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Contribution of Satellite Campuses Financial Accountability and Resource Allocation on Financial Sustainability of Public Universities in Kenya

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Abstract

This study sought to determine the contributions of satellite campuses on financial sustainability of public universities in Kenya. The specific objectives will be to examine how financial accountability and effective management contribute to financial sustainability of public universities in Kenya. The study adopted descriptive survey research design. The target population was 176 selected staff of public universities in Kenya of which all of them were used in the study. The study adopted both descriptive analysis and for inferential statistical analysis data was cleaned coded and correlation analyses done the findings were financial accountability was positively correlated and significant $p < 0.0$. For regression also financial accountability as well as resource allocation and effective management had a positive relationship with financial sustainability. R squared was 0.731 therefore financial accountability and resource allocation explained 73.1% of variance in financial sustainability. Moderation was established using hierarchical regression, when the interaction terms of the moderator were added the value of R squared changed from 73.1% to 79.4% thus effective management and leadership had moderating effects on the relationship between financial sustainability and contribution of satellite campuses. Thus universities should mobilize resources from development partners and focus on recovering full economic costs and investing in its infrastructure including human, intellectual and physical adequately to maintain future productive capacity to deliver its strategic plan and serve its customers.

Keywords: Satellite Campuses; Financial Sustainability; Financial Accountability; Effective Management; Public Universities; Resource Allocation

JEL Classifications: G17; G21

Introduction

To be financially sustainable, a company must be able to meet its yearly budgets without a hitch. It signifies that an organization's income or revenue is larger than its operating expenditures. (Ralph & Stubbs, 2014). Financial sustainability is paramount for the functionality and long-term survival of any organization and cannot be overemphasized (Rezaee, 2016). It has often been assumed that financial strength amounts to financial sustainability which alone is insufficient over time. Mutinda and Ngahu (2016) noted that key attributes to financial sustainability are sound financial practices, active fund management, planning, ability to innovate, and infrastructure development.

Financed sustainability refers to the fact that public universities make more income than they spend on educational services (Denneen & Dretler, 2012). To put it another way, these colleges and universities produce more money than they need to pay their staff's salary in addition to purchasing instructional materials and services. Nonetheless, the percentage of public universities that achieve financial sustainability remains very low as they are faced with myriad of challenges especially in the twenty-first century, that include but not limited to increased competitive market, a globalized economy, and the inability of obtaining critical funds to carry out the necessary activities to fulfil their mission affecting their financial sustainability and creating or making them continue to have a government or donor dependent vision (ICAEW, 2014). They need to employ more sophisticated methods to ensure financial sustainability as their survival depends on the ability to achieve this goal.

Many universities are starting to create satellite campuses remote from their main campuses in order to expand their educational offerings. This is a technique to increase financial sustainability. Colleges and universities often build satellite campuses to meet the educational requirements of a more remote location (Xiang & Worthington, 2017). Satellite campuses, as they're referred to, disperse a portion of an existing university's operations to other parts of the country. In addition to providing educational services to individuals who do not have proper access, there is an additional observation of the desire to build one's institution's presence abroad so that the main campus is financially viable. Wherever Singaporeans have lived, the National University of Singapore has set up satellite campuses in countries such as India, China and the United States, while Monash University in Australia has also set up branches. (Trumpp & Guenther, 2017). By situating campuses close to their target populations, public institutions in Kenya have sought to make university education more accessible. Because to JKUAT's Continuous Education Program (CEP), it has become possible for students to take courses at colleges and universities situated all around Kenya. Regional Extra-Mural Centers are located in Mombasa, Kisumu, Kakamega, Nyeri, and Nakuru, where the University of Nairobi's College of Education and External Studies conducts its educational outreach programs. For its online education programs, Kenyatta University has also established regional centers in all eight of the country's regions. Campus centers have also been established up in nearby towns, such as Nakuru and Eldoret, by institutions situated distant from metropolitan regions (such as Egerton and Moi University). Maseno University has Nairobi Campus, Kisumu Campus and Homabay Campus. Masinde Muliro University of Science and Technology (MMUST) had five campuses including Webuye, Bungoma, Ebunagwe and Nambale among others.

Six Kenyan universities have negative working capital, according to an audit report from the Office of the Auditor General in November 2018. Maseno, Kisii, Dedan Kimathi and Pwani are among the institutions that are in a hazardous financial position.

