EFFECT OF SELECTED FACTORS ON BUSINESS PROCESS IMPROVEMENT AMONG PHARMACEUTICAL FIRMS IN KENYA

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ABSTRACT

Business process improvement is the most important element of any company's operations. Many companies that undergo a process improvement program have found that the application of process improvement techniques has led to significant improvements in operational areas. The adoption of process improvement techniques has been inspired by the dramatic improvements demonstrated by such techniques as Lean, Value Stream Mapping, Process Mapping, 5S, Six Sigma, Kaizen and DMAIC (Define, Measure, Analyze, Improve and Control). In order to be effective and efficient, process improvement approaches need to be closely integrated with strategy and other organizational elements such as culture, top management commitment and staff motivation. Despite these numerous strategies to improve the processes among pharmaceutical manufacturing companies, its performance has been wanting. This study therefore sought to determine the extent to which staffing, strategy, management commitment and organizational culture affects the business process improvement at the company. The purpose of the study was to determine factors affecting business process improvement among pharmaceutical manufacturing companies in Kenya. The research adopted a descriptive survey research design. The target population of this study was all the 42 pharmaceutical manufacturing companies in Kenya Since the population was not big, the study used a census approach. The study used both primary and secondary data. Primary data was obtained through self-administered questionnaires with closed and open-ended questions administered to the managers dealing with the business process improvement. Secondary data was collected by use of desk search techniques from published reports and other documents. Descriptive statistics and multiple regression analysis were used to analyze the data. Tables were used to present the data collected for ease of understanding and analysis. This study concludes that management commitment had the greatest effect on the business process improvement at Pharmaceutical manufacturing firms in Kenya followed by organizational culture then staffing in that order while organizational strategy had the least effect. This research study therefore recommends that in order to improve their business processes organizations should focus on training their employees on communication skills, leadership and management skills and problem solving skills. This study also recommends that organization aiming at improving their business processes should adopt differentiation, cost-based, focus and restructuring strategies.. The study finally recommends that managers must not spare any effort to persuade the employees of their ideas for business process improvement to be effective.

Key Words: *business process improvement, pharmaceutical firms, Kenya*

INTRODUCTION

The constantly changing hyper-competitive markets demand higher levels of organizational flexibility, efficiency and performance in terms of cost, time, and quality. Process improvement is a strategy and a tool to help an organization meet its long term goals and

objectives. Process improvement is defined in terms of customer satisfaction, resulting in higher quality products and services. Firms are increasingly setting quality management as an organizational priority to improve their competitiveness in the global arena. Improvement aims at reaching the levels of performance that are significantly higher than current levels, either incrementally or in quantum jumps. Companies use business process improvement to keep pace with the changing business environment which means adapting their business processes to persistent technological, organizational, political and other changes (Goksoy, Ozsoy & Vayvay, 2013).

In a relatively short period of time, studies have developed numerous explanations and identified steps on how to achieve BPI. The efforts however were not coordinated, and a large range of isolated understandings of BPI now exist. BPI can be categorized into two broad dimensions; breadth and depth. The breadth dimension (scope) forms the foci of BPI, such as technical issues, functions, processes, organizational structure, and change management. Whereas the depth dimension focuses on the degree of change expected from BPI (Kohlbacher & Gruenwald, 2015). Examples of the Business Process Improvement variables include business process innovation, core process redesign, business restructuring, business transformation, and process re-engineering. These alternative terminologies refer in one way or another to Business Process Improvement. This study therefore looked at how staffing, organizational strategies, organizational cultures and management commitment affect business process improvement among the pharmaceutical firms in Kenya.

Business process improvement is the holy grail of any company's operations. Many companies that undergo a process improvement programme have found that the application of process improvement techniques has lead to significant improvements in operational areas. Maignan (2012) also noted that the adoption of process improvement techniques has been inspired by the dramatic improvements demonstrated by such techniques. Companies use business process improvement to keep pace with the changing business environment which means adapting their business processes to persistent technological, organizational, political and other changes.

Business process improvement has been embraced globally in many companies. General lines and principles of this methodology are advantages through their application in U.S. companies such as Ford Motor and Mutual Benefit Life. Radical changes provoke fundamental changes in the activities of an organization. They represent a clear desertion of existing practices, as opposed to the incremental changes that usually accompany such practices (Prasad, Kumar & Prakash, 2015).

The case in Africa is not different from the global perception of business improvement. Organizational processes today are markedly different than they were 100 years ago (Fazl Mashhadi, Alänge & Roos, 2014). It has been estimated that a century before about nine out of ten workers produced and moved tangible, material things. In the mid-1990s this ratio was down to one out of five. The other four out of five workers currently produce and deliver intangible products such as information and services.

