

Commercial Ventures Revenue and Financial Performance of Public Universities in Kenya

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Abstract

The purpose of this study was to investigate the effect of commercial ventures revenue (CVR) on financial performance (FP) of public universities in Kenya. Resource Based View was used to support the variable in the study. The respondents were the finance officers and deputy finance officers of public universities in Kenya. A research approach which comprised of quantitative methods was adopted for this study. Structured questionnaires were used to collect data. The responses from the questionnaires were then coded and analyzed. A pilot study on the questionnaire was done in order to validate the questionnaire and correct any errors which may have been made. Secondary data was collected from published records. Data was screened to identify any missing data. The data was further tested for reliability by use of Cronbach's Alpha and Normality by use of One Sample Kolmogorov-Smirnov test, Kurtosis and Skewness test. T-test was used for preliminary tests. Pearson's correlation and multiple regression analysis were used for further analysis. The target population was the 74 middle level finance officers of public universities in Kenya. The sample size was 62 respondents obtained using Yamane's formula. The organized data from the quantitative sources was entered into the computer application package SPSS after which descriptive and inferential statistics were obtained. Descriptive statistics employed frequencies, percentages and standard deviations while, inferential statistics employed Pearson (product moment) correlation coefficient and multiple regression analysis. Findings from the study revealed that the independent variable studied that is, commercial ventures revenue had a statistically significant relationship with financial performance at 0.05 confidence level. The study concluded that CVR affect financial performance in public universities in Kenya. The study recommended that Kenyan public universities should continue investing in income generating activities through active involvement in entrepreneurship. Secondly, the public HEIs should invest in technology to enhance innovations and inventions in their finance systems. Finally, the Kenyan government should accord public universities necessary support through reducing interfering with the HEIs' internally generated revenue (IGR) to encourage autonomy and independence.

Date of Submission: 18-07-2020

Date of Acceptance: 03-08-2020

I. Introduction

1.1 Background of the Study

Average government financing to public universities in Kenya has declined over time. This is attributed to the rapid increase in student numbers that has not been matched by the corresponding increase in funding (Ministry of Education [MOE], 2018). Consequently, the costs of staff, learning and research materials, catering and accommodation services, and inflationary pressures have become an impediment to sustain the operations of these universities. To counter this trend of diminishing capitation from the treasury, public universities in Kenya have had to innovate into internal income generation activities through contract research, consultancies among others (World Bank, 2019).

Globally, the public higher education landscape has been affected by a number of significant events including budgetary cuts as a result of economic depression, spiraling operation costs and substantial increases in student enrolment (Mitchell, Leachman & Masterson, 2016). Ernst and Young (as cited in Ismail, Ahmad & Siraj, 2019) similar trends have been observed across developed and developing countries, implying that public HEIs around the globe currently operate in a highly turbulent environment.

Government subsidies to public universities are no longer enough making the funding of the sector one of the biggest concerns in Kenya (Nganga, 2017). Public universities are characterized with excessive inadequacy of infrastructure and facilities for teaching and research which has become an obstacle in the effective administration of Kenyan Universities (Odebero, 2010). The situation puts the management of universities under undue stress and as a result they are incapacitated in transforming the universities towards

effective teaching, research and community services. Similarly, management could hardly embark on capital or other sustainable development of their institutions; a situation which in turn has adversely affected capacity building and total development (Nganga, 2017).

The dwindling financial resources undermine the financial stability within the Kenyan public universities (Nganga, 2017). Among other things, sufficient funding is required to develop, maintain and equip teaching and learning facilities such as libraries, laboratories, classrooms and office space. Moreover, with ample financing universities are able to develop and constantly improve the quality of programs offered; to create a favorable living environment for students; to train and remunerate staff well. Unfortunately for Kenya, the dramatic expansion of enrolments in the public universities has occurred simultaneously with declining funding received from government through the (MOE, 2018).