According to the committee's recommendations, public universities should be given a long-term funding plan by the National Treasury and the Ministry of Education, Science, and Technology. This is despite the universities' income from self-sponsored programs commonly known as parallel programs, according to the same report that was debated and adopted by the National Assembly. Some universities are functionally bankrupt, with current liabilities surpassing total current assets. Other institutions functioned in deficiencies during the period under review. This raises the possibility that there is an underlying concern with the university's financial sustainability.

There has been a growing shift from the traditional funding model for public universities, which were mainly funded by the government through the national treasury and other donors, towards a funding system that uses an entrepreneurial model that raises revenue from income generating activities. This has seen all public universities in Kenya opening satellite campuses in various parts of Kenya with sole purpose of boosting revenue streams. However, as of 2019, reports from Auditor General have indicated that most of the public

universities are unable to meet their financial obligations such as payment of lecturers and statutory levies to Kenya Revenue Authority (Gok, 2019). The commission of University Education indicated some universities had failed to periodically demonstrate that they were financially sustainable even after expanding their income generating units through satellite campuses. The situation has been made worse due to negative impacts of COVID 19 pandemic as well as decrease in numbers of the self-sponsored student admissions courtesy of the 100% government absorption. This has seen some of the universities drastically reducing the number of satellite campuses in the country as they were deemed both financially and scholarly unsustainable. This implies that the state of financial sustainability of universities in Kenya is under threat (Charo, Okiya & Zaafrane, 2019).

Both local and international studies among them Prowle (2010), Chiemeka and Nwagwu (2015) and Mittulah and Nguri (2012) have attempted to examine the financial sustainability in public universities in various contexts. However, the studies failed to effectively address the subject of sustainability in satellite campuses which brings a new enterprise management dimension in the context of public universities. Chelangat (2018) and Milelu (2018) recommended that further study should be done on other determinants of financial sustainability while Wachira (2018) recommended further studies to be conducted in other state owned entities especially non-commercial entities. Mohamed and Muturi (2017) recommended that further study to be undertaken using secondary data to evaluate the factors that determine their financial sustainability. Ng'ang'a and Kibati (2016) recommended that further study should investigate determinants of financial sustainability in universities in Kenya. Therefore, the study sought to fill the existing gaps by examining contribution of satellite universities towards financial sustainability.

Objectives of the Study

- i) To examine how financial accountability of satellite campuses contributes to financial sustainability of public universities in Kenya.
- ii) To assess how resource allocation of satellite campuses contribute to financial sustainability of public universities in Kenya.
- iii) To determine the moderating effective management and leadership on the relationship between financial accountability and financial sustainability of public universities in Kenya.

Literature Review

Hypothesis development based on literature findings

Akeel et al (2019) undertook a research on integration between financial sustainability and accountability in higher education institution an explanatory case study in Iraq. The results showed that education institutions were not financially sustainable and do not have financial stability in the short run. Thus there was financial deficit which was an inevitable consequence of lack of financial and administrative authority. Financial accountability and financial sustainability had a positive relationship thus interdependent. Chelegat (2013) in her paper accountability and financial sustainability of non-governmental organization in Nairobi, the study applied descriptive research design. The findings were financial accountability variables had a positive correlation with financial sustainability. For regression results the value of R squared =0.503 this showed that financial accountability variables explained 50.3% of variance in sustainability non-governmental organization in Nairobi. Financial planning had a beta co-efficient of 0.291; financial monitoring and evaluation 0.287 and financial control 0.464 all of which were significant as $p < 0.05$.

Mwangi (2013) researched on effects of financial accountability on the efficiency of non-governmental organizations in Nairobi County. The findings were for correlation accountability had a positive and significant relationship with efficiency p value < 0.01 , the value of R squared was 0.221 which meant that accountability explain 22.1% of variance in the dependent variable efficiency. Mwaura (2013) in his research on effects of accountability on the performance of non-governmental organisations in Kenya, the study adopted stratified sampling design and 52 respondents were selected from a population of 173 NGOs. The study findings were the value of R squared was 0.742 implying that accountability explained 74.4% of variance in performance. Accountability was positive and significant $p < 0.05$. Nganga (2013) his research determinants of financial sustainability in private middle level colleges in Nakuru one of the independent variable was financial accountability. The findings were financial accountability was found to be positive and statistically significant relationship with financial sustainability of private middle level colleges in Nakuru County $r = 0.494$ $p < 0.05$ thus the more accountable the staff were with college finances the greater the institution financial

sustainability. Financial accountability was ensured through financial audit, financial controls and tracing of resources.

