

# **DETERMINANTS OF FINANCIAL SUSTAINABILITY IN PRIVATE MIDDLE LEVEL COLLEGES IN NAKURU COUNTY, KENYA**

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## **Abstract**

*There are many of private middle levels colleges which have collapsed; a fact that has raised questions on their financial sustainability. The general objective of the study was to evaluate the determinants of financial sustainability in private middle level colleges in Nakuru County, Kenya. The specific objectives were to examine the effect of capital structure and resource allocation on financial sustainability. The pecking order theory of capital structure and financial sustainability model were reviewed. This study adopted a descriptive survey design. The study targeted 147 accounts/finance officers working with the said colleges. A sample of 60 respondents was derived using simple random sampling. The study used structured questionnaires to collect data. The questionnaires were pilot tested to determine their reliability and validity. The data collected were subjected to both descriptive and inferential statistics using SPSS. The influence of capital structure and resource allocation on financial sustainability was found to be significant. The study concluded that capital structure of private middle level colleges in Nakuru County was mainly composed of debt from lending institutions, owners' equity injection and retained profits. It was also inferred that that resource allocation is fundamental in enhancing financial sustainability. The study recommended that these colleges should look into various cost effective and sustainable ways of financing their operations.*

*Keywords: Capital structure, financial determinants, financial sustainability, private middle level colleges, resource allocation*

## INTRODUCTION

Financial sustainability is described as the ability to cover annual budgets without constraints. It indicates that the income or revenue generated by an organization is greater than the operational costs (Pollinger, Outhwaite & Cordero-Guzman, 2007). In the context of private middle level colleges, financial sustainability implies that these institutions generate revenue that is greater than the costs of providing educational services. That is, the income generated by these colleges is more than what is required to cater for salaries, wages and allowances of staff in addition to procuring educational materials and services.

There is a razor-thin distinction between financial sustainability and financial self-sufficiency which has led to the two concepts being examined in the same vein (Leon, 2001). Financial sustainability means ensuring the longevity of an organization. On the other hand, financial self-sufficiency implies managing a firm's operations without seeking external financial assistance. Self-sufficiency can also be interpreted to mean the ability of an organization to fully cover its costs. A sustainable firm is able to survive in the long run by its means of generating its own revenue and without depending on contributions from donors, financiers, and well-wishers.

Financial sustainability is regarded as one of the cardinal challenges in European universities. As such, institutions with robust and sound financial structures and stable incomes are the ones that can fulfill their missions and respond to challenges brought about by dynamic environment. Thus financial sustainability aims at ensuring that a learning institution is able to generate adequate income to enable the institution to discharge its operations efficiently and invest in its academic and research activities without over relying on external sources of funding such as the government. It is noted that institutions of higher learning such as universities should look into three key pillars in order to ensure financial sustainability, that are identifying and better understanding of costs of all activities and projects, maintain reasonably diversified income structure and more so sufficient, reliable and sustainable public funding with adequate accountability measures (Estermann & Pruvot, 2011).

African higher education institutions play a critical role in sustaining human development on the continent (USAID, 2014). This is evidenced on the numerous studies focusing on the contributions of higher education to economic growth and long-term benefits to the society. The USAID report further avers that there is a question on how to educate a rapidly growing number of students focusing on relevance and quality and financial sustainability in Africa. In view of this, there are crucial suggestions that have been put forward. One of the suggestions encapsulates strategies to increase finance and internal efficiency in the education sector. These strategies involve reducing or moderating public expenditures, greater economy in minimizing utilization of resources and mobilizing additional resources to achieve financial

sustainability. There are several ways of reducing public costs for tertiary education. These include limiting enrolment in public institutions and channeling excess demand to private institutions; using low-cost education services delivery such as distance learning programmes, among others. Financial sustainability can be enhanced by reducing costs within institutions through merging and consolidating institutions in order to realize economies of scale.

According to Gakuu and Kirimi (2014) a financially sustainable organization is the one that is able to meet all its resources and financing obligations and fulfill its mission. Thus, it can be argued that colleges and other institutions of higher learning in Kenya ought to prudently utilize the resources that they are endowed with without drifting from their mission in order to. The authors note that financial sustainability can be promoted through a broad based and interdisciplinary approach. It is further noted that financial sustainability requires an organization to develop its overall capacity such as management capacity and technical capacity which are fundamental in generating revenue and attracting funding to the organization. According to Kamau (2006) prudent financial management is imperative in achieving financial sustainability of an organization.

It is asserted that, in the education sector, it is fundamental to secure financial sustainability both in short and long term in addition to ensuring financial health of the sector (Mugo & Ngahu, 2015). In the same perspective, when citing Grobler (2013), they posited that the hundreds of thousands of secondary school students who qualify for university admission in Kenya are not able to join these institutions due to the limiting capacity. To fill the void, middle level colleges both public and private admit thousands students each year.

The private middle level colleges in Kenya provide tertiary education. These institutions offer career focused education and training programmes to supplement what is offered government owned middle level colleges. They award certificates, diplomas and higher diplomas in different courses that they offer such as business studies, hospitality, information technology and technical skills among others (Kenya National Bureau of Statistics, 2009). According to Policy framework report (2012) registered private middle level institutions increased to 813 where 493 were fully registered by the end of 2012. This illustrates the demand for higher education for students who perform averagely or lack fees to join universities. It is also noted that the inability of public universities to provide adequate university education has contributed to the development of the private middle colleges in Kenya (Gitonga, 2010). However, it is noted that most of these colleges are unregistered, offer unaccredited programs and are yet to produce skilled middle level workforce required to meet national development (Policy Framework Report, 2012).

