

# Strategic Innovation and Performance of Public Universities in Kenya

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## Abstract

The current business environment is dynamic, turbulent and unpredictable. The success of business in such environment is depended on its adaptability to respond to environmental change. Strategic innovation is a strategic tool that can be used to align the firm's resources and capabilities with opportunities in the external environment in order to enhance survival and long term success of the organization. This study aimed at finding the relationship between strategic innovation and performance of public universities in Kenya. The specific objectives of the study were to establish the nature of strategic innovations in the universities and determine the influence of strategic innovations on the performance. The population for the study was the public universities in Kenya from which the sample was selected. The researcher adopted descriptive survey design. Data to establish the relationship was obtained with the use of structured questionnaires. Data analysis was done using multi hierarchical regression model. Mean and standard deviation were also calculated and the results presented in form of tables. The researcher obtained a 63% response rate which was deemed valid for analysis. From the analysis it was established and concluded that indeed there existed a positive relationship between strategic innovation and performance of public universities in Kenya. The study was limited to the influence of strategic innovation on the performance of public universities in Kenya. The researcher recommends that future research should focus on other analysis tools and such studies have to include other institutions that are not necessarily public universities. The implication of the findings is the need for the management to align strategic innovation strategy with the wider business strategy. They have to demonstrate their capability in understanding the customer insights and offer new and significant value if their long term success and survival is to be guaranteed.

**Keywords:** Strategic Innovation, Knowledge Creation, Organizational Performance, Public Universities in Kenya.

## 1. Acknowledgement

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## 1.1. Introduction

The development of the field of strategic management within the last two decades has been dramatic. According to Ansoff and McDonnell (1990), it is through Strategic management that a firm will be able to position and relate itself to the environment to ensure its continued success and also secure itself from surprises brought about by the changing environment. One of the ways an organization can secure itself from these surprises and equally improve on productivity is through innovations.

According to Drucker (1985), innovation is part of the strategy implementation and is a direct requisite for specific strategies. Innovation therefore serves as a medium of creating new business with exceptional control mechanisms, value addition and risk reduction. Strategic innovation is essential in improved performance amongst many firms and is reflected by increased profitability and market share growth (Palmer and Kaplan, 2007). As a result, firms that desire to remain competitive by enhancing their growth capacities and capitalizing on the available opportunities can achieve all these by embracing strategic innovation.

More recent theoretical contributions in regard to strategic innovation focus on the resource-based view of the firm, entrepreneurial theory and knowledge based theory. The resource based theory sees the firm as a bundle of resources. It is these resources and the way they are combined that make firms different from one another (Powell, 2007). Innovation efficiency and technological advance are related to the strength of the

organizational knowledge base, because if the firm has a strong knowledge base this, in turn, means a better ability to focus innovation efforts efficiently (Nelson, 1982). Entrepreneurship is concerned with how the opportunity to create “value” in society is discovered and acted upon by some individuals. One useful way of thinking about entrepreneurship is that it is concerned with understanding how, in the absence of markets for future goods and services, these goods and services manage to come into existence (Wang, 1997)

The Kenyan public university education sector began in 1963 with less than a thousand students enrolled in Nairobi University College (Weidman, 1995). Since then, the system has undergone considerable expansion, and as of 2013, there were a total of seven traditional public universities and fifteen newly established university constituent colleges that were awarded charters recently to be fully fledged public universities. There are also nine public university constituent colleges and three public university campuses (CUE, 2012). Public universities play an integral role in mentoring of the human capital which is key to Kenya achieving its strategic goal of Vision 2030. They rely heavily on state funding. As a result, failure to increase funding in line with enrolments has undermined their expansion plans in terms of lecture rooms as well as human resource capacity. Moreover, the proliferation of private universities without stringent accreditation has brought about stiff competition in the sector. To therefore thrive and survive in the dynamic and highly competitive environment, while keeping up with the ever changing customer needs, public universities have to adapt through innovative products and services. Strategic innovation is one of the strategies that public universities in Kenya have adopted in order to remain academically relevant.