H01: Financial accountability of satellite campuses has no significant contribution to financial sustainability of public universities in Kenya.

According to Shuqair and Abdel-Aziz (2015), effective and strategic use of resources is essential to Jordan's long-term growth. As a consequence of the findings, it is clear that the allocation of resources in Jordan is based on a priority system rather than a hierarchical one, and that new adaptive global ideas are needed to ease the existing resource allocation situation in Jordan. Public sector management in Kenya was explored by Gakuru and Mungania (2016). Studying how budget allocation affects public sector management in government agencies was a primary goal of this research project. The results showed that the government departments' budgetary allocations were insufficient, therefore they were unable to utilize their budget plans successfully. There is need for better resource allocation to have the decentralization of the department activities and accountability of resource allocation of the public funds. China's small and medium-sized businesses were studied by Qi (2010), who found that the budgeting process had an influence on their performance. Formal budgeting has a favorable impact on the firm's performance, as was shown in this study. An increase in sales income and an increase in staff incentive to meet budget criteria were both a result of more organized budgeting planning. Because of management control, a more structured budgetary control tends to lead to a larger rise in profit for a corporation.

According to Kpedor (2012), Allterrain Services Group in Ghana's budgeting, budgetary management, and performance assessment system all play an important part in the company's success and sustainability. A lack of adequate induction and correct role profile of office inhabited by important players has resulted in a poor use of resources, which has a negative impact on the organization's bottom line. Nganga and kabati (2013) in their research determinants of financial sustainability in private middle level colleges in Nakuru one of the independent variable was financial accountability. The findings were resource allocation had a moderate positive and significant relationship with financial sustainability $r=0.620$ $p< 0.05$. The findings implied that better and more resource allocated to various vote head of colleges the better institutions financial sustainability.

H02: Resource allocation of satellite campuses has no significant contribution to financial sustainability of public universities in Kenya. They found that transformational leadership may help to strike a balance between building human capital and innovating the firm. This research used quantitative and a survey to gather data from public sector personnel in Abu Dhabi in order to attain this goal. The quantitative data was analyzed using descriptive and inferential statistics. Transformative leadership moderates the link between human capital and organizational innovation, according to this research. Transformative leadership has been shown to have a significant impact on the link between organizational resources and employee engagement in Kenya (Gathumbi, 2020). All 397 workers and department heads within the Directorate of Operations and Quality Assurance in Nairobi County were included in the study's target population. Organizational resources were shown to have an exact 3.283 correlation coefficient with employee commitment in the research.

Researchers from Jordan's Amman Stock Exchange, Habtoosh and Al-Qutop, studied the link between resource mobilization and Organizational Effectiveness in food companies listed there. There was a statistically significant association between organizational effectiveness and resource mobilization, and there was a statistically significant relationship between organizational effectiveness and managerial leadership style in food companies listed on the Amman Stock Exchange. There is a lack of research on the role of leadership styles in the link between staff engagement and bank performance in Kenya, thus Marwa, Namusonge, and Kilika (2018) set out to fill in the gaps. According to the findings of a research conducted in Kenya, employees' commitment to a commercial bank's performance is influenced by the leadership style's ability to inspire them and motivate them.

Leaders' ability to influence the link between resource management and performance was investigated by Yeh, Yuan, Chen, and Wan (2016). DEMA was used to calculate the efficiency of a project. Tobit regression was utilized in the study. Under initiating leadership, resource management was shown to be linked to increased efficiency. Only openness can boost the efficiency of leaders under a high initiating structure and a low consideration leadership style. Management leadership conduct was explored as a possible moderator of financial responsibility and organizational success by Vieira, Perin and Sampaio in 2018. Surveys were sent to 341 consumers of the major retail firms to gather information. The findings showed a link between an

organization's performance and its financial responsibility. But the influence of the manager's leadership on the link between the independent and dependent variables is negligible.

H03: Effective management and leadership has no moderating effect on the relationship between financial accountability and financial sustainability of public universities in Kenya.

