OPERATING INCOME FINANCING AND FINANCIAL SUSTAINABILITY OF PRIVATE TERTIARY TRAINING INSTITUTES IN KIAMBU COUNTY; KENYA

Kyaa, E. M.
Master of Finance Student, Jomo Kenyatta University of Agriculture and Technology, Kenya.
Kimani, E. M.
Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya.
Matanda, J. W.
Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya.

2022
International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

Received: 17th October 2022

Published: 21st October 2022

Full Length Research

Available Online at: https://iajournals.org/articles/iajef_v3_i7_386_402.pdf

Citation: Kyaa, E. M., Kimani, E. M, Matanda, J. W. (2022). Operating income financing and financial sustainability of private tertiary training institutes in Kiambu County; Kenya. *International Academic Journal of Economics and Finance, 3(7), 386-402.*

ABSTRACT

Financial sustainability is the institutions capability to finance its operating costs by having enough funds for financing current and future academic programs. Financially sustainable private vocational training college can reduce operational costs, formulate more innovative business strategies, and enhance customer satisfaction. However, there has been a problem of lack of sustainability of operations for many private tertiary training institutions in Kiambu County, Kenya. The delinquent is proved by private higher training institutes having a declining trend in their operating surplus ratio. There is no legislation in Kenya that provides money for private higher training institutes through the state budget demonstrating the delinquent behavior. The overall goal of this research was to assess operating income financing and financial sustainability of private higher training institutes in Kiambu County, Kenya. The objective of the study was to assess the effect of operating income financing on financial sustainability of private higher training institutes in Kiambu County, Kenya. The theory that supported the research study was operating income approach. The research was conducted using a descriptive research approach. The target population was all institutions of higher learning in Kiambu County. The accessible population of the study was ninety-four private higher training institutes. The sampling method of the study was census survey approach. Secondary data was collected using a secondary data collection sheet. The data collection technology was be tested in Nairobi County as a pilot project. Data was referenced, coded, and validated to facilitate entry. The statistical tool of analysis was the statistical package of social sciences. Descriptive and inferential approaches were performed, and tables were utilized to present the findings of the analysis. The study found a favorable relationship between operating income financing and financial sustainability of private tertiary training institutions in Kiambu County, Kenya. From the findings of the study some policy implications are suggested as follows: private tertiary training institutes to adopt adequate operating income financing to maintain their financial sustainability, the government of Kenya formulate a policy that shall enable the state to support private colleges through the annual fiscal budget, donor funding organizations to collaborate with private tertiary training institutions to provide financial support and to appoint their representative whose mandate is to make sure that donor funds are used wisely in the beneficiary private institution and organizations offering research grants to collaborate with private tertiary training institutions to provide research grants to students studying in the private colleges.

Keywords: Operating income financing, financial sustainability.

INTRODUCTION

Financial sustainability is the ability to cover annual budgets with current financial resources without affecting future operations of the firm (Afriyie, 2015). Financially sustainable private colleges finance operations with the available financial resources. Financial sustainability assists private tertiary training colleges to remain sustainably stable for a long period of time. Financially sustainable colleges can reduce operational costs, formulate more innovative business strategies, and improve institutional reputation. The concept of financial sustainability helps businesses generate income that sustains dynamic developments at continuous rate to accomplish results and earnings (Thuva, 2019). Measuring institutions financial sustainability helps to assess its present financial vigor. Proprietors of private colleges use financial sustainability concept to evaluate the solvency of the college in the long run. Private vocational training colleges can determine whether they are financially sustainable through financing their operational budgets (Schwab *et al.*, 2019).

Financially self-sufficient institutions can operate without outside support and subsidization. Fiscally self-financing operations is a condition where all operating overheads, because of historical or current dealings, remain fully paid for by a self-generated revenue institution (Chiwodza, 2020). Private vocational training colleges are no longer viewed as providers of educational programs. They are key participants in the whole educational sector (Justino et al., 2019). Viable approach to financial sustainability should deject over reliance of a particular revenue source. The approach should examine the concept of operating income financing as it is grounded in the modern finance theories (Ahmad et al., 2019). Proponents of financial sustainability argue that organizations should apply market-based principles to achieve sustainable operations. Private colleges that manage their operations effectively and have good governance structure create value for current and future students. Proper utilization of financial resources makes private vocational training college to maintain their financial health whilst achieving their financial sustainable operations (Wakoli, 2019).

Private tertiary training institutions in Kenya receives income from operations including scholarship, CDF bursaries and retained earnings. They also receive money through students' fees that is paid by self-sponsored students. This amount of money is deposited directly to the institutions bank account, except the after-tax earnings which the owner of the institution reinvests back to the institution. This support is minimal and cannot help the private college to achieve its financial sustainability (Murage, 2015). However, since private tertiary institutions are not funded by the government, many parents and guardians have been able to dig deeper in their pockets to pay students fees for their sons and daughters who are studying in private tertiary training institutions (Wakoli, 2019).

Retained earnings and CDF bursaries amounted to 0.004 billion and 0.4 billion in 2013/2014 and 0.035 billion and 1.5 billion in 2017/2018 while appropriation-in-aid funding amounted to 16.5 billion in 2013/2014 to 33 billion in 2017/2018. The total education funding increased from 625.6 billion in 2016-17 to Ksh 768.5 billion in 2018/19. In Kenya, cost of private college education falls exclusively on the shoulders of parents and guardians of students who do not qualify for public universities or public specialized colleges. For the fiscal year 2018/2019, parents and guardians contributed 33% of the whole budget, while the national budget provided 53% and institutional income-generating activities contributed 14% of the total education budget (Justino et al., 2019).

