.

The push for more productivity from the Nigerian manufacturing sector is not a new phenomenon. The issue is considered as very important; yet, there exists an avalanche of studies emphasizing on and believing that the attitudes and management processes and styles of mid-level managers are what really influence employee productivity, thus offering a rather one-sided (based on individual processes rather than systems) approach towards the issue. One of the primary tasks of the managers is to motivate people in the organization as a strategic process to perform at high levels (Steers and Porter, 2000; Caldwell, 2001; Christesen, 2002). However, it is also imperative to consider how the organizations adoption of effective policies, systems, plans and Strategy behavioural patterns can answer the question of what motivates their employees, and how effective they will be at maximizing productivity, enhancing productivity, enhancing performance and advancing the notion of organizational accountability (Chernis and Kane, 2004). The target of this study therefore is to examine the moderating role of organizational technology on the relationship between strategy process and employee productivity in manufacturing companies in Port Harcourt.

**Literature Review**

**Strategy Process**

Strategy which is a fundamental management tool in any organization is a multi-dimensional concept that various authors (Olson, 2005; Thompson, 1993) have defined in different ways. It is the match between an organization’s resources and skills and the environmental opportunities as well as the risks it faces and the purposes it wishes to accomplish (Thompson 1993). It is meant to provide guidance and direction for the activities of the organization. Since Strategy decisions influence the way organizations respond to their environment, it is very important for a firm to make Strategy decisions and define Strategy in terms of its function to the environment. The purpose of Strategy is to provide directional cues to the
Strategy process has become a subject of interest for many scholars (Pearce and Robinson, 2007; Olson, 2005; Thompson, 1993). Literature indicate that several studies have focused on Strategy process however, there seems to be widespread concurrence regarding the nature of Strategy planning which involves Strategy process that present various models indicating the organizational characteristics in implementing Strategy (Hills & Jones, 2001). This study defines Strategy process in terms of the method of implementing strategies, clear targets to implement strategies, review and piloting initially before implementing them in full. This view was adopted from Brown (2005).

Other scholars including Miller (2002) have defined Strategy process in Strategy management perspective to acquire an appropriate model with overall steps. This kind of model has to be compatible as it aids in facilitating and managing the process of set plans. Literature shows that firms have not been short of strategies but have fallen short of Strategy process. It is estimated that 70% of CEOs fail due to bad process (Pleshko & Nickerson, 2008). A European business review revealed that, most organizations, especially service-oriented, have been faced with increasing uncertainty and complexity over few years and the chief Strategy officer has had little known about its role in contributing to curbing the challenges (Mankins & Steel, 2005).

Strategic management, according to Robbins, Bergman, Stagg and Coulter (2009), can be described as what managers do in order to develop the firm’s strategies. Strategy process helps us to understand what the organizations do to attain the strategic and the maintenance of its competitive advantage. In the light of this statement, some organizations are able to reach a competitive position and others cannot. Strategy process involves organization, management and the environment as a whole. Burnes (2009),posts that link between strategic management process and performance encompasses three specific areas of firm outcomes such as financial performance (profits, return on assets, return on investment), product market performance(sales, market share) and shareholder return (total shareholder return, economic value added).Within corporate organizations, there are three primary outcomes analyzed including financial performance, market performance and shareholder value performance,(Pearce and Robinson, 2007).

Strategy development and execution is grounded in the broad range of business decisions and competitive moves management pursues in order to optimize successful performance consistent with its strategic plans goals, objectives and business initiatives Hamel, (2004). A strategic plan is the output that comes through the strategic management process and discipline that involves a team approach encompassing all functional areas within a business. Strategic planning is the foundation activity within the strategic management process that helps produce the organization’s strategic plan. The strategic plan reflects a company’s choice of actions among numerous alternative courses of action. The strategic plan supports and directs management’s attention toward implementing a unified and measured approach to the completion of its intended business, market and strategic results Treece, (2004).