Financial sustainability has gain credence among public universities due to dwindling of government capitation. This has forced public universities to relook at their resource mobilization practices so as to enhance their financial sustainability. Few studies have examined relationship between financial accountability, resource allocation and financial sustainability. However, very few have examined relationship between financial accountability, resource allocation and financial sustainability in public universities in Kenya. Akeel et al (2019) focused on integration between financial sustainability and accountability in higher education institution an explanatory in Iraq while Nganga (2013) did similar study in Kenya but focusing on middle level colleges. Chelegat (2013) as well as Mwangi (2013) and Mwaura (2013) examined financial accountability and financial accountability among Non-Governmental Organization. Resource allocation has attracted attention of researchers like Shuqair and Abdel-Aziz (2015) in Jordan, Qi (2010) in China, Kpedor (2012) in Ghana, Gakuru and Mungania (2016) in public sector management in Kenya while Nganga and kabati (2013) in private middle level colleges in Nakuru, Kenya. Few studies have focused on moderation influence of effective leadership and/or management; however, none of the studies have focused on resource allocation and financial accountability as independent variables and financial sustainability as dependent variable (Alseiri, Sidek & Al-Shami, 2019; Gathumbi, 2020; Habtoosh & Al-Qutop, 2021; Marwa, Namusonge & Kilika, 2018). Yeh, Yuan, Chen and Wan (2016) examined the moderating effect of leadership on the relationship between resource management and performance. Vieira, Perin and Sampaio (2018) examined moderating effect of managers' leadership behavior on financial accountability and organizational performance. The role of effective leadership and management on financial accountability, resource allocation and financial sustainability has not attracted required attention from researchers. Therefore, this study has made significant contribution on the literature regarding moderating role of effective management and leadership on the contribution of satellite campuses towards financial sustainability of public universities in Kenya.

Methodology

Researchers used a descriptive survey methodology that presupposes a wide range of world beliefs (Creswell, 2006). Scientific methods are used in descriptive survey research to critically analyze and scrutinize source materials, interpret data and arrive at generalizations and predictions based on the results of the survey (Neeru, 2012). The target population for this study was 176 respondents from the 22 public universities in Kenya and their constituent colleges as at July, 2020. Therefore the study specifically focused on public universities established since 2015 which have at least one satellite campus. From the target population, revenue accountants, finance officers, payroll accountants, management accountants, internal auditors, expenditure accountants, IGU Directors and university management staff (Vice-Chancellors and Deputy Vice-Chancellors Finance) to provide primary information for the study. Since all respondents in the 176 public universities were involved in the study and being the unit of analysis.

The study utilized primary data collected using questionnaire. The questionnaire will be based on 5 point likert scale, 5-strongly agree 4-agree, 3-fairly agree, 2-disagree and 1-strongly disagree. The interviews will be scheduled with VCs and DVCs Finance to gather detailed information on financial sustainability of the universities. Secondary data collected from audited financial statements of chartered public universities in Kenya. The published reports will be obtained from the individual institutions and Auditor General Reports. The data will be secondary and will be based on published annual reports covering a period of six years from 2015 to 2020. Pilot study was done to ascertain the validity of the research instruments. Pilot study was conducted randomly to choose the pilot university in Kenya. Content validity was used to determine the reliability of the research instrument in this study. The questionnaire's content validity was employed as a measure of how well the data obtained from it reflects the study's goals. Cronbach alpha was used to ensure reliability.

The Statistical Package for Social Sciences (SPSS) Version 24 software was used to analyze the data gathered. The data was analyzed both descriptively and inferentially. Descriptive analysis constituted percentages, means and standard deviations of the scores on items in the study variables in order to obtain the basic trends of the data. On the other hand, inferential analysis was in form of both correlation coefficient

and multiple regression analysis (Kothari 2004). Factor analysis was done to test the suitability of the test items where a variable had many observed constructs. In factor analysis communalities show the extent which a test item correlates with all other test item. The research hypotheses were tested at 0.05 level of significance (95% confidence level). The findings were presented in form of descriptive and inferential statistical tables. The regression model below was further employed to guide multiple regression analysis of the collected data.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon \dots \dots \dots \text{Unmoderated regression Model}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z + \beta_4 X_1 * Z + \beta_5 X_2 * Z + \epsilon \dots \dots \dots \text{moderated regression Model}$$

Where:

Y= Financial sustainability for university

α = regression constant derived from the y-intercept

β_1 to β_4 = regression coefficients,

X_1 = Financial Accountability

X_2 = Resource Allocation

Z = Effective Management and Leadership

$X_1 * Z$ = Interaction of Financial Accountability and Effective Management and Leadership

$X_2 * Z$ = Interaction of Resource Allocation and Effective Management and Leadership

ϵ = error term.