The growth in the number of public universities in Kenya has been accompanied by an impressive growth in student enrolments (MOE, 2018). Over the years the overall number of students pursuing university education has grown very steadily (ICEF Monitor, 2015). There is strong indication that the government will no longer be able to fully finance public universities. Universities therefore have to reduce their dependency on the government as their sources of income as well as ensure more efficient and cost effective uses of institutional resources. They will also be required to establish comprehensive financial management systems that ensure efficiency in the application of resources (Odhiambo, 2011).

As an effort to address the mismatch that exists between the budgetary allocations and actual expenditures, various public universities in Kenya have put in place measures to generate extra revenue to supplement the inadequate government allocation. These include cost-recovery measures and introduction of commercial ventures such as shopping malls, funeral homes, industrial parks, rented-out property and provision of catering services (Nganga, 2014). Holding subsidiary entities have been established to manage these revenue enterprises. They include; The University of Nairobi Enterprise Services (UNES), Kenyatta University's Directorate of Revenue Generation and Enterprise Development, and Jomo Kenyatta University of Agriculture and Technology (JKUAT) Enterprise Limited (Nganga, 2014).

In the University of Nairobi the IGFs are used to compensate academic staff, paying medical services, utility bills and insurance and for general infrastructure improvement. Similarly, income-generating programs contribute funds to various sections of the Universities, including library maintenance and capital development funds (University of Nairobi, 2018). At Kenyatta University, one of the visible effects of these income-generating initiatives has been the renovation of the Nyayo Complex Hostel, which had been in a pathetic condition for several years. Other improvements that have been undertaken at KU include the provision of additional office space and the installation of perimeter fencing in the main sections of the University (Kenyatta University, 2018).

1.2 Statement of the Problem

Kenyan public universities are in dire financial situation. Even though the share of public expenditure going to higher education has grown in the recent years from 15.5 percent in 2013/14 to 22.7 percent in 2018/2019, representing a special effort from the government of Kenya, it has barely kept pace with the increase in the number of public universities (World Bank, 2019). The recent phenomenal growth in the number of universities necessitates the huge economic responsibility funding of higher educational institutions in Kenya. The implication is that it will be difficult, if not impossible, to continue increasing the volume of public resources allocated to higher education (World Bank, 2019).

This has led the vice chancellors of public universities to express their concern over a looming cash crisis that could have a negative impact on financial sustainability of HEIs (Nakweya, 2019a). In response to this public universities in Kenya have embarked on income generating activities in order to generate extra finances to the universities. The activities include revenue from self-sponsored programs, commercial ventures, marketing of research discoveries and other fund raising activities (CUE, 2019).

Despite IGR being used in our public universities, they still face financial challenges and this study therefore seeks to establish the effect of these IGR on financial performance of these institutions. It is against these background problems that this study sought to examine the effect of commercial ventures revenue on financial performance in public universities in Kenya as possible alternative to spearhead sustainable opportunities within these institutions. The response of the universities in the face of this mammoth financial challenge, on the other hand, is to seek legitimate initiatives that will produce laudable impact on self-funding and consequently upholding financial performance.

1.3 Study Objective

The objective of the study was to evaluate the effect of commercial ventures revenue on financial performance of public universities in Kenya.

1.4 Research Question

To what extent does revenue obtained from commercial ventures enhance financial performance of public universities in Kenya?

1.5 Research Hypothesis

H₀₁: There is no statistically significant effect of commercial ventures revenue on the financial performance of public universities in Kenya.

II. Literature Review

2.1 Theoretical Framework

Resource based view (RBV) provides useful conceptual tools for understanding organizational responses to financial challenges or austerity. The theory contends that in financial management, the fundamental sources and drivers to firm’s competitive advantage and superior performance are mainly associated with the attributes of their resources and capabilities which are valuable and costly to copy (Mills, Platts& Bourne, 2003). Wernerfelt (as cited in Namada, Bagire, Aosa&Awino, 2017) the RBV was initially proposed by Penrose and later developed by Wernerfelt. In his 1991 landmark paper, Barney (as cited in Namada et al., 2017) argued that to have the potential to generate competitive advantage, a firm resource must be valuable, rare, imperfectly imitable and non- substitutable.