## **Statement of the Problem**

Higher education gaps amongst Kenyans and education thirst coupled with entrepreneurial spirit of Kenyans has contributed to mushrooming of private middle levels colleges in almost every part of the country. Against this backdrop, however, there are many of these institutions which have ultimately collapsed even before breaking even. Some of the colleges that have failed in Nakuru County in recent years include Jogoo Commercial College, Hyrax College, Rift Valley Institute, Nakuru College of Accountants, Flamingo School of Accountants, National Council of Churches of Kenya College, Ken Hot College, and Child Care Institute.

Failure to match the revenue generated and expenditure of these entities and also poor financial management has largely contributed to their downfall. This implies that there are huge shortcomings relative to financial sustainability in these colleges. Failure to have adequate finances to run the colleges' programmes and remunerate the staff is indeed likely to lead to their closure. In the same light, recent study by Mugo and Ngahu (2015) elucidated that private middle level colleges indeed face conspicuous financial challenges. The study pointed at lack of employees being adequately equipped with financial management skills, a factor that has partly contributed to collapse of some of these colleges.

Due to the fact that these colleges play an indispensable role in advancement of education amongst thousands of Kenyans, then challenges of financial sustainability are bound to have far-reaching consequences. There are a sizeable number of youth who will miss out on chances to advance their education since the available public middle level colleges are not enough. Given the importance of education in the job market, the foregoing problem is likely to result in increased unemployment rates in Kenya. As such, it is imperative to address the issue of financial sustainability in the private middle level colleges. It is against this backdrop that the present study examined the determinants of financial sustainability in the aforementioned private middle level colleges in Nakuru County.

## **General Objective**

The general objective of the study was to evaluate the determinants of financial sustainability of Private Middle Level Colleges in Nakuru County, Kenya.

## **Specific Objectives**

- i. To examine the effect of capital structure on financial sustainability of Private Middle Level Colleges in Nakuru County
- ii. To assess the effect of resource allocation on financial sustainability of Private Middle Level Colleges in Nakuru County

## Research Hypotheses

**H<sub>01</sub>:** Capital structure has no significant effect on financial sustainability of private middle level colleges in Nakuru County.

**H<sub>02</sub>:** Resource allocation has no significant effect on financial sustainability of private middle level colleges in Nakuru County.

## THEORETICAL FRAMEWORK

This part focuses on theories touching on or explaining financial sustainability. The theories reviewed and discussed include pecking order theory of capital structure and financial sustainability model.

### Pecking Order Theory of Capital Structure

The pecking order theory of capital structure was proposed by Myers and Mailuf (1984). The theory is premised on the hypothesis that financing follows hierarchy. It states that firms prefer internal over external financing and also prefer debt over equity. The bottom line is the more asymmetry, the higher the costs of the sources of financing and vice versa (Brounen, De Jong & Koedjijk, 2004). It is posited that financial flexibility is the most important factor that determines choice of capital structure where a pecking order model is applied.

Basically, the application of pecking order theory factors in two propositions. First, debt is encouraged when a firm experiences insufficient profits. And second, debt is encouraged when equity is undervalued. Yet, Brounen et al (2004) rejected these propositions. Private middle level colleges can employ the pecking order theory to determine the most appropriate source of financing.

### Financial Sustainability Model

Financial sustainability model which is based on classic microeconomic theory was advanced by Jackson and McConnell (1980). The theory states that financial sustainability can be modeled through a marginal-revenue--marginal-cost approach. This implies that the means for determining the behaviour, including viability of a profit-making competitive entity is to calculate and compare, at each price level, amounts that each additional unit of output would add to total revenue on one hand, and to total cost on the other. In this light, by comparing the marginal revenue (MR) and the marginal cost (MC) of each successive unit of production, any unit whose MR exceeds MC ought to be produced and any unit whose MC exceeds MR should not. It is further pointed out that the equilibrium point where MR equals MC is the key to the output-

determining rule that suggests that the entity will maximize profits or minimize losses by producing at that point.

The model assumes that price is determined by broad market forces of supply and demand similarly to a situation of perfect competition. In this view, therefore, an organization is bound to remain financially sustainable by maximizing profits or minimizing losses in the short-run by producing outputs at equilibrium point only if MR is greater than minimum average variable cost (AVC). AVC represents variable costs such as labour and materials divided by output (Jackson & McConnell, 1980). If MR falls short of minimum AVC, the firm will minimize its losses in the short run by closing down. In this case, there is no level of output at which the entity can produce and realize a loss smaller than its fixed costs and it is, therefore, considered (financially) unviable (Jackson & McConnell, 1980).

According to Massy (2004), the classical microeconomic theory, around which financial sustainability model is founded, is considered as a basis for considering the financial sustainability of an academic program or institution. This theory is most applicable in 'for-profit' academic institutions (Ferns, Oliver, Jones & Kerr, 2007) such as private middle level colleges because these entities are mostly concerned with financial sustainability.

## **EMPIRICAL REVIEW**

This section covers a review of empirical studies done in the past relative to financial sustainability. The studies reviewed are relative to capital structure, resource allocation and financial sustainability respectively.