Findings

Preliminary Findings

One hundred and seventy six questionnaires were distributed to respondents who were, revenue accountants, finance officers, payroll accountants, management accountants, internal auditors, expenditure accountants, IGU Directors and university management staff. One hundred and five surveys were returned, representing a response rate of 59.7%, whereas 71 questionnaires were not returned, accounting for 40.3 percent of the total questionnaires issued. According to Mugenda & Mugenda (2004), a response rate of greater than 50% is sufficient for analysis.

A pilot study was conducted to ensure that the test items utilized in primary data collecting were reliable. For reliability testing, Cronbach alpha was used for each variable, with a range of 0.713 to 0.824, and a Cronbach alpha statistic of 0.7 or greater was deemed trustworthy in this research. As stated in Table 1, the test items were kept and utilized in this research, making them dependable.

Table 1: Reliability Tests

Variable	Cronbach's Alpha	Number of items
Financial Accountability	0.889	9
Resource availability	0.949	9
Efficient management	0.938	11
Financial sustainability	0.934	11

Factor analysis

Factor analysis was undertaken on all a variables to determine the suitability of the variables the KMO measure of sampling adequacy for all the variables were in the range of 0.5 to 1.0 that showed that factor analysis was adequate.

Table 2: KMO and Bartlett's Test

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.757
Bartlett's Test of Sphericity	Approx. Chi-Square		5441.46
	Df		22
	Sig.		.000

Table 2 presents the results of a Kaiser-Meyer-Olkin (KMO), this measures sampling adequacy which examine appropriateness for the use of factor analysis. A range of 0.5 – 1.0 in KMO indicates the use of factor analysis is appropriate (Tanasă. Horomnea & Ungureanu, 2012). The KMO value of 0.757 signified factor analyses was appropriate for this research. Considering Bartlett's test of sphericity the chi-square value was 5441.468 with a p value of .000 which was significant at 99% confidence this showed that items used in the study, independent and dependent variables were correlated

Descriptive Statistics for Financial Sustainability

Descriptive analysis included an assessment of the financial Sustainability. Table 3 summarized the findings.

Table 3: Descriptive analysis for Financial Sustainability

Financial Sustainability		5	4	3	2	1
1	Satellite campuses set adequate allocation of financial resources for all planned activities	2.9	20.6	38.2	29.4	8.8
2	Satellite campuses ensure that projects are completed in time according to the planned budget and schedule	2.9	14.3	28.6	40	14.3
3	Satellite campuses have enough money for all contingencies	2.9	0	20	40	37.1
4	Satellite campuses often calculate the asset replacement ratio to show if assets are replaced after attaining their useful life	2.9	8.6	20	37.1	31.4
5	Satellite campuses often calculate ratio to inform on financial sustainability	2.9	11.8	20.6	41.2	23.5
6	The operational surplus ratio is commonly used as a measure of long-term financial viability for satellite campuses.	2.9	11.4	25.7	37.1	22.9
7	Satellite campuses have accumulated less obligations in the most recent 2 years contrasted with the past	5.7	31.4	17.1	25.7	20
8	Satellite campuses dependably have enough cash for all possibilities	5.7	2.9	17.1	37.1	37.1
9	Satellite campuses have well arrangement on reserve maintainability	5.7	14.3	14.3	37.1	28.6
10	In satellite campuses, financial and cost management training is provided to managers.	8.6	25.7	22.9	22.9	20
11	Monitoring and reporting systems have been put in place at satellite campuses as a result of this.	8.6	31.4	20	17.1	22.9

Financial sustainability on whether Satellite campuses set adequate allocation of financial resources for all planned activities 2.9% strongly agreed 20 % agreed, 37.1 % fairly agreed also 29.5 % disagreed on it and 8.6 % strongly disagree. When asked whether Satellite campuses ensure that projects are completed in time according to the planned budget and schedule 2.9% strongly agreed, 20 % fairly agreed also 40 % disagreed on it and 37.1 % strongly disagree, thus 77.1% disagreed with the statement and on whether Satellite campuses have enough money for all contingencies 2.9% strongly agreed, 20% fairly agreed also 40 % disagreed on it and 37.1 % strongly disagree, For the statement satellite campuses often calculate the asset replacement ratio to show if assets are replaced after attaining their useful life 2.9% strongly agreed, 8.6 % agreed 20% fairly agreed also 37.1 % disagreed on it and 31.4 % strongly disagree.