Innovation is broadly seen as an essential component of competitiveness, embedded in the organizational structures, processes, products, and services within a firm (Powell, 2007) According to Jin et al. (2004), strategic innovation is a future-focused business development framework that identifies breakthrough growth opportunities, accelerates business decisions and creates near-term, measurable impact within the context of a longer-term vision for sustainable competitive advantage. Kuratko et al. (2005) argues that combining non-traditional, creative approaches to business innovation with traditional consulting models, strategic innovation inspires cross-functional teams composed of an organization’s leading change agents, guiding them to identify new revenue streams, to create breakthrough growth strategies, to define innovative new products, services and business models, to stimulate new business relationships and to rethink current business practices. Strategic innovation challenges an organization to look beyond its established business boundaries and mental models and to participate in an open minded, creative exploration of the realm of possibilities (Kaplan and Palmer, 2007). Kim and Mauborgne (2005) posit that, the significance of Strategic Innovation to an organization lies in its ability to supplant competition by generating more value in the long run. This they argued, is achieved through creation of new differentiated business that initially by pass competition and new business marketing, offers and space that renders competition irrelevant.

Management experts continue to build on one another’s work in order to formulate more sophisticated ideas about organizational performance (Kirby, 2005). (Machuki and Aosa, 2011), posit that organizational performance in this context refers to achievements of an enterprise with respect to some criterion. Organizational performance can be equated to value creation for stockholders (Carton, 2004).

Firm performance provides useful information for monitoring and control, improvement, maximization of effectiveness of improvement effort, reward and discipline and as a lever towards alignment of organizational goals and objectives (Drucker, 1985). Profits, growth, balance scorecards, economic value added, activity based analysis and customer satisfaction are some of the frameworks that several scholars have proposed as effective in undertaking firm performance (Hitt, 1988). Richard et al, (2009) elucidates that performance measures should not be made specific to research question but be sufficiently robust to cover the domain of organizational performance.

This study will measure knowledge production, resource generation, teaching and learning and competitive advantage as dimensions of organizational performance. This is consistent with other researchers, (Galunic & Rodan, 1998 and Kim & Mauborge, 1999) who argued that the above dimensions are holistic representation of firm’s performance. OECD Oslo Manual (2005) pointed out that companies that developed innovations in a more decisive way and rapidly, had also more qualified workers, paid higher salaries and provided more conclusive future plans for their employees. In fact, the effects of innovations on firm performance differ in a wide spectrum from sales, market share and profitability to productivity and efficiency.

### **1.1.3 Higher Education Sector in Kenya**

Higher education in Kenya comprises the public universities, private universities, Technical, Industrial, Vocational and Entrepreneurship Training institutions and Research and Development institutions. The Universities Act 2012 sets up, The Commission of University Education, to plan for the establishment and development of higher education and training; The University Funding Board, to coordinate financing of universities; The Kenya Universities and Colleges Central Placement Service, to handle admissions to public universities and colleges; and The Technical and Vocational Education Funding Board (Education Survey, 2008). The higher education sector in Kenya has witnessed tremendous growth recently in terms of the student

enrollment, the number of institutions of higher learning, the wide variety of courses being offered by these institutions, and in terms of network expansion both locally and regionally. A liberalized regulatory framework has also brought about stiff competition within the sector. The main challenges facing these sector in Kenya include: the growth of both private and public universities, including expansion of their curricula has continued to wipe out some vocational schools, teacher training colleges and government training institutes, reducing options for secondary level graduates who may not be qualified for or financially able to attend universities (Sanyal and Martin, 1998).

With these emergence of increased competition in the sector, coupled with inadequate funding from the exchequer, has affected the performance of this institutions more so on service delivery. To therefore remain relevant, attract and nurture and adequately equip graduands with the necessary skills amid an ever changing environment in the sector, most institutions have embraced innovation strategies in order to achieve and sustain their competitive advantage.