### **Capital Structure and Financial Sustainability**

According to Estermann and Pruvot (2011) financial sustainability is one of the challenges that face European universities. The authors contend that maintaining a healthy degree of diversity in the funding structure of the universities is key to achieving financial sustainability. While looking into European universities income streams in the context of financial sustainability, the authors noted that universities with sound financial structures coupled with predictable and stable income flows will be able cope with the challenge of financial un-sustainability among other challenges in the dynamic and complex global environment. Further it was noted that to ensure financial sustainability the learning institutions ought to maintain a diverse income structure, identify sufficient, reliable and sustainable public funding and more so the underlying costs of the activities and projects of the universities.

Massy and Myers (2007) assert that determining the optimal capital structure for colleges and universities requires assessment of four core strategic areas that are the amount

of debt needed given the operating characteristics of the institution and its endowment, the structure of the debt and asset allocation, volatility of expenditure and revenue if debt is added and the amount of reserves needed to stabilize budgets. While looking into academic capital structure and planning in the United Kingdom the authors underscored the essence of managing cash flows and more so managing risks on both assets and liabilities of the institutions while determining the best capital structure of the learning institutions.

Bogan (2008) investigated the existing sources of funding for microfinance institutions. The study considered microfinance institutions in Eastern Europe, Africa, Latin America and Middle East. The different sources of financing the institutions were determined and assessed how each influenced success of the institutions. The findings indicated that adopting commercial orientation rather than depending on donor funds could attract capital and savings much needed to scale up their loan portfolios, achieve lower lending rates, increase outreach and more so enhance sustainability. The study further noted that changes in capital structure could facilitate future growth and enhance efficiency as well as ensure financial sustainability.

Akeem, Terer, Kinyanjui and Kayode (2014) empirically analyzed the effects of capital structure on firm performance. The focus was on manufacturing companies in Nigeria. The study sought to provide a critical appraisal of the need and importance of capital structure. Secondary data from 10 manufacturing companies was used. The findings illustrated that capital structure measures, that were total debt and debt to equity ratio adversely influenced firm performance. It was recommended that the companies ought to establish the point at which the average weighted cost of capital is minimal and maintain that gearing ratio in order to safeguard the company's value from being eroded.

A study on the nexus between financial structure and growth of enterprises in Kenya was conducted (Mwaka, 2006). The study established that growth of the enterprises was related to their financial structure. It was further noted that there was a positive relationship between the proportion of capital or debt from microfinance institutions and growth of the enterprises assets. Similarly, the study established that internal sources of initial capital negatively influenced growth of sales and employment. An earlier study by Kitaka (2003) indicated that micro and small enterprises financed by internal funds performed better than those with debt in their financial structure. The study concluded that capital structure influenced performance of the enterprises.

The studies reviewed fell short of addressing capital structure in the context of financial sustainability. A study by Mwaka (2006), for instance, examined the relationship between financial structure and growth of enterprises in Kenya. The study established that internal sources of initial capital negatively influenced growth of sales and employment. The study had

several limitations, however. It did not examine capital structure in respect of financial sustainability. Moreover, the study was not relevant to the education sector within which private middle level colleges fall.

### **Resource Allocation and Financial Sustainability**

According to Gansemer-Topf and Schuh (2004) resource allocation is one of the critical issues that ought to be considered in an organization. In their study on organizational factors that contribute to retention and graduation in institutions of higher learning in United States, the authors established that how the institutions allocated their resources directly influenced retention of students and graduation rates. The authors therefore noted that expenditures and financial strategies were important for student engagement in the institutions. An earlier study by Pan, Rudo, Schneider and Smith-Hansen (2003) found that resource allocation in schools in United States influenced higher performance. Specifically, it was noted that higher allocation to core expenditure, staffing and lower allocation to general and administrative activities in the surveyed schools resulted to higher student and overall school performance. The study concluded that resource allocation strategies that align to school improvement activities aid in student performance.

A study on efficient and strategic resource allocation for sustainable development in Jordan was conducted by Shuqair and Abdel-Aziz (2015). The study purposed to address sustainability in development activities in the country. The study noted that one of the challenges of resource allocation is skewed focus from the main project or activities. Therefore, resources would be channeled to instant issues that pop up and as such, such challenges lead to unsustainable resource allocation. The results of the study indicated that in resource allocation, the public or stakeholders should be involved in order to achieve equitable resource allocation. In addition, the author underscored the essence of prioritizing rather than hierarchy in resource allocation.

Budgeting and fund allocation in higher education in Ghana was investigated by Newman (2013). It was noted that budgetary allocation to higher education institutions for recurrent expenditure had deviated from the norm-based costs which consequently led to inequity and inefficiency in fund management in the institutions. Ijaiya and Lawal (2010) on the other hand established that budgetary allocation to education sector in Nigeria was inadequate to meet the sector demands. The government spending in the sector was noted insufficient and the institutions suffered as a result of lack of transparency in resource allocation and usage of the resources. The foregoing concurred with Adu and Opoku-Afriyie (2002) who noted that the

allocation of public funds to public universities was not geared towards pre-determined outcomes and as such led to inefficiency.

Ahmed (2015) examined public and private higher education financing in Nigeria. The study sought to determine whether funds allocated to universities were adequate. Secondary data was used. The results indicated the funds allocation to universities were inadequate to meet all the university research, recurrent and development expenditure. The foregoing was in tandem with Okebukola (2006) and Oseni (2012) who established that allocations to universities were not enough to run the institutions' operations. As such, Ahmed (2015) noted that the institutions of higher learning ought to venture into other revenue generation activities to supplement the small allocations from the government and more so prudently utilize the available resources.

