Influence Of Strategic Innovation On Revenue Streams Sources Of Public Universities In Kenya

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Abstract

In spite of rapid increase of number of public universities in Kenya from 5 to 31 in the last two decades, in the last three years the number of qualifying fresh undergraduate students has significantly decreased – yet traditional this is what has been the cash cow for these institutions. These public universities have been relying on capitation fund for government placement admissions which has been largely augmented with own source revenue from self-sponsored programmes or privately placed admissions. With the slinking numbers of qualifying admissible students many public universities are reporting alarming revenue shortfalls and operational deficits. This precarious scenario has necessitated need for strategic innovations on own source revenue streams. The study therefore evaluated the influence of strategic innovations on revenue streams sources of public universities in Kenya. It was assessed the influence of technological innovation, and diversification innovation on revenue streams sources of selected public universities. It was based on descriptive research design using a cross-sectional survey with quantitative and qualitative data collected using questionnaires. Data was analyzed using descriptive and inferential statistics. A multiple linear regression model was used to present the relationship between the independent variables and the dependent variable. From the analysis the conclusion was that there is a positive relationship between the independent variables technology innovation and diversification innovation on the dependent variable revenue stream sources in the selected public universities in Kenya ($p < 0.05$). The researcher recommends that there is the need for university management to adopt strategic innovations in order to achieve new revenue stream sources of their institutions and their long time survival.

Keywords: strategic innovation, public universities, own source revenue, revenue streams, capitation fund

1.1 Introduction

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 & 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. 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 (Shisia,Matoke & Omwario,2014).

However in the last three years the Regulator of universities CUE on intervention by the Ministry of Education MOE cracked a whip because a reasonable number of campuses were grossly compromising the quality standards established by CUE (Commission for University Education, 2017). This led to major shut down of these supposedly revenue centers (Munene, Ishmael, 2016) for both public and private universities. Another twin tragedy for University education in Kenya was the crackdown on secondary schools regarding credibility of administration of Kenya certificate of secondary school examination (KCSE) which is a qualifying exam for admission of students to Universities. According to the report by the (Ministry of Education, 2017), Students who qualified for University education in 2018, formed only 47.4% of the total capacity. Compared to previous years, 2018 is regarded to have had mass failure, since less than half of candidature attained C+ and above. Most public universities rely on revenue collected from tuition fees, which implies a significant drop in revenue collection and this highly contributed to more strategic innovations in order to increase the revenue streams.

1.2 Problem statement

There has been a rapid rise of number of public universities in Kenya from one in year 1970 to thirty one in year 2019.Alongside this the number of private universities have also similarly risen. However unlike private universities, public universities rely on capitation of fund for financing major operational expenses and then charge some minimal tuition and related fees to students admitted in government sponsored programs. The capitation fund and the fees collected from the government sponsored programs has been far short of the operational expenses of the public universities. One of the responses to this challenge was to introduce parallel programs: admission for self sponsored students. But due to massive failure in Kenya Certificate of Secondary School Examination (KCSE), which is the qualifying exam to higher institutions of learning there has been extreme reduction in the catchment numbers for fresh admissions both public and private universities implying a drop in revenue collection since tuition fees forms the major source of university income. Since this outcome there seems to be no adequate research that has been conducted to determine how universities are responding to this crisis from strategic innovation, especially so among the public universities which have a tradition of reliance on the capitation of funds. The study therefore attempts to fill the knowledge gap of influence of strategic innovation on revenue streams sources of public universities in Kenya.

1.3 Objectives

The main objective of this study was to investigate the influence of strategic innovations on revenue streams sources in public universities in Kenya.

The specific objectives that contribute achieve this main objective were as follows: -

i. To assess the influence of technological innovation on revenue streams sources of public universities in Kenya.

ii. To evaluate the influence of diversification innovation on revenue streams sources of public universities in Kenya

2.0 Literature Review

2.1 Theoretical review

Strategic innovation is grounded in the knowledge-based theory of the firm (Grant, 1996). It is widely accepted that a firm's ability to innovate is tied to the pool of knowledge available within an organization (Subramaniam & Youndt, 2005). The generation of new knowledge has traditionally been connected to a firm's in-house research and development (R&D) activities. Recent literature, however, points to the advantages of combining internal investments with external resources (Cassiman&Veugelers, 2006) to benefit from complementarities. In other words, firms have begun to open up their innovation processes for external knowledge. This trend of so-called "Open Innovation" allows firms to access and exploit external knowledge while internal resources are focused on core activities (Chesbrough, 2003). Many authors show the relationship between innovation and knowledge management (Galunic & Rodan, 1998; Kim & Mauborgne, 1997; Leonard&Barton, 1995; Metcalfe& De Liso, 1998). Knowledge-based strategy determines innovation efforts and may have a strong influence.