#### **1.1.4 Public Universities in Kenya**

University education in Kenya began in 1963 with just 571 students enrolled in Nairobi University College (Weidman, 1995). Since then, the system has undergone considerable expansion, and as of 2013, there were a total of seven traditional public universities and 15 newly established university constituent colleges that were awarded charters recently to be fully fledged public universities. There are also nine public university constituent colleges and three public university campuses. It is estimated that the country has 122,874 university students of which approximately 80 percent are in public universities (Kenya National Bureau of Statistics 2009). Kenya's public universities, like many others in the world, have suffered many years of underfunding. The causes have been many but generally have included changing donor priorities, changing government rules and regulations to cope with national economic turbulence, international economic trends, legislation and political trends in the country (Onyango, 1996). This in turn has made it difficult for the universities to meet the ever increasing demand for higher education. As such, some parents prefer to send their children to universities outside the country. They perceive Kenyan public universities to be rigid with admission requirements compared to foreign universities and courses offered locally do not adequately meet national human resource requirements (Waithaka, 2012).

Moreover, emphasis has been placed on disciplines which entail little infrastructural investment and thus maximum returns on investment. Little if any, attention is paid to the dictates of the labour market and the national needs in the short-sighted drift to profit maximization. The drift has been in the wrong direction. For instance, some universities competed with others as centers of thought leadership while some started with the most refreshing foundation of technical excellence but have slowly drifted away from their unique niche. To overcome these challenges and win back the public confidence, public universities have embraced innovative ways in order to appeal to potential and current customers and also to improve on their performances and reputation.

## **2. Theoretical Review**

This study is premised on a number of theories that have evolved overtime. Since strategic innovation is relatively new in the field of strategic management, it goes beyond the limitations of traditional approaches and tools to enable new growth and competitive advantages by creating new markets, new value and new business models (Najmei 2010). The scholars view is premised on the notion that the traditional approach of strategic management is inadequate in enabling firms to craft a sustainable competitive advantage that guarantees the indispensable success and streams of revenue for survival and sustenance.

Blue ocean theory is another important theory that derives its significance in emphasis in disregarding traditional rules and using competition as a benchmark. According to Kim and Mauborgne (1997), blue ocean theory unlike red ocean strategy creates jumpstart in value for the buyers and for the company. Blue ocean theory equips the firm with powers of creating uncontested market space, making competition irrelevant, breaking the value-cost tradeoffs while aligning the whole system of firm activities in pursuit of differentiation and low cost. Firms inclined towards blue ocean theory reject fundamental principle of conventional strategy; the need to choose between value and cost.

The resource based theory (RBT) emerged as a complement or dual to Porter's theory of competitive advantage (Barney & Arian, 2001). Initially, Wernerfelt (1984) developed a theory of competitive advantage based on the resources a firm develops or acquires to implement product market strategy. Wernerfelt (1984) primary contribution to the RBT literature was recognizing that firm specific resources as well as competition among firms based on their resources can be essential in order for organizations to gain advantages in implementing product market strategies (Barney & Arian, 2001). A different perspective is presented by Rumelt (1984) who focuses on economic rents and created a theory of rent generation and appropriating characteristics of firms (Barney & Arian, 2001).

Itami's (1987) theory of invisible assets suggests that invisible assets, e.g. information-based resources

such as technology, customer trust, and brand image, control of distribution, corporate culture, and management skills are necessary for competitive success. Accordingly, invisible assets are the real source of competitive advantage because they are hard and time-consuming to accumulate. Further, they can be used in multiple ways simultaneously, and are inputs and outputs of business activity. Itami (1987) continues to argue that people are both accumulators and producers of invisible assets. Visible assets, on the other hand, must be present for business operations to take place, but it is the invisible assets that lead to competitive advantage.

Innovations provide firms a strategic orientation to overcome the problems they encounter while striving to achieve sustainable competitive advantage (Drucker, 1985; Kuratko et al., 2005). Innovation as a term is not only related to products and processes, but is also related to marketing and organization. Schumpeter (1934) described different types of innovation: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business. Drucker (1985) defined innovation as the process of equipping in new, improved capabilities or increased utility.