Satellite campuses often calculate ratios to inform on financial sustainability 2.9% strongly agreed, 11.8 % agreed 20.6% fairly agreed also 41.2 % disagreed on it and 23.5 % strongly disagree, thus 67.7% disagreed with the statement, while on the statement Satellite campuses often calculate the operating surplus ratio to measure ability to fund ongoing operations over the long-term 2.9% strongly agreed, 11.4 % agreed 25.7% fairly agreed also 37.1% disagreed on it and 22.9 % strongly disagree, thus 60 % disagreed with the statement, While for the statement Satellite campuses have accumulated less obligations in the most recent 2 years contrasted with the past 5.7% strongly agreed, 31.4 % agreed 17.1% fairly agreed also 25.7% disagreed on it and 20 % strongly disagree.

Satellite campuses dependably have enough cash for all possibilities 5.7% strongly agreed, 2.9 % agreed 17.1% fairly agreed also 37.1% disagreed on it and 37.1% strongly disagree thus can be seen that 74.2 disagreed with the statement. While for the statement satellite campuses have well arrangement on reserve maintainability 5.7 % strongly agreed, 14.3 % agreed 14.3 % fairly agreed also 37.1% disagreed on it and 28.6 % strongly disagree thus 65.7% disagreed with the statement., For the question on whether the managers are trained in financial management and cost management in satellite campuses 8.6% strongly agreed, 25.7 % agreed 22.9% fairly agreed also 22.9% disagreed on it and 20 % strongly disagree. For the last question on whether Satellite campuses have a monitoring and reporting system is in place 8.6 % strongly agreed, 31.4 % agreed 20% fairly agreed also 17.1% disagreed on it and 22.9 % strongly disagree.

Inferential analysis

Inferential analysis was done to identify the link between the variables of the research. The study carried out inferential analysis utilizing regression analysis to establish Correlation coefficient (R), R square and regression coefficient.

Linear Regression Analysis

Table 4: Financial accountability Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. Change	F
1	.804 ^a	.646	.642	.52314	.646	187.859	1	103	.000	1.820
a. Predictors: Financial_Accountability										
b. Dependent Financial_Sustaianability										
Model	Sum of Squares			Df	Mean Square		F	Sig.		
1	Regression	51.413		1	51.413		187.859	.000 ^b		
	Residual	28.189		103	.274					
	Total	79.602		104						
a. Dependent Variable: Financial_Sustaianability										
b. Predictors: (Constant), Zscore (Financial_Accountability)										
Model	Unstandardized Coefficients			Standardized Coefficients		T	Sig.	Collinearity Statistics		
	B Std. Error			Beta				Tolerance VIF		
1	(Constant)	2.435	.051			47.68	.000			
	Financial Accountability	.703	.051	.804		13.70	.000	1.000	1.00	
a. Dependent Variable: Financial_Sustaianability										

From regression above the value of R square was 0.646 this shows that financial accountability explains 64.6 percent of variance in financial sustainability, the value of R was 0.804 this showed that the strength of the relationship was strong and positive. The model for financial accountability had a p value <0.01 which means its significant hence feasible. The model is feasible as it was significant (p<0.05). From the table above showed that financial accountability was positively correlated to financial sustainability (p <0.01) and it was significant at 99% confidence level thus increase in financial accountability makes financial sustainability to increase this is consistent to findings of (Chelegat, 2013, Mwangi, 2013, and Mwaura, 2013) the regression equation for accountability was

$$Y_{\text{SUST}} = \beta_0 + \beta_{\text{FAccount}} + \epsilon$$

The regression becomes $Y_{\text{SUST}} = 2.435 + .703 \text{ FAccount}$

Table 5: Resource Allocation Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Change Statistics					Durbin-Watson
						R Square Change	F Change	df1	df2	Sig. Change	F
1	.798 ^a	.638	.634		.529272	.638	181.16	1	103	.000	2.030
a. Predictors: (Constant), RESOURCE_ALLOCATION											
b. Dependent Variable: FINANCIAL_SUSTAIANABILITY											
Model		Sum of Squares	Df	Mean Square	F	Sig.					
1	Regression	50.748	1	50.748	181.160	.000 ^b					
	Residual	28.853	103	.280							
	Total	79.602	104								
a. Dependent Variable: FINANCIAL_SUSTAIANABILITY											
b. Predictors: (Constant), Zscore(RESOURCE_ALLOCATION)											
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.	Collinearity Statistics				
							Tolerance	VIF			
1	(Constant)	2.435	.052		47.134	.000	1.000	1.000			
	RESOURCE_ALLOCATION	.699	.052	.798	13.460	.000	1.000	1.000			
a. Dependent Variable: FINANCIAL_SUSTAIANABILITY											