The cornerstone of Blue Ocean Strategy/theory is 'Value Innovation', a concept originally outlined in Kim and Mauborgne (1997). Value innovation is the simultaneous pursuit of differentiation and low cost, creating value for the buyer, the company, and its employees, thereby opening up new and uncontested market space. The aim of value innovation is not to compete, but to make the competition irrelevant by changing the playing field. Strategic innovation is a major practice underpinning the survival and competitiveness of universities in a competitive globalized environment (Sheu, 2007; Kiraka, Kobia &Katwalo, 2013; Lin & Chen, 2007). As an essential tool for firm strategies, innovation enables firms to achieve sustained profitability and growth, to access new markets, enhance their market share hence increase its revenue streams (Ulusoy, Kilic & Alpkan, 2011).

2.3 Empirical review

As such innovation has become central to firm strategies and government policies in the pursuit of firm competitiveness and ultimately national competitiveness. Innovation in pursuit of revenue streams remains a credible goal of many firms, national policies and is central in many firms increasing its sources of revenue (Cantwell, 2003; Gray, 2006; Aikeli, 2007). According to Odundo, Origa, Nyandegaand Ngaruiya (2015), the University of Nairobi has largely employed technology in its interaction with students such that handling administrative processes such as admission, registration for programmes and examination processing are all done by automated computer systems. This has led to increased efficiency in the student processes that has contributed to cost reduction.

Struggling to manage their new circumstances and worried about their long-term survival, universities all over the world are becoming enterprising and initiating non-traditional revenue diversification initiatives to yield additional resources in order to provide quality education. By embracing entrepreneurship, these institutions have initiated reforms that are necessary for efficient management of the revenue generating initiative's needs (Sidek& Rosli, 2013). An examination of these management reforms in the institutions studied, to some extent, shows the significance of revenue diversification in the financing of public universities.

In view of reduced government funding, Public Universities in Kenya have had to diversify their sources of revenue instead of relying on government Capitation as their main source of funding. The selected public Universities have therefore had to diversify their revenue streams. In an effort to streamline the management of its revenue diversification initiatives, Kenyatta University has set up several Incomes generating Units such as the Kenyatta University Funeral home, the North Coast Beach Hotel, the Kenyatta University Conference Centre as well as the UniCity (Kenyatta University, 2018). These facilities are positioned to serve eternal clientele with a view of increasing revenue to the University. Unlike The University of Nairobi, the rest of this institution's revenue generating initiatives including its Module II programmes come under the management of this institution's Central Administration. This strategy appears to be propelling this institution to greater effectiveness and efficiency in tapping its resources for revenue generation (University of Nairobi, 2016).

. Higher education in countries where public financing is declining is essential for sustainable development (Selwyn, 2014). If public universities in developing nations could be encouraged to step up their revenue diversification efforts, it is possible for governments to raise the share of total recurrent revenue for other sub-sectors of education, thus facilitating the reallocation of government funding across levels of the education sector.

Although innovation is generally regarded as a means of institutions obtaining revenue, this relationship is not strongly supported empirically. Previous studies did not examine the influence of major factors in the link between innovation and revenue stream sources. Kiveu (2017) focused on effect of innovation on firm competitiveness: a study of SMES in manufacturing sector in Nairobi city. This represented one aspect of factors that influence strategic innovation leaving a gap to be pursued by other scholars. Aziz and Samad, (2016) established that a innovation had a positive impact on SMES' competitive advantage ,but the Study was carried out on food manufacturing SMES in Malaysia leaving a gap that need to be concluded using public universities in Kenya. Webb (2014) did a study on the impact of revenue diversification on financial and educational outcomes of private colleges and universities during the great recession in Malaysia concluded that revenue diversification is an effective strategy for solidifying institutional revenue, the study focused on only one dimension of innovation (revenue diversification) leaving other dimensions like The study will focus technological, product and diversification innovation on revenue streams sources of public universities in Kenya.