Owuor (2012) looked into higher education in Kenya and empirically investigated the disparity between quantity and quality in higher education. A combination of case study, Delphi technique and interviews was employed by the study. In the study, it was noted that the influx of student enrollment mismatch with increase in budgetary allocation and investment in facilities had resulted to quantity-quality disparity. It was also noted that due to the shrinking allocation of financial resources insufficient facilities and stalled infrastructural projects in the learning institutions have been experienced. The author lamented of financial regulatory bottlenecks and bureaucracies in the institutions despite the government allocating financial resources for new facilities and buildings.

In another study, Gakuru and Mungania (2016) examined budgetary allocation and success of public sector management in Kenya. The study aimed at determining the effects of budgetary allocation on the success of public sector management in government departments. Managerial and supervisory staff participated in the study. The findings revealed that budgetary allocations were not adequate for the government departments to dispense the implementation of new public management strategies. The study emphasized on accountability in the usage of public funds and decentralization of the department activities in order to enhance effective allocation of resources. It was generally noted that budgetary allocation positively influenced public sector management.

The reviewed studies have conspicuous shortcomings relative to resource allocation and financial sustainability in the education sector. A study by Owuor (2012) empirically investigated the disparity between quantity and quality in higher education. Gakuru and Mungania (2016) examined budgetary allocation and success of public sector management in Kenya. It was revealed that budgetary allocations were not adequate. The two studies, however, failed to

relate allocation of resources to financial sustainability. The second study was not in line with the education sector.

### **Financial Sustainability**

It is noted that higher education sector in the United Kingdom is very successful but it is imperative for the sector to invest for future and ensure transparency in the use of public money in order to enhance long-term financial sustainability (Wakeham, 2010). The author together with a task group conducted a research in universities and other higher education institutions in the UK to determine their financial sustainability and efficiency. It was noted that the income which higher education institutions received for research activities was not enough to cover the costs of undertaking the research activities. It was therefore the duty of the institution as autonomous entity to determine the extent to which it had to subsidize its research activities from other income sources. In other words, it was noted that the institution ought to make informed judgment to subsidize one activity by another based on the full income flows into the institution. As such, the authors contended that the governing body of higher education institutions should ensure institution-wide strategies for financial sustainability that are aligned with the chosen mission.

Sazonov, Ekaterina, Irina and Elena (2015) evaluated financial sustainability of higher education institutions in Russia. The authors noted that financial sustainability in a university is achieved where the institution produces sufficient income to enable it to invest in future academic and research activities. The authors underscored the essence of an education institution to constantly monitor market situation of education services and also evaluate its own position in the market in order to ensure financial sustainability especially in changing market conditions such as intensifying competition brought about by education institutions.

According to Kavanagh (2007) financial sustainability calls for long term planning which aids in creating and maintaining financial sustainability. Afriyie (2015) while looking into sustainable factors of higher education institutions in different parts of the world noted that institutions of higher learning can achieve financial sustainability by increasing or maintaining operations through internally-generated income and investment portfolio funds. The author further noted that such factors as authentic leadership, public relations and investment portfolio were important for financial sustainability. The author proposed a predictive model for financial sustainability in higher education institutions. It was stated that in order to improve financial sustainability, then leadership style, investment portfolio and public relations should be critically considered and improved.

Mohadeb (2003) looked into higher education in Mauritius in the context of financial sustainability. The study purposed to identify an efficient and sustainable funding system for higher education in a bid to enhance financial sustainability. The study noted that higher education was mainly funded by the government and with the projected increase in enrolment in 2010, the government would not be able to sustain higher education funding and hence financial sustainability becoming a threat for the institutions. The findings indicated that the government alone cannot fully fund higher education owing to other commitments that need expenditure. As such, the author proposed a model of ensuring financial sustainability through cost sharing. Cost sharing would be between the government, students and the income generating activities of the institutions in a bid to enhance financial sustainability. In addition, the author noted that it is imperative for institutions of higher education to employ financial strategies for mobilizing, allocating and utilizing resources in order to improve financial sustainability.