In today's service dominating world the foundations of any organization are the people and the processes. If people are motivated and working hard, but the business processes are not good and remain as non-value-adding activities, organizational performance will be poor. As Münstermann, Eckhardt and Weitzel (2015) stated that all organizations, whether service giving or manufacturing, are struggling to meet the tough and new competitive standards of the 1900s speed, quality, efficiency and increased productivity in order to become more competitive, and flexible to meet the desired standard. In order to create a dramatic increase in efficiency, productivity, or profitability, a drastic change in the design of the organization's processes is required. That is why Graham says process improvement is a useful tool that has been adopted by and hailed as one of the current major drivers of change within many organizations.

The ASSA ABLOY Southern Africa's Lean Implementation Project is another example of a successful BPR project in developing countries. It was undertaken in 2012 to transform the Pin Tumbler Department production process and create a workflow that will facilitate improved production, quality and delivery performance. As a result of this BPR, the efficiency and effectiveness rating of workplace organization was improved by 42%, operating procedure for every cylinder was compiled and standardized, production increased from 55 to 68 cylinders per employee per day, the company achieved 8% reduction in office space, cycle time was improved by 27%, the number of operators was reduced from 10 to seven employees, (7) there was a 50% safety improvement, and three out of 12 quality issues were solved giving a 25% improvement (Heizer & Render, 2011).

The Government of Ethiopia undertook BPR in most of its ministries to improve a service delivery. This was preceded by starting the Ministry of Capacity Building in 2011. The Ministry conducted training to orient other ministries and civil service offices and develop capacity for the BPR initiatives that were to ensue. The first attempt of BPR in Ethiopia started in 2004, but was unsuccessful. Later, a new steering committee was created and trained in BPR. The committee saw the second BPR attempt in 2007 yielding the successful results. The most notable success story among the ministries was the Ministry of Trade and Industry that had improvements in its efficiency and service provision by reducing cycle time for registration and licensing service reduced from 43 days to 30 minutes, and the staff reduced from 120 to 90 (Myszak, 2011).

The Other success stories were: Ministry of Agriculture and Rural Development that shortened cycle time for preparation of facilities for fieldwork teams from 10 days to two hours and the staff reduced from 970 to 300, the Addis Ababa Transport Office that had the driving permit renewal cycle time reduced from two hours to 45 minutes, and the Ethiopian Customs and Revenue Authority that had the cycle time for tax collection for cargo import/export goods reduced from 45 minutes to 13 minutes and a reduction of staff from 3000 to 600. Since 2004, the government of Ethiopia has also endorsed Business Process Reengineering as a foundation for strengthening Result Based Performance Management System in the Civil Service organizations and the study for this has begun in 2011/02 in Federal and Regional government institutions (Smith, 2011).

In Kenya, the process of business improvement is equally embraced compared to the globe and regional perspective. Many organizations are focusing on the ways to improve the performance of their businesses. This has led to process improvement which entails re-branding in various companies so as to serve as a competitive nature of the country's economy The aim of the management is to give the company a new look with the aim of maximizing profits and serving as a competitive advantage to the rest of commercial banks in the country. The national bank of Kenya is one of the examples where rebranding has taken place (Wanjihia, 2011).

Wrigley Company (East Africa) Limited is located in Kenya and supplies chewing gum throughout Africa and the Middle East. Its annual turnover is one billion Kenyan shillings (Magutu et al, 2010). Due to competition with other companies, Wrigley Company undertook to implement BPR, known as WeBEsprit, globally by adopting the supply chain concept and the Enterprise Resource Planning (ERP) technology called Systems Applications and Products Release 3 (SAPR/3) as an enabler. The company contracted Deloitte International that came up with a BPR model known as the Global Reference Model. The BPR project started in 2011, and the implementation took place in the Kenya subsequently in 2004. The project was successfully completed in 2005 (Sungau & Msanjila, 2012).

Manufacturing Firms in the Pharmaceutical Industry

The number of companies engaged in manufacturing and distribution of pharmaceutical products in Kenya continue to expand, driven by the Government's efforts to promote local and foreign investment in the sector (Economic Survey, 2014). This has resulted in Kenya being currently the largest producer of pharmaceutical products in the Common Market for Eastern and Southern Africa (COMESA) region, supplying about 50% of the regions market (KAM, 2014). Out of the region's estimated fifty recognized pharmaceutical manufacturers approximately thirty two are local ones based in Kenya. The pharmaceutical sector consists of about 42 licensed pharmaceutical manufacturing firms which include 32 local manufacturing companies and 10 large multinational corporations, subsidiaries or joint ventures.