Crafting and implementing strategy should be core to every business and include all functional areas within the business. How well a strategic plan is executed has a direct influence on how successful a company will be in achieving its maximum potential. Execution of a powerful strategic plan through the strategic management process is both a
proven recipe for business success and a reflection of excellent management Hamel, (2004). There are five interrelated tasks associated with the strategic management process. This can be achieved through the formulation of a strategic vision; where the organization is headed, coupled with what the organizations purpose or mission is today.

Merging the company’s strategic vision and mission into measurable objectives and performance targets, crafting strategies to achieve performance goals and objectives, effectively implementing and executing all elements of the strategic plan, evaluating ongoing strategic plan performance in conjunction with new business, market and strategic developments, initiating appropriate adjustments and corrective actions for both short and long term goals, objectives and strategies as a function of actual experience, dynamic environmental conditions, current thinking, new ideas, perceived risks, and potential opportunities (Watson, 2003).

**Fig 1**: Five Processes of Crafting and Executing a Company’s Strategy.
(Source: Gamble & Thompson 2011)

With regard to effective & ineffective leader behaviour and Strategy process, (Hills & Jones, 2001) overall results show strong support and statistically significance results. It is clearly evident that employees who understand and agree with the company Strategy plan will most likely have a higher commitment to the firm’s success than employees who do not know or agree with it. Likewise, employees who understand the firms Strategy Business Unit (SBU) Strategy will have higher commitment to the organization than employees who don’t know the firms SBU Strategy. The author noted that the Strategy implementing/Strategy executing task is easily the most complicated and time consuming part of Strategy management.

The ‘Process’ presents the activities of planning the investments in information security defence mechanisms. The investments in Strategy process can be based on proactive or reactive Strategy (Olson et al. 2005). In the proposed framework ‘Process’ reflects the methodology of planning and evaluation. The following variables form key aspects of the strategy process.

**Investment Approach**: From the commercial aspect of the business Strategy, an organization may like to invest in change in several stages. This Strategy of investing in several phases allows an organization to utilize the available capital in the mean time for
other revenue generating projects. The technical department of the organization may prefer to divide the investments in several phases to incorporate the latest technology/developments in systems. **Investment Strategy:** The Strategy of investment in change can broadly be divided into two categories, i.e. investments in change before an attack has actually happened (pull investment) and then investments in change after the attack (push investment).

**Employee Productivity**

Productivity can be defined as a measure in relating the quality and quantity of output against the input provided by individuals to produce said output. The normal measure for productivity is to link a rand value against hours worked or tasks accomplished. The definition of productivity according to Robbins and David (2006) is the output of an employee that is measurable against the employee’s effectiveness and efficiency in the achievement of the set goals or job tasks. Productivity is the driving force behind an organization’s growth and profitability. It is the relationship between output of goods and services of workers of the organization and input of resources, human and non-human, used in the production process. In other words, productivity is the ratio of output to input. The higher the numerical value of this ratio, the greater the productivity (Burnstein & Fisk, 2003). Productivity has been defined as the measure of how well resources are brought together in organization and utilization for accomplishment of a set result. It is reaching the highest level of performance with the least expenditure of resources (Robbins & David, 2006). According to Caldwell (2001), having the technical knowledge and ability does not guarantee that employees will be efficient and effective in their job tasks. To get effectiveness and efficiency in the work environment one also needs to provide the necessary resources that are required in accomplishing the task, have a supportive management structure and lead with vision, which is in alignment to the employees’ goals and objectives.

**Strategy Context and Employee Productivity**

Strategy which is a fundamental management tool in any organization is a multi-dimensional concept that various authors have defined in different ways. It is the match between an organization’s resources and skills and the environmental opportunities as well as the risks it faces and the purposes it wishes to accomplish (Laffont, & David, 2002) It is meant to provide guidance and direction for the activities of the organization. Since Strategy decisions influence the way organizations respond to their environment, it is very important for a firm to make strategy decisions and define Strategy in terms of it function to the environment. The purpose of Strategy is to provide directional cues to the organization that permit it to achieve its objectives while responding to the opportunities and threats in the environment (Robbins & David, 2006).