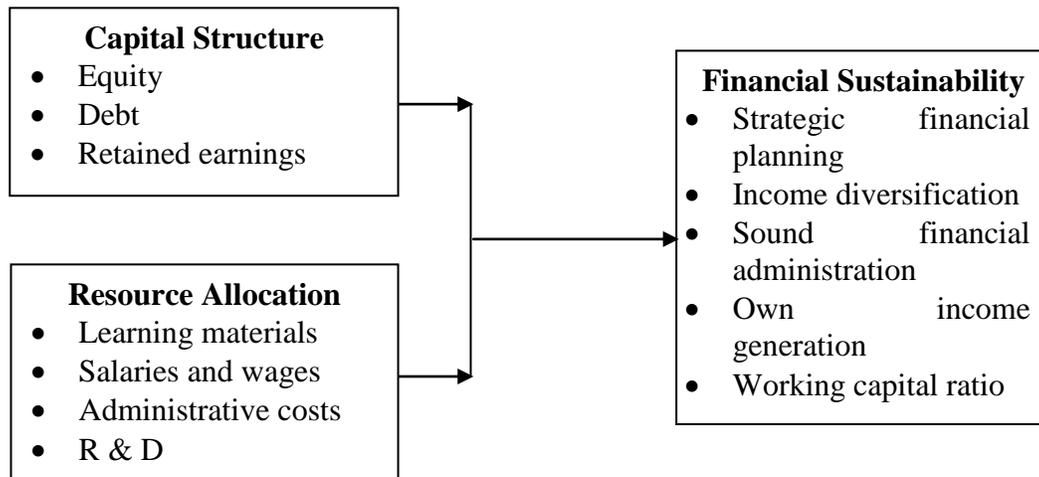
While investigating resource dependence on government funding in the context of public universities in Kenya, Ouma (2007) noted that revenue generation is one of the tools that can be used to ensure financial sustainability in institutions of higher learning. Indeed, Mamo (2015) established that Jomo Kenyatta University of Agriculture and Technology had formulated revenue generation strategies such as dual track tuition policy and forming alliances and partnerships with international organizations in order to ensure financial sustainability when he examined revenue generation strategies in Sub-Saharan African universities. The formulation of the strategy and the existence of diversified criteria for admission of full-cost paying students were noted to contribute to revenue generation. Despite the university's flexibility and autonomy in financial management, it was also noted that that the university had no discretion to set staff salaries and borrow money from financial markets, a barrier to revenue generation and hence financial un-sustainability bearing in mind overwhelming students enrolment.

## CONCEPTUAL FRAMEWORK

A conceptual framework is described as a diagrammatic representation that depicts how the variables (constructs) of a given study interact. Figure 1 shows the conceptual framework for this study. As shown, there are two sets of study variables. These are independent and dependent variables. Independent variables include capital structure and resource allocation. Financial sustainability is the dependent variable. Each of these variables is operationalized by specific indicators. The indicators of capital structure include equity, debt, retained earnings, donations, sponsorships, government funding, and tuition fees. It was hypothesized that private middle level colleges can get financing from either of the stated sources. The parameters for resource allocation include learning materials, salaries and wages, administrative costs, and

research and development. Lastly, indicators of financial sustainability include strategic financial planning, income diversification, sound financial administration, own income generation, and working capital ratio.

Figure 1: Conceptual Framework



## METHODOLOGY

### Research Design

A research design is a roadmap of carrying out a research study (Kothari, 2008). A good design, therefore, enabled the study to address the research problem in line with the study objectives. This study adopted a descriptive survey research design. This was founded on the argument that descriptive studies describe the phenomenon as it is. Survey studies are very specific regarding the time and/or period when they are carried out. This study was a survey in that it did not only target an array of private middle level colleges but it was also carried out over a specific period of about two months.

### Target Population

Target population describes all members of a population with common traits. The study targeted all the 147 accounts/finance officers working with private middle level colleges (PMLCs) in Nakuru County. There are 61 PMLCs within the County and the number of accounts/finance officers varies mostly based on the size of the institution and other factors. The number of the study population was obtained through a head count of the accounts/finance officers. The choice of these employees was based on the assertion that they were the most privy with financial issues in their respective colleges.

## Sampling Frame

A list of subjects from which the sample is derived defines the sampling frame. This implies that all the 147 accounts/finance officers working with PMLCs in Nakuru County constituted the sampling frame.

## Sample Size

A sample is a representative subset of the study population (Kothari, 2008). When the study population is relatively large, sampling should be carried out. In this study, the formula by Nassiuma (2008) was adopted to calculate the sample size (n) as shown.

$$n = \frac{NC^2}{C^2 + (N-1)e^2} \quad \text{Where}$$

n = Sample size

N = Population size

C = Coefficient of variation ( $21\% \leq C \leq 30\%$ )

e = Precision level ( $2\% \leq e \leq 5\%$ )

This implies that sample size (n) was

$$n = \frac{147(0.25)^2}{0.25^2 + (147-1)0.025^2}$$

$$n = 59.76$$

$$n = 60 \text{ respondents}$$

The sample size = 60 accounts/finance officers

## Sampling Technique

Sampling technique refers to the procedure followed in extracting the sampled respondents (n) from the study population (N). This study employed simple random sampling method. This was based on the argument that accounts/finance officers are equally conversant with budgetary controls and financial sustainability in the aforementioned colleges. This sampling method eliminated sampling bias due to the fact all members of the study population had an equal chance of taking part in the study.

## Research Instrument

The study used a set of structured questionnaires to collect data from the respondents. As observed by Mugenda and Mugenda (2003), questionnaires are suitable instruments for collecting data in survey studies. The instrument contained questions that facilitated collection of

data relative to the background of respondents and PMLCs, and also objectives of the study. Regarding the study objectives (or variables) the questions were on a five-point Likert scale.

### **Pilot Testing**

The research questionnaire was pilot tested to determine its reliability and validity before it was used to collect data for the main study. The piloting was carried out across accounts/finance staff working with PMLCs in Nyandarua County. The choice of Nyandarua County was to ensure that participants in the pilot study did not take part in the main study.

### **Reliability Testing**

The Cronbach alpha coefficient ( $\alpha$ ) was used to test the reliability of the questionnaire. According to Kimberlin and Winterstein (2008), this is the most widely used and recommended method of testing an instrument's reliability. For the study constructs to be considered reliable they are expected to return alpha coefficients at least equal to 0.7. This concurs with Fraenkel and Wallen (1996) assertion that the reliability of items is acceptable if the alpha value is within 0.70 and 0.99.

Table 1. Results of reliability test.