Strategic innovation is considered as developments and new applications, with the purpose of launching newness into the economic area. It can be conceived as the transformation of knowledge to commercial value. Innovation has great commercial importance due to its potential for increasing the efficiency and the profitability of companies. According to Fagerberg et al. (2004), the key reason for innovativeness is the desire of firms to obtain increased business performance and increased competitive edge. Companies procure additional competitive advantage and market share according to the level of importance they give to innovations, which are vital factors for companies to build a reputation in the marketplace and therefore to increase their market share.

### **2.3 Strategic Innovation**

Strategic innovation emanates from unexpected occurrences, incongruities, process needs, industry and market changes (Drucker, 1985). Moeller et al (2006) maintain that the strategic innovation occurs in response to demographic changes around the globe which create new combination of who, what and how of strategic innovators. Markides (1999) argues that new needs that arise due to shifts in consumer preferences, manifested by mapping the neglected segments by competitors, presents insightful source for strategic innovation.

Li and Atuahene-Gima (2001) assume that the evidence for an embedded innovation strategy is subjective. Further, the literature provides two distinct types of strategic orientation measures. One identifies whether the organization has an innovation strategy (Cooper, 1990). The other assumes that strategy exists and explores its effectiveness by further measures of strategic fit (Bessant, Kaplinsky and Lamming, 2003). It has been found that more innovative firms adopt different operational strategies to accommodate flexibility and quality capabilities and have a range of different financial means to facilitate slack resources.

According to Markides (2000), a business is an organization's biggest mental model. Any mental model can be overcome by identifying and questioning them, using outsiders, benchmarking outside the industry, experimenting new ideas, providing facts or examples that go against conventional wisdom. Strategic innovations are seen as the product of activists, be it middle managers, representatives from different organizational functions, young people, new comers, or people at the organizational periphery (Floyd and Woolridge, 1994; Krinsky and Jenkins, 1997).

Palmer and Kaplan (2007) posit that managed innovation process combines both the traditional and nontraditional approaches to business strategy. They argued that the process is the creative core of the strategic innovation process embracing both the divergent and convergent thinking models. The process facilitates the interplay of external perspective and the internal firm's capabilities and in so doing enables the firm to look beyond the obvious.

### **2.4 Types of Strategic Innovation**

Innovation as a term is not only related to products and processes, but is also related to marketing and organization. Schumpeter (1934) described different types of innovation: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business. In the OECD Oslo Manual (2005), four different innovation types are introduced. These are product innovation, process innovation, marketing innovation and organizational innovation. A product innovation is the introduction of a good or service that is new or significantly improved regarding its characteristics or intended uses; including significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics (OECD Oslo Manual, 2005). Product innovations can utilize new knowledge or technologies, or can be based on new uses or combinations of existing knowledge or technologies. The term product covers both goods and services. Product innovation is a difficult process driven by advancing technologies, changing customer needs, shortening product life cycles, and increasing global competition. For success, it must involve strong interaction within the firm and further between the firm and its customers and suppliers (Akova et al., 1998).

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing (OECD Oslo Manual,

2005). Marketing innovations target at addressing customer needs better, opening up new markets, or newly positioning a firm's product on the market with the intention of increasing firm's sales. Marketing innovations are strongly related to pricing strategies, product package design properties, product placement and promotion activities along the lines of four P's of marketing (Kotler, 1991).

A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (OECD Oslo Manual, 2005). Fagerberg et al. (2004) stressed that while the introduction of new products is commonly assumed to have a clear, positive effect on the growth of income and employment, process innovation, due to its cost-cutting nature, can have a more hazy effect.

Organizational innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations. Organizational innovations have a tendency to increase firm performance by reducing administrative and transaction costs, improving workplace satisfaction, gaining access to non-tradable assets or reducing costs of supplies (OECD Oslo Manual, 2005). Examples would be the introduction of practices for codifying knowledge by establishing databases of best practices, lessons learnt and other knowledge, so that they are more easily accessible to others; the introduction of training programs for employee development and improved employee retention; or the initiation of a supplier development program. Thus, organizational innovations are strongly related with all the administrative efforts of renewing the organizational routines, procedures, mechanisms, systems etc. to promote teamwork, information sharing, coordination, collaboration, learning, and innovativeness.