The Kenyan pharmaceutical industry supplies less than 30% of the market excluding donor purchases. When donor purchases are taken into consideration, the local industry's share of the market is much lower. One major multinational is established in Kenya (GSK) but it carries out mainly trading operations with little manufacture. The other companies are locally owned and tend to range from small- to medium-size and have similar generic product ranges (Kenya Association of Manufacturers, 2014). Kenyan companies are producing at between 50-70 percent of their actual capacity which has a significant bearing on the unit costs. As a consequence, this affects the competitiveness of the products on the market. Compared to imports, the prices of generics manufactured in Kenya are much higher. Improving efficiency in this sector is therefore, one of the challenges faced by the Kenyan pharmaceutical industry (Kenya Association of Manufacturers, 2014).

Kenyan producers are disadvantaged especially regarding donor-funded procurement mainly because of the non-WHO prequalification status, inability to produce in large volumes and to

the technical standard required. Kenya's largest export markets are Tanzania and Uganda. Given that these countries import in small volumes, Kenya has comparative advantage over China and India where imports are in full container loads and freight volumes have to be added on. The other advantage is that credit terms are more attractive from the Kenyan side. In order to be competitive with increasing imports, Kenyan manufacturers face the challenge of upgrading their existing set up and partnering with foreign companies (Kimani, 2013).

STATEMENT OF THE PROBLEM

Business process improvement is the holy grail of any company's operations. Many companies that undergo a process improvement programme have found that the application of process improvement techniques has led to significant improvements in operational areas (Powers, 2015). Despite the fact that many pharmaceutical companies have been undertaking various business process improvement strategies such as Quality Management System (QMS) and adoption of ICT most of their performance has been wanting. Anecdotal evidence suggests that the local pharmaceutical manufacturing firms in Kenya generally are having much difficulty in identifying their processes, let alone being innovative enough to optimize them (Kimani, 2013). Partly to blame for the difficulties faced by the companies is the lack of holistic and versatile methodologies for business process improvement in academic literature. Further, Kenya pharmaceutical companies are challenged in meeting increasing technical efficiency requirements by a severe shortage of qualified technical personnel (Islam & Howe, 2013).

Owing to that fact BPI seems to be rather art than science, few manufacturers have invested in the necessary plant and equipment in order to meet the World Health Organization's standards. This excludes them from donor-funded procurement. For other companies, this has not been possible due to lack of finances or simply due to their choices to produce their existing product range. The drug regulatory body (the Pharmacy and Poison Board) also has insufficient experience and is short of staff to carry out effective inspections (Wanjihia, 2011). Kenya also faces the inability of local manufacturer to undertake bioequivalence studies. The main reasons are financial limitations, limited know how and lack of national guidelines on this subject.

Over and above problems faced at the production level, the Kenyan manufacturers also have to face issues such as internal competition among themselves, increasing volumes of low priced imports, a zero-rated tariff for pharmaceuticals, and insufficient quality tests for imported drugs and low penalties for import of substandard products (COMESA, 2013). The challenges are compounded by the increasing number of counterfeit medicine. A report by the pharmacy and poisons board (PPB) and the National Quality Control Laboratories (NQCL) in 2015 showed that 30% of multinational pharmaceutical medicines sold in Kenya were counterfeit, representing 40% of the drugs sold in the country. Further, pharmaceutical companies have to manage incredibly complex supply chains and manage the operational challenges of working and interacting with huge numbers of suppliers contributing ingredients and components to drug production. In addition, pharmaceutical companies

output has remained at a stable level for the past decade. Using the same discovering and developing processes, there's little reason to think its productivity will suddenly soar.

Previous studies done in Kenya on business process improvement have not focused on factors affecting process improvement. Omondi (2008) did a study on the application of lean thinking to business process management: the case of Kenya Revenue Authority, Ngure (2011) conducted a survey of the perceptions of process improvement consulting among the manufacturing sector in Kenya, Munyiri (2011) surveyed the use of business process reengineering approach in the Kenyan Pharmaceutical Manufacturing Industry while Atebe (2011) did a study on the effect of business process reengineering on business process cycles at KPLC.

The reviewed studies have not focused on the factors effecting business process improvement among pharmaceutical manufacturing firms in Kenya. This is despite the fact that the pharmaceutical manufacturing industry in Kenya is very competitive and is characterized by price wars and their performance has been wanting even after adopting numerous business process improvement strategies (UNIDO, 2015). It is in light that this study sought to establish the effect of selected factors on business process improvement among pharmaceutical firms in Kenya.

GENERAL OBJECTIVE

The general objective is to determine the effect of selected factors on business process improvement among pharmaceutical manufacturing firms in Kenya.

SPECIFIC OBJECTIVES

1. Establish the effect of staffing on business process improvement among pharmaceutical manufacturing firms in Kenya.
2. Assess the effect of organizational strategy on business process improvement among pharmaceutical manufacturing firms in Kenya.
3. Determine the effect of organizational culture on business process improvement among pharmaceutical manufacturing firms in Kenya.
4. Assess the effect of top management commitment on business process improvement among pharmaceutical manufacturing firms in Kenya.