<b>Variables</b>	<b>Test Items</b>	<b>Alpha Coefficients</b>
Capital structure	7	0.820
Resource allocation	5	0.791
Financial sustainability	5	0.804

As shown in Table 1, all the three study variables returned alpha coefficients greater than 0.7. Therefore, the research instrument was found to be reliable.

### **Validity Testing**

It is asserted that the definition of validity has indeed undergone a number of changes. The test of validity falls under three categories according to Creswell (2005). These include criterion-related, content, and construct validity. The present research determined content validity. Given that this validity cannot statistically be determined (Kimberlin & Winterstein, 2008). The researcher consulted with the university supervisors in order to assess how well the questions contained in the instrument could address the study objectives.

### Data Collection Procedure

Data were collected after determination of both reliability and validity of the research questionnaire. This was followed by getting a formal introduction letter from the University. The next step was getting the consent of the management of the private middle level colleges from which the respondents were drawn. The questionnaires were issued to the respondents through the management of the respective PMLCs. The filled questionnaires were collected after about 5 working days.

### Data Analysis Approach

The data collected were subjected to both descriptive and inferential statistics with the help of the Statistical Package for Social Sciences (SPSS). Descriptive statistics comprised frequencies, percentages, means, and standard deviations. More so, inferential statistics will take the form of Pearson's correlation and multiple regression analysis. The results of the analysis were presented in form of tables. The following multiple regression model was adopted.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

Y	represents	Financial sustainability
$\beta_0$	represents	Constant
$X_1$	represents	Capital structure
$X_2$	represents	Resource allocation
$\varepsilon$	represents	Error Margin
$\beta_1, \beta_2$	represent	Regression Coefficients

## ANALYSIS AND FINDINGS

### Response Rate

The study administered a total of 60 questionnaires which was equivalent to the sample size. Out of the total number of questionnaires administered, 47 were duly filled and returned. This represented 78.33% response rate.

### Descriptive Findings and Interpretations

The descriptive results are findings touch on all the four study construct namely capital structure, resource allocation, financial accountability and financial sustainability in that order. The associated interpretations and discussions are also provided. The descriptive findings are in form of means and standard deviations since the data collected were on a 5-point Likert scale. Integers 1 to 5 represent strongly disagree to strongly agree.

### ***Descriptive Findings for Capital Structure***

The respondents' opinions regarding capital structure in respect to financial sustainability were sought. The findings are outlined in Table 2.

Table 2: Descriptive Statistics for Capital Structure

	n	Min	Max	Mean	Std. Dev
Private middle level colleges rely on financing from owners	47	3	5	4.32	.515
Private middle level colleges get credit financing from lending institutions	47	2	5	3.94	.763
Private middle level colleges use part of their profits to run their operations	47	2	5	3.94	.895
Private middle level colleges get donations from well-wishers	47	1	5	3.06	1.275
Some students in private middle level colleges are under sponsorship	47	1	4	3.53	1.060
Government allocates funds to private middle level colleges	47	1	3	1.28	.117
Private middle level colleges are run on tuition fees from students	47	1	5	3.64	.965

It was admitted (mean  $\approx$  4.00; std dev  $<$  1.000) that private middle level colleges relied on financing from owners; obtained credit financing from lending institutions; and more so, they used part of their profits to run operations; obtained government funds. It was further agreed (mean = 3.53; std dev = 1.060) that some students in private middle level colleges were under sponsorship and that the colleges were run on tuition fees from the students (mean = 3.64; std dev = 0.965).

However, the view that private middle colleges obtained donations from well-wishers remained inconclusive (mean = 3.06; std dev = 1.275). Some agreed with the proposition while others strongly disagreed which implies there are some colleges that got donations while others have never obtained such assistance. It was strongly disputed that government allocates funds to private middle level colleges (mean = 1.28; std dev = 0.117). The foregoing findings illustrated that capital structure for private middle level colleges was mainly composed of owners' equity, debt and retained profits.

### ***Descriptive Findings for Resource Allocation***

The study further sought the respondents' views regarding resource allocation in the colleges where they worked. Their views on the subject of resource allocation in the context of financial sustainability are presented in Table 3.

Table 3: Descriptive Statistics for Resource Allocation

	n	Min	Max	Mean	Std. Dev
Private middle level colleges allocate funds to procure learning/teaching materials	47	2	4	3.79	.587
A significant amount of funds goes to salaries and wages	47	1	5	4.02	.847
Funds obtained by colleges cater for administrative costs	46	1	5	3.48	1.130
Some funds are used for research	47	2	4	3.87	.494
Some funds are allocated to development projects	47	2	5	4.30	.587

The study ascertained that respondents agreed (mean  $\approx$  4.00; std dev  $<$  1.000) that private middle level colleges allocated funds to procure learning or teaching materials and also to development projects. It was further concurred (mean  $\approx$  4.00; std dev  $<$  1.000) that a significant amount of funds went to salaries and wages and research activities. Respondents, nevertheless, were indifferent (mean = 3.48; std dev = 1.130) regarding the assertion that funds obtained by colleges catered for administrative costs. It can therefore be deduced that private middle level colleges in Nakuru County prudently allocated resources for their general welfare and in tandem with their vision and mission.

### ***Descriptive Findings for Financial Sustainability***

Lastly, the study analyzed respondents' opinions on financial sustainability in private middle level colleges in Nakuru town. The pertinent findings in respect to the construct are displayed in Table 4.