### **2.5 Organizational Performance**

The concept of organizational performance is based upon the idea that an organization is the voluntary association of productive assets, including human, physical and capital resources for the purpose of achieving a shared purpose (Barney, 2001). Machuki and Aosa (2011) observed that, organizational performance gives indication of the effectiveness of an organization. Various indicators such as effectiveness, efficiency, financial viability and relevance to stakeholders can be used to measure organizational performance. A recent study of managers found sales growth to be the most commonly identified measure of overall organizational performance (Hubbard & Bromiley, 1995), although other studies have considered numerous variations in performance measures (Lenz, 1981; Venkatraman & Ramanujam, 1986).

Many scholars have unanimously agreed that, measuring organizational performance presents a challenge as it is a multidimensional theoretical construct hence there is no single operational measure (Richard et al, 2009). The existence of these multi dimensions or multiple constituencies means that, it is not clear that organizational purpose can be portrayed as unitary or that the multiple purposes of an organization are reliably consistent (March & Sutton, 1997). They further argued that the failure of measures of organizational performance to reflect an organization's multiple constituencies may lead the organization to treat the satisfaction of others as pathology, rather than maintaining a healthy tension between them.

The common measures used to measure organizational performance include financial measures such as return on assets, return on equity among others. In addition, organizational performance can also be measured by qualitative measures such as research and knowledge creation, resource generation, teaching and learning as well as competitiveness.

### **2.6 Strategic Innovations and Organizational Performance**

Innovations can actually enhance the firm performance in several aspects. Particularly, four different performance dimensions are employed in the literature to represent firm performance (Yilmaz et al., 2005). These dimensions are innovative performance, production performance, market performance and financial performance. Innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance (Walker, 2004). A large number of studies focusing on the innovation-performance relationship provide a positive appraisal of higher innovativeness resulting in increased corporate performance (Damanpour and Evan, 1984; Damanpour et al., 1989; Wu et al., 2003). But these researches are generally conceptual in nature and/or focus only on a single type of innovation rather than considering all four innovation types already defined, and then explore its impact on performance.

Process and product innovations are the most common innovation types examined. The studies by Ittner and Larcker (1997), Whittington et al., (1999), and Baer and Frese (2003) focus merely on process innovations while studies of Atuahene-Gima (1996), Subramanian and Nilakanta (1996), and Li and Atuahene-Gima (2001) report on product innovations. Many of these research embrace more or less a positive association between innovations and firm performance, but there are also some studies indicating a negative link or no link at all (Capon et al., 1990; Chandler and Hanks, 1994, Subramanian and Nilakanta, 1996).

As Miller (2001) stated most firms seek technological innovation to gain competitive advantage in their market. Hence, all these efforts made require to be supported by marketing and organizational measures.

Generally, researchers neglect organizational and/or marketing innovations, which are equally essential to the growth and effective operation of a firm (Damanpour and Evan, 1984, Damanpour, 1991). Relatively few studies on innovation capabilities advocate organizational and marketing innovations. They indicate that more innovative firms place more emphasis on management techniques (Baldwin and Johnson, 1996) and reach sustainable levels of higher performance (Han et al., 1998; Guan and Ma, 2003). Wolff and Pett (2004) conducted comparative research for the effects of product and process innovations on firm performance. They indicated that particular product improvements are positively associated with firm growth.

Locally, various studies on the topic of innovation have been carried out by a number of researchers. Kemoli (2010) carried out a study on strategic innovations and performance of commercial banks listed in NSE. The study concluded that listed commercial banks had deviated from the existing industry rules and engaged in creation of new and significant customer value and that strategic innovation was embedded in their corporate strategy. Karanja (2009) carried out a study on innovation strategies adopted by insurance companies in Kenya. The study concluded that companies with strong technology-enabled innovation strategies are more likely to secure competitive advantage and create superior shareholder value.