The RBV is still one of the most debatable and successful theories in management studies (Nason&Wiklund, 2018). More specifically, the RBV argues optimal use of organizational resources for achieving a superior performance through sustainable competitive advantage (Raduan, Jegak, Haslinda and Alimin, 2009). Raduan et al. (2009) are of the view that though RBV has had its critics, it is still relevant and valid in conceptually explaining and underpinning the notion of firm’s sustainable competitive advantage. Hence by resources, researchers could further explore empirical evidence on these factors’ impact and effect on firms’ competitive forces (Raduan et al., 2009). Then only the strength of the RBV could be enhanced via acknowledging that resources are dynamic in nature, and a firm’s deployment of its resources in creating and sustaining its advantage might also contextually differ from one firm to another though the basis of RBV being the resources having the criteria of value, rareness, inimitability (VRIN) continue to be the relevant and valid conceptual foundation (Nason&Wiklund, 2018).

Abubakar and Hilman (2017) assert that RBV provides an avenue for an organization to plan and execute its organizational strategy through examining the position of its internal resources and capabilities. Through Resource based view, the HEI is in position to deploy its internal resources and hence develop a unique capability enabling its performance to increase. Internal factors like effective management of resources and great relationship with stakeholders can lead to competitive advantage and accomplishment of the university’s objectives (Abubakar&Hilman, 2017).

2.2 Conceptual Framework

The variables under study have been represented diagrammatically to show the relationship between them by illustrating the influence of the independent variable on the dependent variable in order to give coherence to this report. This study had financial performance as the dependent variable and commercial ventures revenue as the independent variable as depicted by figure 1.

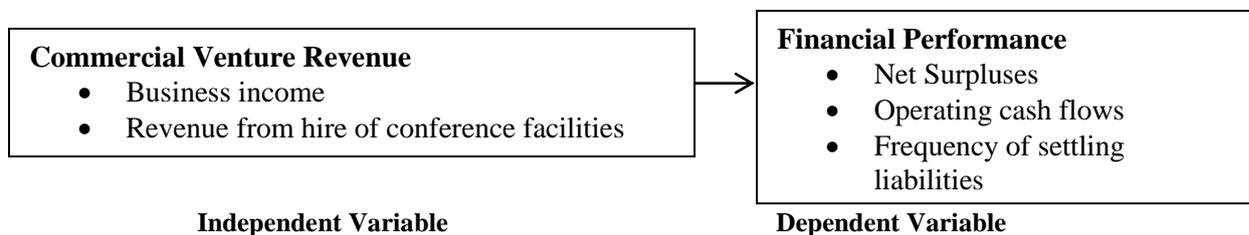


Figure 1. Conceptual Framework

2.3 Empirical Review

Munene and Otieno (2015) studied on the commercial lives of public universities in Kenya and Uganda. The study found out that many public universities have opted to source revenue from the marketplace. The extent of marketization has been evident in the privatization and commercialization of academic activities in public universities. The study concluded that marketization has enabled universities to generate revenue for facilities construction and maintenance, supplement academic salaries, and allow for university autonomy from the national governments.

Ofoegbu and Alonge (2016) designed a descriptive survey to identify the major sources and utilization of internally generated financial revenue by Nigerian university administrators. The analysis revealed that

commercial ventures were among the main sources of IGR while the proceeds were used for services including staff welfare, maintenance of facilities and beautification of the university premises. The foregoing results from the study attest that IGR performs a prominent role in the infrastructural development of universities. Findings of the study revealed a negative and significant relationship between IGR and amount spent on infrastructural development in public universities.

In the same vein, Afutu (2015) explored the sources, challenges and sustainability of internally generated funds at University of education, Winneba. The findings of the study showed that most of the sources of IGR for the university can be sustainable by commercialization of departmental activities. The study concluded that in order for the university to increase revenue from its commercialized activities, the university can develop new marketing strategies to attract the public to buy into its commercial and other revenue generation activities. The study recommended that management of universities ought to devise sound measures that would ensure that IGR sources that contribute substantial amount of revenue such as sale of farm activities, are improved upon and efficiently managed for long term sustainability.