Table 4: Descriptive Statistics for Financial Sustainability

	n	Min	Max	Mean	Std. Dev
Private middle level colleges carry out strategic financial planning	47	1	5	3.26	1.188
Private middle level colleges have diversified sources of income	47	2	5	4.19	.647
Private middle level colleges have their own income generating projects	47	1	5	3.34	1.340
There is sound financial administration in private middle level colleges	47	1	5	3.91	1.018
The current assets are able to address current liabilities in private middle level colleges	47	1	5	3.89	.759

The findings illustrated that respondents were in agreement (mean  $\approx$  4.00; std dev  $\approx$  1.000) that private middle level colleges had diversified sources of income and that there was sound

financial administration in colleges. It was also admitted (mean = 3.89; std dev = 0.759) that the current assets were able to address current liabilities in private middle level colleges. Respondents were unsure (mean  $\approx$  3.00; st dev > 1.000) whether private middle level colleges had their own income generating projects and whether the colleges carried out strategic financial planning.

### **Inferential Findings and Interpretation**

In this section the findings in regard to the relationship between the determinants of financial sustainability (capital structure, resource allocation and financial accountability) and financial sustainability itself are presented. The interpretations and discussions are also provided. Correlation and multiple regression analysis were used to determine the influence of the aforementioned determinants on financial sustainability.

#### ***Influence of Capital Structure on Financial Sustainability***

The influence of capital structure on financial sustainability of private middle level colleges in Nakuru County was assessed. The pertinent findings are outlined in Table 5.

Table 5: Relationship between Capital Structure and Financial Sustainability

		<b>Financial Sustainability</b>
<b>Capital Structure</b>	Pearson Correlation	.705**
	Sig. (2-tailed)	.000
	n	47

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

It was established that the relationship between capital structure and financial sustainability was strong, positive and statistically significant ( $r = 0.705$ ;  $p < 0.05$ ) at 0.01 significance level. Therefore, capital structure positively and largely influenced financial sustainability of private middle level colleges in Nakuru County. The better the capital structure the more the likelihood of the colleges being financially sustainable. As earlier noted, the capital structure of the colleges mainly comprised of debt, owners' equity and retained earnings which could be argued to be relatively stable and reliable, and as such positively influenced the colleges' ability to achieve financial sustainability. The findings of this study are in line with the conclusions drawn in a study by Kitakaka (2003). The study had inferred that capital structure influences performance of enterprises. Given that financial sustainability and growth of entities are

intertwines, the present study findings supported earlier findings that growth of enterprises is related to their financial structure (Mwaka, 2006).

### ***Influence of Resource Allocation on Financial Sustainability***

The study examined the relationship between resource allocation and financial sustainability of private middle level colleges in Nakuru County. The pertinent results are indicated in Table 6.

Table 6: Relationship between Resource Allocation and Financial Sustainability

		Financial Sustainability
<b>Resource Allocation</b>	Pearson Correlation	.620**
	Sig. (2-tailed)	.000
	N	47

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

The findings revealed that there existed a moderately strong, positive and statistically significant ( $r = 0.620$ ;  $p < 0.05$ ) relationship between resource allocation and financial sustainability of private middle level colleges in Nakuru County. Prudent resource allocation to various college projects and activities can therefore be argued to be critical in ensuring sustainability of the colleges' activities and projects. Thus, colleges do not strain or overstretch their finite resources thus ensuring their financial sustainability. The findings of this study concurred with Shuqair and Abdel-Aziz's (2015) argument, that it is important to prioritize the projects and activities to be funded rather than adopting a hierarchy in resource allocation.

### ***Combined Influence of Selected Determinants on Financial Sustainability***

Using multiple regression analysis, the study examined the combined influence of capital structure, resource allocation and financial accountability on financial sustainability of private middle level colleges in Nakuru County. The extent to which the three variables influenced financial sustainability was also established. The findings are illustrated in Tables of coefficient of determination ( $r^2$ ), ANOVA, and regression coefficients (Tables 7, 8 and 9 respectively).

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773 <sup>a</sup>	.597	.569	.23473

a. Predictors: (Constant), Resource Allocation, Capital Structure

As indicated in Table 7, the relationship between the selected determinants under study (capital structure and resource allocation) and financial sustainability was positive and strong ( $R = 0.773$ ). The results of coefficient of determination ( $r^2 = 0.569$ ) indicated that 56.9% of financial sustainability of private middle level colleges in Nakuru County could be attributed to capital structure and resource allocation. Therefore, there were other factors (43.1%) besides the ones being studied that influenced financial sustainability.

Table 8: ANOVA<sup>b</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.515	3	1.172	21.264	.000 <sup>a</sup>
Residual	2.369	43	.055		
Total	5.884	46			

a. Predictors: (Constant), Resource Allocation, Capital Structure

b. Dependent Variable: Financial Sustainability

Table 8 indicated that the relationship between the three determinants (capital structure and resource allocation) and financial sustainability was statistically significant ( $F + 21.264$ ;  $p < 0.05$ ). It is therefore concluded that capital structure and resource allocation were critical in ensuring and enhancing financial sustainability in private middle level colleges in Nakuru County.