3.0 Research Methodology

The design that was adopted for this study was cross-sectional survey design. Cross-sectional surveys are used to collect information on a population at a single point in time, so as to investigate changes in the population. According to (Fink, 2006),Surveys are used to collect information from and about people to express, evaluate or give explanation on their knowledge, thoughts, morals or behavior. Julian & Burstein (1985) added that cross sectional survey research concerns itself with describing practices that prevail, beliefs, views, attitudes or perceptions that are held. Surveys, in their simplest form, are normally conducted to institute the nature of existing conditions (Cohen, Manion & Morrison, 2007). Survey research seeks to obtain information that describes existing phenomena by asking individuals about their attitudes, perceptions or behavior, but apart from describing, it can be used to explore existing status. It is the best method available to social scientists and educators interested in collecting original data for describing a population that is too large to observe directly (Mugenda & Mugenda, 2003).

The target respondents were sixty two in total, purposive sampling was used to pick the Finance manager and Registrar Administration, in each university since they are directly involved in strategic planning, marketing and finance management. Under judgmental sampling the researcher uses their own judgment to select the sample (Oso&Onen, 2005). According to Van Dyk (1991) questionnaires are the most common method applied to diagnose the functioning of institutions. The researcher used a Questionnaire to evaluate the revenue stream sources and strategy innovation in the public universities in Kenya. Conceptual framework is shown in Figure 1.

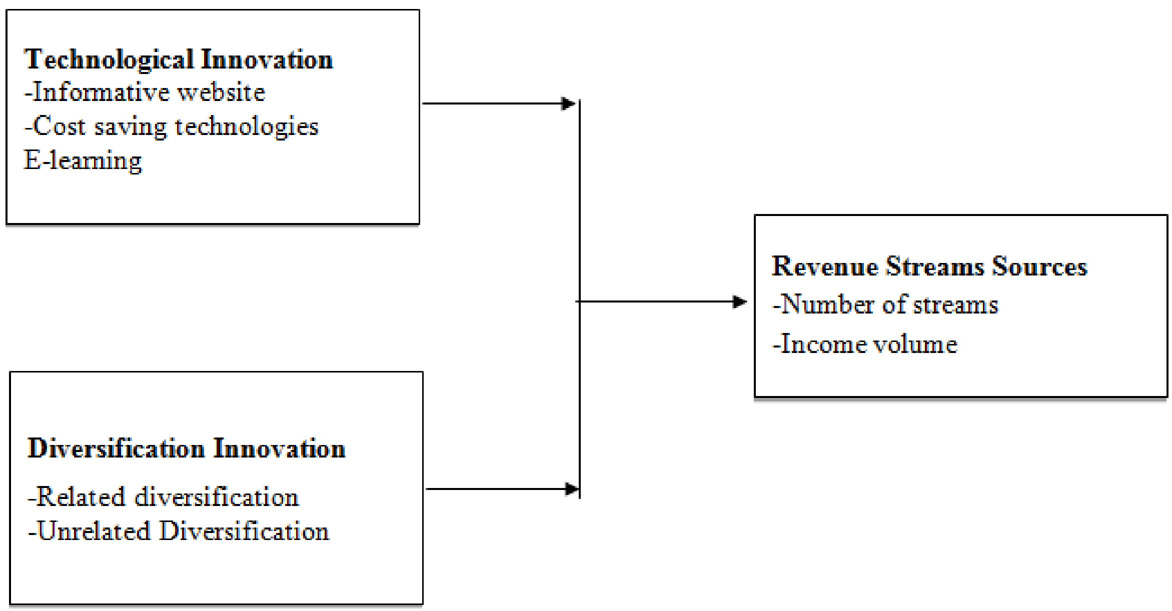

Figure 1 Conceptual framework

4. Results and findings

This study investigated the influence of strategic innovation on revenue streams sources of public universities in Kenya. Specifically the study sought to find out the influence of technological innovation on revenue streams sources of public universities in Kenya and also to evaluate the influence of diversification innovation on revenue streams sources of public universities in Kenya.