III. Methodology

3.1 Research Design and Sample

The study used quantitative techniques of which structured questionnaires were employed. The target population in this study comprised of all the finance officers and deputy finance officers of the public universities. Two officers were selected from each of the public universities to yield a target population of 74 officers. A sample size of 62 respondents was then arrived at using Yamane’s formula. Forty eight responses were returned, which represents 77.4 % of the population.

3.2 Data Processing and Analysis

Data for this study was entered into the application package SPSS after which Descriptive and Inferential Statistics were obtained. Descriptive statistics such as maximum, minimum, means, standard deviations, and variance were obtained. Inferential statistics employed Pearson correlation coefficient and multiple regression analysis. The multiple regression models were adopted. The research model for this study was as shown below;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where Y= Financial Performance

β_0 = Constant

β_1 = Regression coefficient

X_1 = Commercial ventures revenue

ε = Error term

IV. Research Findings

4.1 Diagnostic Tests

The main tests that were conducted include normality, multi collinearity and autocorrelation. The results of these tests are presented in the following sections;

4.1.1 Data Normality

So as to establish whether the distribution of the study was normally distributed, one sample Kolmogorov-Smirnov test, Skewness and Kurtosis tests were adopted. Tables 4.1, 4.2 and 4.3 show the results.

4.1.1.1 One sample Kolmogorov-Smirnov Test

Kolmogorov-Smirnov test is a test used to check if a dataset is from a particular distribution. It is a non-parametric test and is applicable for continuous distribution (Greener, 2008).The overall result of Kolmogorov-Smirnov test using normalized Z-statistics as indicated in table 4.1 below revealed that data on commercial ventures revenue (p-value = 0.431) and financial performance (p-value = 0.252) followed a normal distribution since all the p-values of the variables under study are greater than the one set at $p > 0.05$. To further ensure stronger assessment of data normality, skewness and kurtosis were performed.

Table 4.1 Normality – One sample Kolmogorov Test

Measurements		CVR	FP
N		48	48
Normal Parameter ^a	Mean	4.4257	3.2366
	Std. Deviation	0.77259	0.77169
Most Extreme Differences	Absolute	0.178	0.087
	Positive	0.121	0.056
	Negative	-0.178	-0.087
Kolmogorov-Smirnov Z		2.076	1.017
Asymp. Sig. (2tailed)		0.431	0.252

4.1.1.2 Skewness and Kurtosis Tests

Table 4.2 Normality - Skewness and Kurtosis tests of Commercial Ventures Revenue on Financial Performance

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CVR	48	3.8349	.66696	-.400	.260	.360	.514
Valid N (listwise)	48						

The results in table 4.2 above depicted that skewness had Z-scores of -0.400 whereas kurtosis had Z-scores of 0.360 for commercial ventures revenue and thus the Z-scores were lower than 3.3. The study data of the commercial ventures revenue was therefore normally distributed and could be subjected for further analysis.

Table 4.3 Normality – Skewness and Kurtosis Tests for Financial Performance

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Financial Performance	48	3.9850	.68214	-.667	.260	.558	.514
Valid N (listwise)	48						

4.1.2 Test for Autocorrelation

The Durbin-Watson statistic was used to measure the autocorrelation of errors over the sequence of cases. Table 4.4 presents the results for testing autocorrelation.

Table 4.4 Durbin-Watson (Autocorrelation) Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.860 ^a	.740	.734	.35520	1.964

a. Predictors: (Constant), Commercial Ventures Revenue

The findings in table 4.4 revealed that the Durbin-Watson value is 1.964 which indicates that the observations under the study were independent thus suggesting lack of autocorrelation among variables.

4.2 Correlation Results of Commercial Ventures Revenue and Financial Performance

The study employed correlation techniques to assess the association between the independent variable i.e. commercial ventures revenue and the dependent variable i.e. financial performance with Karl Pearson correlation coefficient (rho) which gives a statistic that lies between -1 and +1. Table 4.5 below shows Pearson correlation results for the relationship between the effect of commercial ventures revenue components and financial performance among public universities in Kenya.