THEORETICAL REVIEW

A theoretical framework is a group of related ideas that provides guidance to a research project or business endeavor (Zima, 2007). In this section, the focus is on various economic, behavioral and organizational theories pertaining to BPI. The study will be hinged on resource-based view theory and supported by agency theory and stakeholder theory.

Resource-Based View Theory

RBV focuses on the internal characteristics and performance of the organization (Porter, 2009). The theory suggests that organizations have different types of resources that fall under two categories: (a) cooperative and strategic, and (b) competitive and financial. The theory is based on the assumption that firms have idiosyncratic, not identical strategic resources. Resources are not perfectly mobile and therefore heterogeneous. Thus, organizations are collections of resources, and the scarcer the organizational collection of resources the less the competitive advantage they actually hold.

Aside from resources, RBV theory also focuses on capabilities. Capabilities are accumulated knowledge in organizations resulting from using its existing resources in an efficient and effective way to achieve its final goals (Idris, Abdullah, Idris & Hussain, 2013). Capabilities are divided into four main categories: functional differential, positional differential, cultural differential, and regulatory differential. These capabilities develop from existing skills and experience (functional), as preferences of previous actions (positional), as a result of the perceptions of the individual of the organizational stakeholders (cultural), or from organizational policies and regulations (regulatory). Therefore, in the context of BPI, the theory implies that an organization with a culture supportive of BPI, with existing process-based change regulations, and with previous experience in conducting BPI projects, will attain higher levels of BPI capabilities.

BPI shares common standpoints with RBV theory. The commonality is embedded in the belief that resources and capabilities of the organization are limited, thus, surviving organizations tend to use their resources in a cost-effective way. Functioning at optimum levels can lead organizations to create competitive advantage. Sustaining competitive advantage, however, may require continual improvements to differentiate themselves from competitors. Sustained competitive advantage is achieved when capabilities are able to produce value, are rare, are imperfectly imitable, and are exploited by the organization. Similarly, BPI's fundamental philosophy focuses on improving existing operations within organizations allowing them to use resources more efficiently and effectively (that is produce value), and provides tailored solutions to solve specific organizational problems (that is unique and imperfectly imitable) (Yildiz & Karakas, 2012).

According to Alänge and Steiber (2011), sustaining competitive advantage is specifically related to the human and technical capabilities. Organizational capability in terms of staff with existing BPI-related experience and the ownership and exposure to a variety of technical BPI tools have a major impact on the final results of the BPI project. This accumulated experience has value, is hard to imitate, transfer or substitute and can be exploitable by the organization and thus creates 'sustainable competitive advantage' in accordance with RBV theory. Therefore, RBV theory and its competitive advantage sustainability are tightly related to BPI.

Agency Theory

Sometimes called the principal-agent problem, agency theory is based on a fundamental premise that owners (principals) establish a relationship with managers (agents) and delegate work to them. Principals and agents have different self-interests which create an agency problem and require mechanisms to minimize the problem in each instance. Eisenhardt (2009) differentiates between two different uses of agency theory; the positivist and the general approach. The positivist approach focuses mainly on the "principal-agent relationship between owners and managers of large, public corporations". The more general approach, followed in this paper, is the 'Principal-Agent' relationship that introduces Agency Theory as the "theory that can be applied to employer-employee, lawyer-client, buyer-supplier, and other agency relationships". The general Principal-Agent relationship can be applied to all levels in the organization, thus, providing this study a wider and more relevant coverage. According to Eisenhardt's (2009), agency theory assumes that the basis of the organization is 'efficiency' which is one of the fundamental drivers of BPI. It is in the interest of managers to make sure performance within their organization is efficient. Second, cross-departmental changes, such as those resulting from BPI, can have both positive and negative impacts on organizational structures and performances and can be faced with strong opposition.

Harris and Raviv (2010) identified three different types of agency dependency in BPI within the organization, namely: goal, task, and resource. In addition, they provide three different levels of agency relationship: general, committed, and critical, which depend on the degree to which the agent will be affected if the job fails. This general understanding of agency theory is also applicable in process-based organizations and translates into different levels of commitment and into chains of hierarchical responsibilities that establish accountability and control and thus assist in minimizing the agency problems associated with BPI change.

Therefore, agency theory, through its understanding of the different interests of staff in the organization, is capable of explaining the rationale in assigning agents (process owners) to different processes as well as explaining the effects of their involvement in BPI projects. It is also argued that business process ownership provides both commitment and a wealth of knowledge to BPI projects.