From regression above the value of R square was 0.638 this shows that resource allocation explains 63.8 percent of variance in financial sustainability, the value of R was 0.798 this showed that the strength of the relationship was strong and positive. The model for regression of resource allocation on financial sustainability had a p value <0.01 which means its significant hence feasible. From the table above showed that resource allocation was positively correlated to financial sustainability (p <0.01) and it was significant at 99% confidence level thus increase in resource allocation makes financial sustainability to increase this findings are similar to (Gakuru & mungania 2016, shuqair & abdel –aziz 2015), the regression equation for accountability was

$$Y_{SUST} = \beta_0 + \beta_{RALLOC} + \epsilon$$

The regression becomes $Y_{SUST} = 2.435 + .699 F_{ACCOUNT}$

Hierarchical regression

Table 6: Hierarchical regression for Model Summary

Model	R	R Squar	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df 1	df2	Sig. Change	F	Durbin Watson
1	.050 ^a	.002	-.007	.8780	.002	.254	1	103	.615		
2	.855 ^b	.731	.723	.4607	.728	136.551	2	101	.000		
3	.855 ^c	.732	.721	.4619	.001	.439	1	100	.509		1.975
4	.891 ^d	.794	.781	.4093	.062	14.691	2	98	.000		
a. Predictors: (Constant), Periodofserviceinthecurrentposition											
b. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA, ZFACCOU											
c. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA,ZFACCOU, ZEMANAGE											
d. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA,ZFACCOU, ZEMANAGE, FAEM											

Model 1 in the table the control variable period of service was weakly and positively correlated to financial sustainability (r = 0.050) the model was insignificant p> 0.05. The value of R squared was 0.002. This show that period of service explains 0.2% of variance in financial sustainability. When the standardized z scores for the financial accountability and resource allocation were added the value of r moved to 0.855 and was positive and significant p< 0.05 this shows that financial accountability and resource allocation was strongly correlated to financial sustainability. The value of R squared change was 0.731 which show that independent variables explain 73.1% percent of variance in financial sustainability and this was significant. When efficient management was added as a moderator, there was insignificant change in r-square as P=0.509 which is greater than 0.05 finally in the hierarchical analysis, when the interaction terms of financial accountability was added the value of r moved to 0.891 indicates that efficient management as a moderator is positive to financial sustainability. The value of R squared was 0.794 that means that financial accountability moderated by efficient management explains 79.4 percent of variance in financial sustainability and this was significant. The Durbin Watson value for all the model was 1.975 this implied that there was no problem of

autocorrelation, autocorrelation problem is a situation where the residues from a regression are correlated, the rule of the thumb is that Durbin Watson vale should be within the range 1.5 to 2.5. If the value is below 1.5 then there is serial correlation and if it's more than 2.5 then there is problem of autocorrelation.

Table 7: Hierarchical regression ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.196	1	.196	.254	.615 ^b
	Residual	79.406	103	.771		
	Total	79.602	104			
2	Regression	58.164	3	19.388	91.342	.000 ^c
	Residual	21.438	101	.212		
	Total	79.602	104			
3	Regression	58.257	4	14.564	68.236	.000 ^d
	Residual	21.344	100	.213		
	Total	79.602	104			
4	Regression	63.181	6	10.530	62.843	.000 ^e
	Residual	16.421	98	.168		
	Total	79.602	104			

a. Dependent Variable: FSUST

b. Predictors: (Constant), Periodofserviceinthecurrentposition

c. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA, ZFACCOU

d. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA, ZFACCOU, ZEMANAGE

e. Predictors: (Constant), Periodofserviceinthecurrentposition, ZRALLOCA, ZFACCOU, ZEMANAGE, FAEM

From the ANOVA table only model 1 where period of service as a control variable the model was insignificant thus not applicable as the value of $p < 0.05$. All other models 2, 3 and 4 were significant thus they were feasible.