Kamanda (2006), view Strategy as the direction and scope of an organization over the long-term, which achieves advantage for the organization through its configuration of resources within a changing environment, and fulfill stakeholders’ expectations. Strategy management is, hence, both a skill and an art. Good Strategy management requires both clear thought and sound judgment. Strategy management is the formal and structured process by which an organization establishes a position of Strategy leadership.

Strategy development is a multidimensional process that must involve rational analysis and intuition, experience, and emotion. But, whether Strategy formulation is formal or informal, whether strategies are deliberate or emergent, there can be little doubt as to the importance of systematic analysis as a vital input into the Strategy process. Without analysis, the process of Strategy formulation, particularly at the senior management level, is likely to be chaotic with
no basis for comparing and evaluating alternatives. Moreover, critical decisions become susceptible to the whims and preferences of individual managers, to contemporary fads, and to wishful thinking (Hill and Jones, 2001).

According to Robbins and David (2006), both managers and employees should be involved in the process decision and adequate communication between all parties is important for successful process. Elements that require consideration during the successful process include annual objectives, policies, resource allocation, management of conflict, organization structure, managing resistance to change, and organizational culture (Robbins & David 2006). Kiptugen (2003) indicated that Strategy process has a distinct relationship with various organizational elements like employee productivity. Kiptugen (2003) further endorsed that there is a positive association between Strategy consensus and workers’ productivity. Strategy processes or systems are the formal and informal procedures used to manage the implementation of strategies, including management control systems, performance measurement and reward systems, planning, budgeting and resource allocation systems, and management information systems (Raps & Kauffman, 2005). Every organization has some systems or internal processes to support and implement the Strategy and run day-to-day affairs. The effectiveness of these systems dictates the performance of the organisation. These processes are normally strictly followed and are designed to achieve maximum performance. Traditionally organisations have been following a bureaucratic-style process model where most decisions are taken at the higher management level. Increasingly, organisations are simplifying and modernizing their process by innovation and use of new technology to make the decision-making process quicker to enhance and expedite decision making process for better organisational outcomes and employee productivity. Special emphasis is on the workers with the intention to make the processes that can effectively harness workers maximum productive efforts (Raps & Kauffman, 2005).

From the foregoing understanding this study hypothesised thus:

Ho: Organizational technology does not significantly moderate the relationship between Strategy process and employee productivity

Methodology
The study adopted a cross sectional survey method. The study population was four hundred and fifty one (451) employees of five selected manufacturing companies in Port Harcourt. The sample size of the study was determined by Taro Yamane sample size determination formula, the sample size was two hundred and twelve (212) employees that were randomly selected. Primary data was obtained using the structured questionnaire as the research instrument. The inferential and descriptive statistical tools were used in the analysis of data for the study. The internal reliability of the research instrument was tested using Cronbach Alpha Coefficient and only items that have an alpha reading of 0.70 and above were considered. The hypotheses were tested using the Spearman Rank Order Correlation coefficient.

Results and Discussions
In determining the statistical technique to suit our purpose, we considered Kothari (2004: 138) who argued that when there exists association or correlation between two variables, correlation technique should be used and when there exists cause and effect relationship between two variables in the case of the bivariate population or between one variable on one side and two or more variables on the other side in case of multivariate population, partial correlation technique is appropriate. This was the basis for our choice of the Spearman Rank
Oder Correlation to test our hypothesized relationships in our study. This section will therefore be used to present answers to our research questions and hypotheses. We shall commence by first presenting a proof of existing relationships.

**Scatter Plot of the Relationship between study variables**

According to Neuman (2000: 323) cited in Asawo (2009), Scatter graph is one of the techniques used in deciding whether a bivariate relationship does exist between interval scaled variables. In our bid to determine the existence and trend of this relationship, we plotted a scatter diagram as presented in Figure 4.6. Strategy process and predictor variable is plotted on the X axis whereas employee productivity as the criterion variable is on the Y axis.