Lusweti (2009) reviewed innovation strategies adopted by radio stations in Kenya. This study concluded that innovation strategies are very essential in any business and hence they should be put in place at any cost since it helps the organization to realize their objectives. As far as analysis of strategy is concerned, the adoption of strategies (whether collaborative or competitive strategies) is thus important in managing innovation and in making the innovation happen. Odhiambo (2008) carried out a study on innovation strategies at Standard Chartered Bank and concluded that with the advent of globalization, financial institutions have been forced to improve their ways of doing business in order to attract and maintain existing customers. Such innovative strategies focus on all aspects of the business operations ranging from customer care, technological advancement to better products in the market.

### **3. Methodology**

#### **3.1 Research Design**

This study adopted a descriptive survey design that aims at investigating the strategic innovations and performance of public universities in Kenya. According to Denvir and Millet (2003), research design provides the glue that holds the research project together. A structure is used to restructure the research, to show how all the major parts of the project, which include samples or groups, measures, treatments or programs, and methods of assignment that work together to try to address the central research questions. This is because the study sought to establish a relationship between variables.

A descriptive survey was undertaken. Descriptive designs result in a description of the data, either in words, pictures, charts, or tables, and indicate whether the data analysis shows statistical relationships or is merely descriptive. Sample survey based on the public universities in Kenya was used to produce results that are broad, credible and conclusive. The research was quantitative in nature and relies on primary data obtained from Kenyan public universities.

#### **3.2 Population of Study**

Target population can be defined as a compute set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other population. According to Mugenda and Mugenda (1999), a population is a well-defined as a set of people, services, elements and events, group of things or households that are being investigated. Census survey was used in this study. The study focused on the Kenyan public universities that have been in existence over the last five years as indicated in appendix I. This period is considered long enough to provide sufficient variables to assist in determining a trend on the relationship between strategic innovation and performance. This period is chosen in order to capture the most recent data and to give results that reflect the current trend. Census survey is favoured due to the ability to collect data that is unique and of standard measure as the information to be collected from the respondents in the study.

#### **3.3 Data collection**

The researcher used a structured questionnaire as primary data collection instrument. The questionnaire was considered appropriate because it is more convenient to administer and to collect data to enable the achievement of the objective of the study. Both primary and secondary data were used to collect data on resource generation, teaching and learning, research and knowledge creation, competitive advantage, product innovation, marketing innovation, process innovation and organizational innovation.

The primary data were gathered through a semi-structured questionnaire. The questionnaire contained close ended questions and had various sections. The first part contained questions on the bio data of the respondent and the other sections contained questions on the specific objectives of the study. Questionnaire were administered using drop and pick method targeted to the heads of departments involved in strategic management coordination of the public universities.

### 3.4 Data Analysis

The data collected from the primary sources were systematically organized in a manner to facilitate analysis. Data analysis involved preparation of the collected data, coding, editing and cleaning of data so as to facilitate processing. The results were presented using tables, graphs and charts for ease of understanding. This allowed for interpretation of findings generated and recommendations from the findings.

Multiple hierarchical regression model was used in this study as it allows simultaneous investigation of the effect of two or more variables Zikmund (2003). The model established the relationship between strategic innovations and performance of public universities in Kenya. In regression terminology, the variable that is predicted is called dependent variable while the variable used to predict the value of dependent variable is called independent variable. Data collected were analyzed using multiple regressions. The significance of each independent variable was tested at a confidence level of 95%. In this study, dependent variable was performance\ and independent variables were product innovation, marketing innovation, process innovation and organizational innovation. The equation representing the algebraic expression of multiple regression model of the form below was applied;

Performance =  $f$  (Strategic Innovation).

$$Y_{1-4} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 +$$

Where  $Y_{1-4}$  = Indicators of Organizational performance (dependent variable).

Where:

$Y_1$  = Resource Generation

$Y_2$  = Teaching and Learning

$Y_3$  = Research and knowledge creation

$Y_4$  = Competitive advantage

$\beta_0$  = Constant which defines performance without inclusion of independent variables

$\beta_{1, 2, 3, 4}$  = Coefficient of  $X_1, X_2, X_3$  and  $X_4$

$X_{1-K}$  = Independent variables are,

$X_1$  = Product Innovation

$X_2$  = Marketing Innovation

$X_3$  = Process Innovation

$X_4$  = Organizational innovation

= Error Term

$\beta_{1-K}$  Regression coefficients- define the amount by which Y is changed for every unit change in independent variables.