Table 8: Coefficients for Hierarchical regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.296	.287		7.987	.000
	Periodofserviceinthecurrentposition	.051	.101	.050	.504	.615
2	(Constant)	2.430	.159		15.245	.000
	Periodofserviceinthecurrentposition	.002	.056	.002	.029	.977
	ZFACCOU	.408	.073	.466	5.567	.000
	ZRALLOCA	.390	.072	.446	5.393	.000
3	(Constant)	2.468	.170		14.542	.000
	Periodofserviceinthecurrentposition	-.012	.060	-.012	-.204	.839
	ZFACCOU	.450	.097	.514	4.629	.000
	ZRALLOCA	.395	.073	.451	5.416	.000
	ZEMANAGE	-.054	.082	-.062	-.663	.509
4	(Constant)	.652	.604		1.080	.283
	Periodofserviceinthecurrentposition	.028	.054	.028	.521	.604
	ZFACCOU	1.065	.221	1.217	4.809	.000
	ZRALLOCA	-.582	.191	-.665	-3.040	.003
	ZEMANAGE	-.584	.153	-.667	-3.817	.000
	FAEM	-.184	.057	-1.241	-3.206	.002
	RAEM	.369	.068	2.154	5.411	.000

a. Dependent Variable: FSUST

In the first model the period of service as a control variable was not significant as p value > 0.05 . In model 2 the period of service is also not significant as p value > 0.05 . The standardized values of financial accountability and resource allocation were positive and significant to financial sustainability as p value was < 0.05 . Increase in financial accountability, financial sustainability will increase, thus when financial sustainability change by one unit financial accountability will change by 0.408 units in the same direction if all other independent variables are assumed to be zero. Increase in resource allocation, financial sustainability will increase, thus when financial sustainability change by one unit financial accountability will change by 0.390 units in the same direction if all other independent variables are assumed to be zero. In model 3 period of service as a control was negative and insignificant as the p value was > 0.05 . The standardized values of financial accountability and resource allocation were also positive and significant to financial sustainability as p value was < 0.05 .

In model 4 period of service as a control was negative and insignificant as the p value was > 0.05 . The standardized z score of financial accountability and resource allocation had positive relationship to financial sustainability as p value < 0.05 . However, to interpret how efficient management moderates the relationship between contribution of satellite campuses and financial sustainability, regression equations were calculated for each level relationship at low and high levels of efficient management. The regressions undertaken centred terms using process model 1 method advanced by Andrew F. Hayes (Dawson, 2014). The resulting showed the interaction effects between the predictor variables, financial allocation and resource allocation and the moderator efficient management were plotted on an excel file so as to interpret the interaction graphically presented as shown below.

Interaction Graph of Financial Accountability

Figure 1: Interaction Graph of Financial Accountability

When the effective management and leadership is high the relationship between financial sustainability and financial accountability is high and when effective management and leadership is low financial accountability is found to have a positive influence on financial sustainability. The effective management and leadership were found to have a moderating influence on the relationship between financial sustainability and financial accountability.

Figure 2: Interaction Graph of Resource Allocation

When the effective management and leadership is high the relationship between financial sustainability and resource allocation is high and when effective management and leadership is low resource allocation is found

to have a positive influence on financial sustainability. The effective management and leadership was found to have a moderating influence on the relationship between financial sustainability and resource allocation.

Discussion and Conclusion

The study established that financial accountability of satellite campuses has significant effect on financial sustainability of public universities in Kenya. Therefore, the study concluded that financial accountability of satellite campuses contributes to financial sustainability of public universities in Kenya. Further, effective management and leadership have significant moderating effect on the relationship between financial accountability and financial sustainability of public universities in Kenya. This implies that, presence of effective leadership and management, contribution of financial accountability of satellite campus on financial sustainability of public universities in Kenya increases.

The researcher recommends the following. Public universities should set accountable policies which all employees should adhere to. Mobilize resources from development partners and focus on recovering full economic costs. Investing in its infrastructure including human, intellectual and physical adequately to maintain future productive capacity to deliver its strategic plan and serve its customers, All employees should understand their fiducial responsibility. Appropriate financial controls should be set up in campuses. There should be full financial disclosure at all times. Effective leadership and management in campuses should be affected as it will increase financial sustainability. Further researcher can be undertaken to determine the economic impact of satellite campuses and the size of the satellite campus to be considered as a moderator. The research can be replicated by using secondary data on the dependent variable (financial sustainability).

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