![Scatter Plot](image)

**Figure 2:** Scatter plot for the relationship between strategy process and employee productivity

The apparent pattern of the cases in the scatter plot sloping upwards from left to right is an indication of existing linear and positive relationship between strategy process and employee productivity.
Table 1  Moderating role of organizational technology

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>Strategy Process</th>
<th>Employee Productivity</th>
<th>Organizational Technology</th>
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<td>Strategy Process</td>
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<td>Employee Productivity</td>
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<td>Organizational Technology</td>
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<td>Strategy Process</td>
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<td>190</td>
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<td>Organizational Technology</td>
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<td>Employee Productivity</td>
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a. Cells contain zero-order (Pearson) correlations.

Source: Research Data 2017, (SPSS output version 21.0)

In table 1 the zero-order correlation between strategy process and employee productivity shows the correlation coefficient where organization technology is not moderating the variables; and this is high at 0.767 and statistically significant (p-value (=0.000) < 0.05). The partial correlation controlling for organization technology, however, is 0.637 and statistically significant (p-value (= 0.000) < 0.05.)

The observed positive "relationship" between strategy process and employee productivity is due to underlying relationships between each of those variables and organization technology. Looking at the zero correlation, we find that both strategy process and employee productivity are positively correlated with organization technology the control variable. Removing the effect of this control variable reduces the correlation between the other two variables to be 0.637 and significant at α = 0.05, therefore we reject the null hypothesis and conclude that: Ha, The Organizational technology significantly moderates the relationship between strategy process and employee productivity of manufacturing in Port Harcourt.

Discussion of Findings
The study finds that Strategy process is significantly associated with employee productivity. This finding indicates that Strategy process can be considered as an antecedent to quality output and timely service delivery within the selected manufacturing firms. The evidence reiterates the observations of Armstrong (2006) and those of Bloisi (2003) that processes are important and highly significant when it comes to issues of efficiency and system integration. The Strategy process of the organization can be viewed as the link between where the organization currently is and its desired state of being in the future. In a similar position, Brown (2005) noted that the process of strategy is relative and to a significant extent impacts
on the behaviour and attitude towards work by respondents, especially when such processes are overly exaggerated and unnecessarily prolonged as a result of undue protocols and rigid systems (Burnstein & Fisk, 2003; Brown, 2005). As such the findings of this study affirm that Strategy process contributes significantly towards the enhancement of employee productivity.

The study finds that organizational technology is a significant moderator of the relationship between Strategy process and employee productivity at a 95% confidence interval. The evidence identifies organizational technology as being critical to the effective and efficient implementation and strategies within the organization and the processes associated with it. This is as Mankins and Steel (2005) identified the imperative of a well-designed and integrative system of networks and efficient technologies which according to the authors (Mankins & Steel, 2005), is fundamental to the sustaining and enhancing operations, work processes and communication which characterizes most adaptive and learning organizations. The findings imply the organizational technology offers significant support and an enabling structure upon which service systems are efficient and as such enhance the overall effect of Strategy process on the behaviour of workers, especially in terms of employee productivity.

Conclusion and Recommendations
Organizational technology significantly enhances the relationship between Strategy process and employee productivity in such a way that allows for improved processes, efficiency and a more integrative system of networks. This study thus concludes that organizational technology significantly influences the relationship between strategy process and employee productivity in manufacturing firms in Port Harcourt.

From the foregoing conclusion, the study recommends adoption for the adoption of technologies should be well suited to match the requirements and changes of the context of the organization. This is as the success or progress of Strategy process is most often linked to the organizations technological platforms and the extent to which it enables efficiency and the effective integration of the systems.

References
MBA Project, School of Business, University of Nairobi


Kiptugen, E.J. (2003). Strategy responses to a changing competitive environment. The case study of KCB, Unpublished MBA Project, School of Business, University of Nairobi


Olajide, A. (2000), *Getting the best out of employees in a developing economy*, University of Ibadan, Nigeria