**Table 4.14: Regression Model Summary**

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849a	.720	.596	.480

Source: Field Data (2013)

a. Predictors: (Constant), Product Innovation, Marketing Innovations, Process Innovation and Organization Innovation.

The study results in table 4.14 indicate the extent to which the predictor variable accounts for the overall variability of the model. The R Square of 0.72 indicate that the predictor variables given in the study affects the organization performance by 72% and 28 percent is affected by other factors not mentioned in the study. The Adjusted R Square indicate that suppose the whole population was involved in the study rather than a sample, then the response would be (1-0.596) 40.4% less variance.

**Table 4.15: Regression Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.257	.594		2.115	.034
Product Innovation	.274	.219	.372	1.248	.013
Marketing Innovations	.246	.124	.387	1.984	.009
Process Innovation	.457	.239	-.621	-1.908	.019
Organization Innovation	.551	.151	.794	3.644	.005

Source: Field Data (2013)

a. Dependent Variable: organization performance

Organization Performance = 1.257 + 0.274 Product Innovation + 0.246 Marketing Innovations + 0.457 Process Innovation + 0.551 Organization Innovation

The study results in table 4.15 indicate that there is positive relationships between organization performance and Product Innovation, Marketing Innovations, Process Innovation and Organization Innovation meaning that in increase in either of them will increase organization performance and a decrease in either of them will also decrease organization performance. Testing at 5% significant level, the study was significant at  $p < 0.05$  ( $0.03 < 0.05$ ) using a one tail test. All the other individual variables were also significant at  $p < 0.05$  using a one tail test.

#### 4.5 Discussion

The researcher was able to capture 63% response rate as he was only able to sample 14 universities out of the total 22 universities targeted in the study. From the study, it was established that most of the public universities in Kenya have been in existence for a period of about 1 and 5 years, followed by those that had been in existence for over 21 years. It was also established that the longer the university had been in existence, the larger the number of students it had, since majority of the university had been in existence for 1-5 years, this group had a population of 10,000 and less. The group of universities that had been in existence for over 21 years had a student population of over 25000. There was also a relationship between the duration of existence and the expansion of the university. Universities with over 21 years of existence were found to have 7 and more campuses/ branches while those that had had a short period of existence had less than 7 with some even having none.

The researcher also established from the study that Kenyan public universities continuously introduced and implemented strategic innovation practices such as introducing new programmes, rolling out open learning, aligning its academic programs to vision 2030 and the new constitution. Strategic innovativeness in the area of internet use and technology was established to have been put to use by universities introducing online results transmission at the end of the semester to the students, automating school fees payment, online registration and online clearance by finishing students for graduation purposes. These results supports the argument by the study done by Kim and Mauborgne (2005) which indicate that, the significance of Strategic Innovation to an organization lies in its ability to supplant competition by generating more value in the long run which is achieved through creation of new differentiated business that initially by pass competition and new business marketing, offers and space that renders competition irrelevant.

The study findings revealed that indeed the universities are making effort to ease students' access to academic programmes, update the universities website with the latest content, competitively pricing academic programmes and rolling out distance learning. On the management side, majority of the universities were found to be involving themselves in corporate social responsibility, regular review of the management structure, regular review of the system, and regular review of its functions. The study established that while some universities continuously host events open to the public, others have taken to invest in branding and marketing its products and services.

According to Walker (2004), innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance. This was also proved correct by the study on the issue of organizational performance where the researcher found out that to varying extents, the universities were successful in complying with the set budgetary levels and cost reduction and that the allocated funds are usually used for their intended purposes. The study also revealed that while some universities were successful in ensuring they have adequate and modern ICT, adequate physical facilities and equipment and state of the art physical facility and equipment, others didn't quite become successful. On appraisals, it was established that the universities were successful though to varying extents in ensuring performance appraisal, customer satisfaction appraisals and employee satisfaction appraisals were regularly reviewed.