Table 9: Regression Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.361	.642		-2.121	.040
	Capital Structure	.616	.185	.441	3.330	.002
	Resource Allocation	.368	.184	.257	2.002	.052

a. Dependent Variable: Financial Sustainability

The results indicated in Table 9 could be interpreted using the following multiple regression model:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$

$$Y = -1.361 + 0.616X_1 + 0.368X_2$$

This means for every unit increase in financial sustainability, there ought to be corresponding 0.616 and 0.368 unit increases in capital structure and resource allocation respectively while holding -1.361 constant. According to these findings, capital structure was found to be the most fundamental determinant of financial sustainability. The study further noted that the influence of capital structure on financial sustainability was statistically significant ( $t = 3.330$ ;  $p < 0.05$ ). The foregoing led to the rejection of the first null hypothesis ( $H_{01}$ :Capital structure has no significant effect on financial sustainability of private middle level colleges in Nakuru County). However, it was found that the influence of resource allocation on financial sustainability was not statistically significant ( $t = 2.002$ ;  $p > 0.05$ ). Therefore, the second null hypothesis failed to be rejected.

### Summary

It was ascertained that private middle level colleges relied on financing from owners, obtained credit financing from lending institutions, used part of their profits to run operations and more so obtained government funds. In addition, it was noted that some students in private middle level colleges were under sponsorship and that the colleges were run on tuition fees from the students. It was, however, unclear whether private middle colleges obtained donations from well-wishers or not. The relationship between capital structure and financial sustainability was found to be strong, positive and statistically significant ( $r = 0.705$ ;  $p < 0.05$ ) at 0.01 significance level.

The study established that private middle level colleges allocated funds to procure learning or teaching materials and also to development projects. In addition, a significant amount of funds went to salaries and wages and also to finance research activities. However, it was not clear regarding the assertion that funds obtained by colleges catered for administrative costs. It was deduced that private middle level colleges in Nakuru town prudently allocated resources for their welfare. Correlation findings indicated that resource allocation had a moderately strong, positive and statistically significant ( $r = 0.620$ ;  $p < 0.05$ ) relationship with financial sustainability.

The findings illustrated that private middle level colleges had diversified sources of income and that there was sound financial administration in colleges. It was further noted that the current assets were able to address current liabilities in the colleges. Respondents were unsure whether private middle level colleges had their own income generating projects and whether the colleges carried out strategic financial planning. In addition, multiple regression analysis indicated that 56.9% of financial sustainability of private middle level colleges in Nakuru town was influenced by capital structure, resource allocation and financial accountability. Moreover, the association between the three variables and financial sustainability was noted to

be statistically significant ( $F = 21.264$ ;  $P < 0.05$ ). The study further ascertained that the influence of capital structure and financial accountability on financial sustainability was statistically significant ( $p < 0.05$ ). The influence of resource allocation on financial sustainability was, however, not statistically significant ( $p > 0.05$ ).

## CONCLUSIONS

The study inferred that capital structure of private middle level colleges in Nakuru town was mainly composed of debt from lending institutions, owners' equity injection and retained profits. It was also concluded that capital structure was crucially important in enhancing financial sustainability of the colleges. As such it becomes imperative for private middle level colleges to look into their capital structure and address issues that affect capital structure since they would also have effects on financial sustainability. The study further concluded that private middle level colleges allocated resources to various college activities. It was also inferred that resource allocation was indeed fundamental in enhancing financial sustainability. This was through optimally allocating resources to the most crucial projects that generated positive returns as postulated in the portfolio theory.

## RECOMMENDATIONS

The study findings prompted several recommendations to be made. The study recommended that private middle level colleges should look into various cost effective and sustainable ways of financing their operations. This may be through engaging in income generating projects to supplement the credit, owners' funds and tuition fees collected from students. As such, colleges would be able to achieve financial sustainability in the long run. The colleges may also look into their curriculum in order to ascertain the period a student takes to earn various diplomas and certificates. This is because the period taken has a financial impact. Therefore, through cost analysis, colleges will ascertain whether to reduce the curriculum period based on sustainability. The study further recommended that colleges should prioritize resource allocation to most crucial projects and activities that bring forth returns in order to ensure financial sustainability. Such a move should thus be implemented carefully in order not to be biased towards other equally important activities such as student welfare and research.

Private middle level colleges are further advised to look beyond the conventional sources of funds as part of their capital structure. Whereas, equity, debt and retained earnings are the core constituents of capital structure, these colleges can seek finances from other sources. These sources may include sponsors and well-wishers both locally and internationally. They should also seek to collaborate with other local and international colleges which through

joint-venture and strategic alliance approaches can enable them to provide certain academic programmes at a reduced cost or no cost altogether. The foregoing is bound to augur positively with their financial sustainability.

## LIMITATIONS

The study faced a couple of limitations. There are many private middle level colleges in Nakuru County without clear structures. That is, it was relatively difficult to focus on accounts and finance officers working with private middle level colleges. To counter this, the study focused on the registered colleges which had clearer structures. Another challenge was on the data collection tool. The research questionnaire contained close-ended questions which had the potential of restricting how respondents participated in the study. This was addressed by ensuring that the questionnaire was structured in a way that it addressed all study objectives sufficiently.

## SUGGESTIONS FOR FURTHER STUDIES

The study suggests various themes that should be investigated in relation to financial sustainability in Kenya. Such facets include the determinants of financial sustainability and their influence on sustainability in public tertiary institutions in Kenya. It would also be beneficial to determine financing sources and their effect on financial sustainability in private universities in Kenya. Lastly, a comparative study on financial sustainability in private and public middle level colleges in Kenya would be interesting to undertake.

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