Table 4.5 Correlations Results

Variable		Financial Performance	Commercial Ventures Revenue
Financial Performance	Pearson Correlation		1
	Sig. (2-tailed)		
	N	48	
Commercial Ventures Revenue	Pearson Correlation	.860	1
	Sig. (2-tailed)	.000	
	N	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

The findings show a positive relationship between commercial ventures revenue and financial performance. There was a strong correlation between commercial ventures revenue and financial performance (r = 0.860). Commercial ventures revenue was significant at 0.05 level of confidence.

4.3 Regression Results

4.3.1 Regression Model Summary

Table 4.6 below shows the model summary for commercial ventures revenue. The R square for commercial ventures revenue is 0.551 which is not significantly different from the adjusted R square of 0.552. This implies that commercial ventures revenue explain 55.1% of variance in the dependent variable i.e. financial performance as represented by R². It therefore means that other variables not included in this study contribute

44.9% of variance in financial performance. This means that commercial ventures revenue is an important factor in financial performance.

Table 4.6 Model Summary for Commercial Ventures Revenue

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742 ^a	.551	.552	3.0594

a. Predictors: (Constant), Commercial Ventures Revenue

4.3.2 Summary Analysis of Variance (ANOVA)

Table 4.7 reports the summary ANOVA and F statistic which reveals the value of F (35.642) being significant at 0.05 confidence level.

Table 4.7 Summary ANOVA for Commercial Ventures Revenue

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	18.625	2	9.313	35.642	.000 ^b
Residual	21.686	83	.261		
Total	40.311	85			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Commercial Ventures Revenue

The value of F is large enough to conclude that commercial ventures revenue was contributing to the variance in financial performance. The p-value of 0.000 implies that financial performance among public universities in Kenya has a significant joint relationship with commercial ventures revenue.

4.3.3 Regression Coefficient Results

Regression analysis was conducted to empirically determine whether commercial ventures revenue measures have significant influence on financial performance of public universities in Kenya. Table 4.8 displays the regression coefficient of the independent variable of the study. Commercial ventures revenue (supported by $\beta = 0.730$, p-value = 0.000) was statistically significant in explaining financial performance in public universities in Kenya.

Table 4.8 Coefficient of the independent variable

Model	Variable	Unstandardized Coefficients		Standardized coefficients		Sig.
		Beta	Std. Error	Beta	t	
1	(Constant)	.372	.263		1.374	.003
	CVR	.730	.099	.765	7.910	.000

From the regression results, the substitution of the equation;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Becomes:

$$Y = 0.372 + 0.730X_1$$

Where; Y = Dependent Variable (Financial Performance)

X₁ = Commercial Ventures Revenue

According to the model, the independent variable constant at zero, impact of financial performance will be at 0.372. The findings also show that a unit improvement in commercial ventures revenue will lead to 0.730 increase in financial performance. The implication of these findings is that commercial ventures revenue has a role in explaining financial performance in public universities in Kenya.

V. Conclusions and Recommendations

The study results indicate that commercial ventures revenue has a significant and positive effect on financial performance of public universities in Kenya. The regression results reveal statistically significant positive linear relationship between CVR and financial performance of public universities in Kenya. This was attributed by public HEIs setting up commercial ventures such as funeral homes and farming activities to facilitate revenue generation. It can therefore be concluded that commercial ventures revenue greatly affects the financial performance of public universities in Kenya. The study recommended that Kenyan public HEIs should continue investing in income generating activities through active involvement in entrepreneurship. Secondly, the public HEIs should invest in technology to enhance innovations and inventions in their finance systems. Finally, the Kenyan government should accord public universities necessary support through reducing interfering with the HEIs' internally generated revenues to encourage autonomy and independence.

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Ruth Mayaka, et. al. "Commercial Ventures Revenue and Financial Performance of Public Universities in Kenya." *IOSR Journal of Business and Management (IOSR-JBM)*, 22(8), 2020, pp. 01-07.