The study revealed that the universities had targets which they hoped to achieve annually. Such targets were found to have included number of students enrolled every academic year, number of publications, number of PhD and masters' graduates, number of intellectual property rights registered and number of consultancies carried out annually. Some universities had been successful in achieving the targets while others were not. Other targets that were either successful or not included number of papers presented in conferences, new linkages and partnerships, positive media image and improved ranking.

It established that the universities make effort to review a set target of curricula per year as well as to develop others, have their exams externally examined and have their website be the most visited website. While some universities were more able to reach their targets in open and distance learning others were more successful in meeting their target in the number of students participating in sports games and professional associations.



## 5. Conclusion

The main aim of this study was to get an understanding on the influence of strategic innovations on the performance of public universities in Kenya. The indicators of organizational performance were identified to have been: resource generation, teaching and learning, research and knowledge creation, and competitive advantage. The innovative strategies were identified as: product innovation, marketing innovation, process innovation and organizational innovation

Based on the findings, the researcher has sufficient evidence to conclude that indeed there is a relationship between strategic innovation and performance of the universities. The researcher concludes that universities that adopt and are successful in product innovation strategies such as introducing new programmes, introducing open and distance learning, aligning their academic programmes to vision 2030 and the new constitution achieved improved performance as indicated by increasing number of students enrolled each academic year, increased number of PhD and Masters graduates, and increased enrollment in open and distance learning. The study there concludes that there is a strong positive relationship between strategic innovation indicators and the performance of the public universities.

The study has established that there is a strong positive relationship between strategic innovation and competitiveness of the public universities. The study concludes that those universities can obtain competitive advantage through human resource innovations such as regular employee satisfaction appraisal, customer satisfaction appraisal and staff appraisal. There is also a relationship between organizational innovation such as regular review of management structure, management functions and management systems enhance the competitiveness of the public universities.

The study findings gives the evidence to the researcher to conclude that strategic innovation of the public universities ranges from the products and services offered and is determined by the technology that is revolutionizing the current global world and has improved the performance of the public universities. Therefore with innovation in university's resource management, the universities can be able to comply with the set budgetary levels, reduce costs and save more and be sure to allocate funds to intended purposes which in turn translate to improved performance.

### 5.1 Recommendation for Policy and Practice

The study was guided by the existing literature and empirical data. The findings has thus to a greater extend confirmed or validated the existing body of knowledge by revealing that strategic innovation has a combined influence on the organizational performance. The researcher therefore observes that strategic innovation plays a central role in enhancing the performance Kenyan public universities. The study's results have contributed to the emerging field of strategic innovation and provide the foundation for further enhancement of the theory and research in the topic. The study offers an alternative way of understanding how organizational performance can be enhanced by using other tools other than convectional management tools.

The researcher recommends that institutions of higher learning, both public and private that have not fully adopted strategic innovation as a means of improving performance should look for ways of doing so as it has been proven that there is a relationship between strategic innovation and organizational performance. At the same time, it is recommended that those that have been successful in doing so should start looking for new ways to improve their performance as the education sector is fast evolving.

The researcher also has ground to recommend for policies that will limit extreme competition in the education sector as such practice has a high ability of moderating the quality of education offered by Kenyan institutions of Higher learning. A policy to prevent universities from commercializing education should also be put in place.

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## Appendices

### Appendix I: List of Public Universities in Kenya

1. University of Nairobi
2. Kenyatta University
3. Moi University
4. JKUAT
5. Maseno university
6. Masinde Muliro university
7. Egerton University
8. Dedan Kimathi University of Technology
9. Chuka University
10. Technical University of Kenya
11. Technical university of Mombasa
12. Pwani University
13. Kisii University
14. University of Eldoret
15. Maasai Mara university
16. Jaramogi Oginga Odinga University of Science and Technology

17. Laikipia University
18. South Eastern Kenya University
19. Meru University of Science and Technology
20. Multimedia University of Kenya
21. University of Kabianga
22. Karatina University

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