Stakeholder Theory

A stakeholder in general as defined by Freeman (1984, p.41) is "any group or individual who can affect or is affected by the achievement of the organization's objectives". Freeman (1984) traces the term 'stakeholders' back to the Stanford Research Institute in 1963 defining the term as "those groups without whose support the organization would cease to exist". Stakeholder theory helps to improve the value of the outcomes of the stakeholder decisions by identifying the interests of various stakeholder groups and prohibiting them from being disadvantaged, ultimately resulting in greater returns to shareholders. Modern businesses have become more transparent and accountable in order to meet their new, interactive and responsive relationships with stakeholders. Stakeholders should be defined through their legitimate interests in the organization rather than the organization's interest in them.

Therefore, recognizing obligations to stakeholders helps organizations to become successful (Andriof et al., 2012).

Key stakeholders in BPI are identified in terms of the degree of reliance and interaction with the process to be improved. Thus, the larger the process the higher the number of key stakeholders involved. Digna (2010) affirms that persistence in dissatisfying principal stakeholders may cause the organization to fail. However, building a trust relationship can significantly lower costs, and therefore impact their performance. The impact of key stakeholders is asserted in a variety of fields such as firm's performance, decision-making, and corporate social performance.

While BPR literature recommends that executives and key staff members to be involved in BPI, Amayah (2013) discovered that less than 30 percent of organizations have achieved even limited information exchange with their suppliers and customers (who are also part of the key stakeholder vision). From the stakeholder theory perspective, BPI personnel should consult with affected key people throughout the different phases of the project (that is analysis, design, and implementation) and identify middle ground solutions.

In summary, stakeholder theory, in the context of BPI, suggests that recognizing and aligning key stakeholders' concerns can have a positive impact on the results of the project in particular and the organizational performance in general. This area is largely neglected in the field of BPI. Accordingly, we argue that identifying and aligning with the interests of various key functional based personnel, as well as other external key stakeholder groups, during a business process improvement project has a significant and positive impact on BPI projects' final results.

EMPIRICAL REVIEW

Vinyaki and Rakesh (2011) conducted a study on strategic marketing of pharmaceutical products manufactured in Kenya. The study had two objectives: to investigate the current strategic marketing practices of Pharmaceutical Manufacturers in Kenya; to establish the strategic responses of firms to the changes affecting the pharmaceutical industry. To achieve these objectives, a survey was conducted and primary data was collected, the data was collected through personally administered questionnaires. The data was analyzed using SPSS. The data was analyzed using simple descriptive statistics. The study found that with increased environmental turbulence, firms in this sector made some adjustments in their marketing mix components in order to remain competitive. Changes in complexities led pharmaceutical manufacturers to adopt more market driven strategy approaches. There was a vast difference amongst the firms in, this sector with respect to their size, resources and product mix. Many companies follow niche market and market segmentation approach. The' firms were also doing marketing planning.

Mungai and Samuel (2009) did a study on an investigation of green marketing practices among pharmaceutical firms in Kenya. The study was a descriptive survey that involved a study of the 21 manufacturing pharmaceuticals firms targeting marketing manager or production manager in each firm. Primary data was collected by use of questionnaires; the

data was analyzed using SPSS and data presented by use tables and percentages. The study concluded that the green market concept has not been fully embraced by the pharmaceutical industry due to lack of information. However, the companies are trying to put in place several measures on green product, green pricing, green promotion and green distribution.

Mugabane and Nandama (2010) conducted a study to analyze the Strategy evaluation and control by pharmaceutical in Kenya. It also sought to determine the relationship between these practices and other firm characteristics. A cross-sectional survey design was used with a sample size of 60 pharmaceutical firms operating as manufacturers and distributors. The study used a structured questionnaire to collect data. The data was analyzed using SPSS and majority (83.4%) of respondents indicated strong appreciation of the importance of evaluating and controlling strategies Consistency was considered by the majority of respondents (47.7%) to be the most important factor among Rumelt's strategy evaluation criteria when deciding on strategies to be employed by their organizations. Most respondents (60.0%) indicated that they reviewed their strategies on a periodic basis i.e. quarterly, bi-annually or annually while 36.7% do so whenever need arises. However, few firms (33.3%) make budgetary allocations for strategy evaluation and control activities. Monitoring of financial performance was the most commonly used method of strategy evaluation and control.

Marete and Mutua (2014) also conducted a study to assess Anti-counterfeiting strategies adopted by pharmaceutical manufacturing firms in Kenya and organizational performance in Kenya. The research employed a descriptive research design. Since the population was relatively small, a census survey was employed. Both primary and secondary data was collected. A semi-structured questionnaire was used to collect primary data which were analyzed with the help of SPSS version 21.0 software. The study found that anti-counterfeit strategies had led to improved organization performance this was through, increased brand loyalty to a great extent. The study further found that counterfeits affected innovation to a great extent and that counterfeits caused loss of goodwill of the brand to a great extent. The study further concluded that taking all other independent variables at zero, a unit increase in embossed optical films will lead to an increase in the scores of the organizational performance.