4.1 Working Experience

Findings on the number of years different respondents have worked in universities indicated the following Table 6.1 shows that most of the staff 39.1% have served their institutions for between 5 and 10 years, were 21.7%, those who have worked in the university for between 10-15 years while 30.4% have worked for over 15 years in their institutions which indicates reliability of information gathered.

Table 1. Years of experience

Category	Frequency	Percent
Below 5 years	4	8.7
5-10 years	18	39.1
10-15 years	10	21.7
Above 15 years	14	30.4
Total	46	100

These findings concur with the study of Ghafoor (2013) and Kamau (2014) on the role of years of experience characteristics among staff which revealed that the more the years of experience the more the reliable information gathered thus by the fact that over 50% have worked for over ten years, the implication of these findings in their contribution to revenue streams translates into the ability to experience that was much needed in establishing the role of technology and diversification in revenue streams sources.

4.2 Test of Instrument

The above tested both reliability of instruments used and also the validity of the instruments used as explained below. The validity and reliability of the tools resulted from the extent to which responses from the field reflected theories and empirical evidence of other scholars who have studied similar variables. The main tool of data collection used was the Likert-scale questionnaire. The instrument was reviewed and tested by experts in statistics using Cronbach's alpha test. Nachmias and Nachmias (2006) explain that a Cronbach's alpha test confirms the reliability and consistency of a Discounted Cumulative Impact (DCI). The results of the test are summarized in Table 2

Table 2. Reliability Results

Variable	**Cronbach's alpha**
Technological innovation	0.7221
Diversification	0.7021

From Table 1 the questionnaire instrument consistently returned high scores averaging 0.7221 and 07021 respectively which is highly acceptable since Cronbach's alpha coefficient of over 0.7 qualifies an instrument as reliable and consistent (Nachmias & Nachmias, 2006; Kent, 2001; Kothari, 2004; Sekaran, 2006).

4.3 Regression Analysis

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624a	0.390	0.361	0. 61388

a Predictors: (Constant), diversification, technology

The study results in table 3 indicate the extent to which the predictor variable accounts for the overall variability of the model. The R Square of 0.39 indicate that the predictor variables given in the study affects the revenue streams sources by 39% and 59 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 (1-0.361) 63.9% less variance.

Table 4 .ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.339	2	5.170	13.718	.000b
	Residual	16.204	43	0.377		
	Total	26.544	45			

a Dependent Variable:Revenue streams in Public universities
b Predictors: (Constant), Technological innovation, Diversification innovation

The study used ANOVA to establish the significance of the regression model from which an f-significance value of $p<0.001$ was established. This shows that the regression model has a less than 0.001 likelihood (probability) of giving a wrong prediction.

Table 5. Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.070	0.807		-0.086	0.932
	technology	0.511	0.221	0.357	2.307	0.026
	diversification	0.495	0.231	0.332	2.142	0.038

a Dependent Variable: revenue

The study results in table 5 indicate that there is a positive relationship between revenue streams sources and technological innovation and diversification innovation meaning that in increase in either of them will increase organization revenue stream sources and a decrease in either of them will also decrease organization revenue streams sources. 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.

Conclusions

The main aim of this study was to get an understanding on the influence of strategic innovations on the Revenue streams sources of public universities in Kenya. The indicators of revenue stream sources were identified as volume of income and number of streams. The innovative strategies were identified as: diversification innovation and technological innovation. Based on the findings, the researcher has sufficient evidence to conclude that indeed there is a relationship between strategic innovation and revenue stream sources of public universities. The researcher concludes that universities that adopt and are successful in innovation strategies such as introducing-learning, informative website, diversifying their product through agriculture, businesses and others have recorded a great increase in income volume. The study therefore concludes that there is a strong positive relationship between strategic innovations indicators and revenue streams sources of the public universities in Kenya.

The study has established that there is a strong positive relationship between strategic innovation and Volume of income 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 revenue 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 increase in revenue streams.

Based on this research, it is recommended that institutions of higher learning, both public and private that have not fully adopted strategic innovation as a means of increasing revenue should look for ways of doing so, Since it has been proven that there is a relationship between strategic innovation and revenue streams sources. At the same time, it is recommended that those that have been successful in doing so should start looking for new ways to continue increasing revenue as the education sector is fast evolving.

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