RESEARCH METHODOLGY

From the objectives, it is evident that the research is both of a quantitative and qualitative nature. A descriptive survey research design was applied in this study. The target population of this study was all the 42 pharmaceutical manufacturing companies in Kenya. Since the population is not big, the study used a census approach. The primary research data was collected from the operations/factory managers or their equivalents at pharmaceutical manufacturing companies in Kenya using a self-administered semi structured questionnaire.

Reliability on the other hand refers to a measure of the degree to which research instruments yield consistent results (Saunders et al, 2009). In order to test the reliability of the instruments, internal consistency techniques were applied using Cronbach's Alpha. The alpha value ranges between 0 and 1 with reliability increasing with the increase in value.

Coefficient of 0.7 is a commonly accepted rule of thumb that indicates acceptable reliability (Frankfort-Nachmias & Nachmias, 2012). Cronbach Alpha was established for every objective which formed a scale. The table 1 shows that all the four variables were reliable as their reliability values exceeded the prescribed threshold of 0.6.

Table 1: Reliability Analysis

Scale	Cronbach's Alpha
Staffing	0.812
Organizational strategy	0.774
Organizational culture	0.836
Management commitment	0.798

The returned questionnaires were checked for consistency, cleaned, and the useful ones coded and analyzed using the Statistical Package for Social Scientists (SPSS) computer software. A descriptive analysis was employed such as means, standard deviation and frequency distribution. In addition, multiple regressions were used to measure the strength of the relationship between the dependent and independent variables. The regression equation was:

$$Y= \beta_0+ \beta_1X_1+\beta_2X_2+ \beta_3X_3+ \beta_4X_4+\alpha$$

Where: **Y** is the dependent variable (Business Process Improvement),

$\boldsymbol{\beta_0}$ is the regression coefficient/constant/Y-intercept,

$\boldsymbol{\beta_1, \beta_2, \beta_3, \beta_4}$ are the slopes of the regression equation,

$\mathbf{X_1}$ is the staffing independent variable,

$\mathbf{X_2}$ is the organizational strategy independent variable,

$\mathbf{X_3}$ is the organizational culture independent variable,

$\mathbf{X_4}$ is the management commitment independent variable,

$\boldsymbol{\alpha}$ is an error term

RESEARCH FINDINGS

Staffing and Business Process Improvement

This study revealed that staffing significantly influence business process improvement among pharmaceutical manufacturing companies in Kenya as shown by the aspects of staffing which had a mean of above 2.5. This study established that remuneration (M=3.6800), training and development (M=3.4525), reward and recognition (M=3.3.1987), participation (M=2.9800), communication (M=2.8765) and peer pressure (M=2.1612) were enhancing business process improvement.

The respondents were of the view that staffing affect the improvement of the pharmaceutical company in Kenya since the companies have a recruitment and training policy which covers tacit knowledge, leadership and management skills, problem solving skills, quality-related education, planning and improvement tools, communication skills, needs and expectations of

customers and other interested parties, fact-based decision-making, knowledge of markets and process analysis.

In addition, the Pharmaceutical manufacturing firms in Kenya consider open door policy, staff involvement in continuous process improvement, encouraging competitiveness, wage Increments, encouraging creativity, money, rewards and other gifts and incentive bonuses, clear Instructions, pep talk, appreciation of good performance, plaques/certificates and opportunities to pursue new challenges.

The respondents also intimated that continuous quality improvement hinges on training of staff. The organizations also encourage the involvement and development of its people by providing ongoing training and career planning. It was also clear that planning for education and training needs take account of change caused by the nature of the organization's processes, the stages of development of people and the culture of the organization. Further, education and training at the company emphasize the importance of meeting requirements and the needs and expectations of the customer and other interested parties and the education and training provided is evaluated in terms of expectations and impact on the effectiveness and efficiency of the organization.

Organizational Strategy and Business Process Improvement

Most of the organizational strategy aspects in this study were found to significantly influence business process improvement since most of them had a mean of above 3.0. The study revealed that Pharmaceutical manufacturing firms in Kenya employ restructuring (reorganizing the operational or other structures of the company) in a bid to enhance business process improvement (M=3.0909). The Pharmaceutical manufacturing firms in Kenya were also employing differentiation strategy (offering different services to various groups of customers). The study deduced that their organization was employing cost-based strategy (lowering the cost of operations). Lastly the study deduced that their organization was employing focus strategy (carrying out research to allow concentration on important areas).

On how does organizational strategy affect the business process improvement in the pharmaceutical company in Kenya, the study deduced that strategy provides directional cues to the organization that permit it to achieve its objectives while responding to the opportunities and threats in the environment. It was clear that the organizational strategy is flexible enough to allow the selection of the most appropriate approach for each improvement.

The organization ensure optimization of effort in process improvement, it results in future oriented plans interacting with the competitive environment to achieve the company's objectives, it achieves advantage for the organization through its configuration of resources within a changing environment, and fulfill stakeholder's expectations, it consider ways to narrow the gap between the current state of the corporation's performance and its objectives for the future and also helps an organization in matching its corporate objectives and its available resources.

Organizational Culture and Business Process Improvement

Most of the organizational culture aspects were found to significantly influence business process improvement since they had a mean of above 3.0. This study established that attitudes (M=4.2000), behavior patterns (M=3.9714), patterns of communication (M=3.9714), shared values (M=3.9429), systems and procedures (M=3.9429), internal reporting systems (M=3.9118), normative ways of conducting business (M=3.8857) and commitments (M=3.8571) were enhancing business process improvement. The study also mission and vision statement (M=3.8286), integration of activities (M=3.7059), overall patterns of thinking socially constructed among members of an organization (M=3.6176) and beliefs (M=3.5294) were enhancing business process improvement. The study also found that behavior regularities, when people interact (M=3.4571) and rituals surrounding deference and demeanor (M=3.2647) were enhancing business process improvement.

Regarding how organizational culture affect the improvement of the pharmaceutical company in Kenya, the study deduced that culture influence what organizational strategies are selected and whether they are successful, existing cultural orientations at the firm are not supportive of the mission and success of the firm in process improvement, culture determines whether a company can attract and keep the best employees for process improvement, there is a complete coalitional involvement of implementation staff through a strong corporate culture, and also that the companies foster an environment where staff can implement smaller, local continual improvement projects that can be completed with line management involvement, alongside the major continual improvement projects sponsored by top management.

Management Commitment and Business Process Improvement

The study found that most of the management commitment factors were influencing business process improvement since they had a mean of 3.0. This study established that level of commitment of top management affects the business process improvement at the company to a very great extent. The study also established that resistance to change by senior management in continual improvement affects the business process improvement to a great extent (M=4.2857). Harry and Schroeder (2012) had indicated earlier senior managers play a crucial role in the success of continual improvement programmes. Without the leadership, commitment and involvement of senior management, a continual improvement programme is unlikely to be successful.

The study found that establishing overall goals for continual improvement by senior management in continual improvement affects the business process improvement to a great extent (M=4.2000). In addition, the study found that creating the motivation for change by senior management in continual improvement affects the business process improvement to a great extent (M=4.1765). Further, the study found that establishing a vision for continual improvement by senior management in continual improvement affects the business process improvement to a great extent (M=4.1143). The study also found that establishing commitment and alignment of the senior management team by senior management in continual improvement affects the business process improvement to a great extent (M=4.0571). In addition, the study found that empowering and making individuals

accountable for their work affects the business process improvement to a great extent (M=4.0000).

It was established that managing the continual improvement programme affects the business process improvement to a great extent (M=3.9429). Harrington (1991) had earlier indicated that the role of senior management in continual improvement includes the following responsibilities: establishing a vision for continual improvement, establishing overall goals for continual improvement, creating the motivation for change, establishing commitment and alignment of the senior management team, managing the continual improvement programme and creating a continual improvement culture. The study also found that creating a continual improvement culture affects the business process improvement to a great extent (M=3.6000). The study also found that innovation commitment by senior management in continual improvement affects the business process improvement to a great extent (M=3.3235).

According to the findings, the top managers must demonstrate their willingness to give energy and loyalty to the improvement process for it to succeed, lack of top management backing is the main inhibiting factor and lack of manager's commitment to performing their roles leads to the lower ranks of employees missing support and guidance through encouragement of entrepreneurial attributes. It was also established that the managers must not spare any effort to persuade the employees of their ideas for business process improvement to be effective and the top management's commitment to the strategic direction itself is the most important factor.

REGRESSION ANALYSIS

For the purpose of identifying the important variables influencing the dependent variable the researcher used the regression analysis. Regression analysis was used to investigate the impact of staffing, organizational culture, management commitment, organizational strategy on business process improvement.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.841	0.707	0.662	0.232

R-Square (coefficient of determination) is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted R2, also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The R2 was used to establish the predictive power of the study model and it was found to be 0.662 implying that 66.2% of business process improvement is affected by the following variables; staffing, organizational culture, management commitment and organizational strategy leaving 33.8% unexplained. Therefore, further studies should be done to establish the other factors (33.8%) that influence the business process improvement among pharmaceutical manufacturing firms in Kenya.

Table 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.676	5	.935	15.466	.000
	Residual	1.935	32	.060		
	Total	6.611	37			

a. Predictors: (Constant), staffing, organizational culture, management commitment, organizational strategy

b. Dependent Variable: business process improvement

The significance value is 0.000 which is less that 0.05 thus the model is statistically significance in predicting how staffing, organizational culture, management commitment and organizational strategy affect business process improvement. The F calculated at 5% level of significance was 15.466. Since F calculated is greater than the F critical (value = 2.449), this shows that the overall model was significant.

Table 4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.239	0.413		3.000	.0051
	Staffing	0.662	0.301	0.613	2.199	.0352
	Organizational Strategy	0.567	0.233	0.509	2.433	.0207
	Organizational Culture	0.724	0.236	0.648	3.068	.0043
	Management Commitment	0.806	0.247	0.719	3.263	.0026

a. Dependent Variable: business process improvement

According to the findings, the regression model for the stated variables was;

$$Y= 1.239+ 0.662X_1+0.567X_2+ 0.724X_3+ 0.806X_4$$

Where: Y is the dependent variable (Business Process Improvement)

X1 is the staffing

X2 is the organizational strategy

X3 is the organizational culture

X4 is the management commitment

From the findings, the study found that putting all the independent variables constant at zero business process improvement will be 1.239. Further, the study found that taking all other independent variables at zero, a unit increase in the scores of staffing would lead to a 0.662 increase in the scores of business process improvement. Further study found that taking all

other independent variables at zero, a unit increase in the scores of organisational strategy would lead to a 0.567 increase in the scores of business process improvement. In addition, the study found that taking all other independent variables at zero, a unit increase in the scores of organisational culture would lead to a 0.724 increase in the scores of business process improvement. The study also found that taking all other independent variables at zero, a unit increase in the scores of management commitment would lead to a 0.806 increase in the scores of business process improvement. This depicts that management commitment had the greatest effect on the business process improvement at Pharmaceutical manufacturing firms in Kenya followed by organizational culture then staffing in that order while organizational strategy had the least effect.

CONCLUSIONS

This study concludes that management commitment had the greatest effect on the business process improvement at Pharmaceutical manufacturing firms in Kenya followed by organizational culture then staffing in that order while organizational strategy had the least effect. The study concludes that there is a positive relationship between staffing and business process improvement since continuous quality improvement hinges on training of staff. Further, the study deduced that the Pharmaceutical manufacturing firms in Kenya encourage the involvement and development of their people by providing ongoing training and career planning. Education and training at the company emphasize the importance of meeting requirements and the needs and expectations of the customer and other interested parties.

This study also concludes that there is a positive relationship between organisational strategy and business process improvement. Organizational strategy provides directional cues to the organizations that permit them to achieve their objectives while responding to the opportunities and threats in the environment. The study also revealed that organizational strategy is flexible enough to allow the selection of the most appropriate approach for each improvement. Organizational strategy also ensures optimization of effort in process improvement; results in future oriented plans interacting with the competitive environment to achieve the companies objectives and achieves advantage for the organization through its configuration of resources within a changing environment, and fulfill stakeholder's expectations.

In addition, the study concludes that there is a positive relationship between organisational culture and business process improvement. The study revealed that culture influences what organizational strategies are selected and whether they are successful, determines whether a company can attract and keep the best employees for process improvement. It was clear that the companies foster an environment where staff can implement smaller, local continual improvement projects that can be completed with line management involvement, alongside the major continual improvement projects sponsored by top management.

The study also concludes that there is a positive relationship between management commitment and business process improvement. The study also revealed that lack of manager's commitment to performing their roles leads to the lower ranks of employees

missing support and guidance through encouragement of entrepreneurial attributes. The top management's commitment to the strategic direction itself is the most important factor.

RECOMMENDATIONS

The study established that staffing significantly influence business process improvement. This research study therefore recommends that in order to improve their business processes organizations should focus on training their employees on communication skills, leadership and management skills and problem solving skills. In addition, planning for education and training needs take account of change caused by the nature of the organization's processes, the stages of development of people and the culture of the organization.

The study also found that organizational strategy significantly influences business process improvement. This study therefore recommends that organization aiming at improving their business processes should adopt differentiation, cost-based, focus and restructuring strategies. The study revealed that an organizational culture significantly influences business process improvement. This study recommends that organizations should ensure that they have a strong organizational culture in terms of attitudes, beliefs, commitments and values so as to realize an improvement in their business process. A learning culture should be created within the organization that allows continual improvement to take place. The existing cultural orientations at the firms should be modified or changed since they were found not to be supportive of the mission and success of the firms in process improvement.

It was also revealed in this study that the level of commitment of top management highly influences business process improvement. This study therefore recommends that an organization's top management should show commitment in to the organization in terms of innovation and technology adoption. The study also recommends that managers must not spare any effort to persuade the employees of their ideas for business process improvement to be effective. The top managers must demonstrate their willingness to give energy and loyalty to the improvement process for it to succeed

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