Statement of the Problem

Financial sustainability is the capability of private tertiary institution to finance its operating costs whilst effectively fulfilling the institutions mission with enough funds for financing the educational services (Bradford, 2017). Financial sustainability enables private colleges to provide long-term educational services without jeopardizing future generations access to good education. However, there has been a problem of lack of sustainability of operations for several private colleges in Kiambu County (Murage, 2015). This is evidenced by the research conducted by Ng'ang'a (2016) where the researcher noted a declining trend in the operating surplus ratio for private tertiary training institutions. Furthermore, there is absence of legislation that gives the government the authority to disburse cash from ex-chequer financial budget to private colleges (Wakoli, 2019).

The current regulation regulates the registration and accreditation of private colleges, making it difficult for them to function. In Kenya, many private colleges have folded entirely due to poor sustainable operations that have led to inadequate financial resources to provide excellent educational services. Lack sustainable educational services was make future generations to suffer through limited access to quality education (Charana, 2018). In addition, conflicts of interest between proprietors of private colleges and college administrators, and commercialization of private tertiary training institution's operations has resulted to some institutions offering substandard academic programs. This has compromised their integrity through offering vague academic certificates which has resulted to their closure by the government. These backdrops have resulted to unsustainable operations among institutions (Murage, 2015). Private tertiary institutions make significant effects on socio economic development of a nation. They expand access to quality tertiary education and if the problem is not addressed then lack of necessary skills and manpower in the county will affect the achievement of vision 2030 and millennium development goals (Bradford, 2017).

The Country's economic growth and development may be hampered because of the identified problem. Lack of technological skills makes geographical mobility of labour to be impossible. Murage (2015) and Wakoli (2019) looked at cash management techniques while Ahmad et al., (2018) investigated the effect of income diversity and financial sustainability. Lee (2020) looked at financial resource mobilization while Margreth (2019) investigated financial sustainability determinants. Previous researchers did not adequately consider operating income financing and financial sustainability of private tertiary training colleges, and therefore this study was carried out to fill the research gap

Objectives of the Study

The objective for the study was to assess the effect of operating income financing on financial sustainability of private tertiary training institutes in Kiambu County.

THEORETICAL REVIEW

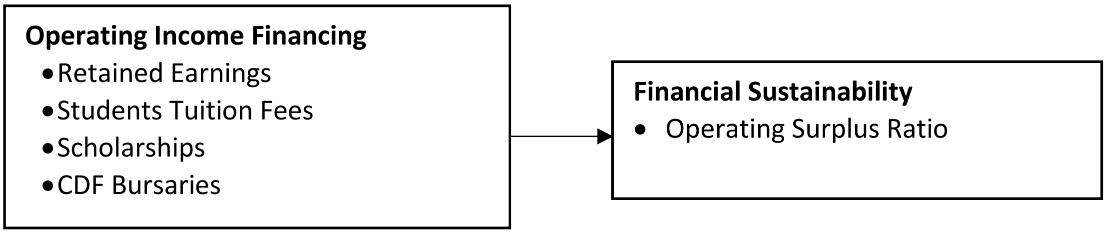
Theoretical review is the foundation upon which the study was be anchored and was consist of theories that relates to the research study because they make the findings to be more meaningful and generalizable (Afriyie, 2015). Theoretical review was consisting of the discussion of the theory that informed the research study. The theory that was underpinning this research study was net operating income approach.

Net Operating Income Approach

Net operating approach was postulated by Durand in 1959. The theory states that the operating income determines the value of the firm and not its capital structure. The difference between the total revenue and the total expenditure from operations was the net operating income of the institution (Schwab et al., 2019). Institutions with sound and adequate financing from operating activities was able to make payments in relation to their expenditures without seeking financial assistance from financial institutions. The essence of this approach is that firms can maximize their value using net operating income which is received from operating activities of the firm and firm's leverage and capital structure decisions are irrelevant (Maikabara, 2021). The theory assumes that the firm value is not affected by change in debt components and debt and equity are source of financing and the degree of leverage adopted by the firm does not change the underlying factors and it merely changes the distribution of income of the firm. This shows that firms that receive revenues from operating activities from operations can finance their operational activities without incurring cost of debt or cost of equity (Wakoli, 2019).

The theory supports the independent variable: retained earnings, student's tuition fees, scholarships, and CDF bursaries since private tertiary institutions receive these amounts through their bank accounts which can be referred to as revenue streams for the private tertiary training institutions Private tertiary training institutions can apply this theory in determining the total amount from operating revenue streams including income generated from internally revenue generating units as well as the total revenue expenditure in a particular period (Chiwodza, 2020). Net operating income approach can be applied by private tertiary training institutions to evaluate the institution's earning power which is useful in determining the liquidity, earnings ability, and the financial sustainability of the institution. However, the theory is criticized on the ground of impracticability. The assumption that no taxes exists and that the cost of debt is constant is not practical since firms pay corporate taxes from the incomes that they receive, and interest rates may change due to inflation in the economy. The theory presents an assumption that firms operate independent of other firms and no other factors affect the firm which is not practically applicable (Ahmad & Siraj, 2019).

Conceptual Framework



Operating Income Financing and Financial Sustainability

Lee (2020) examined the effect of tuitions fees control policy on Universities' financial management in Korea in the period from 2006 to 2015. The study used a descriptive research design with a sample size of 93 private Korean universities. Secondary data was gathered using data collection sheets from the financial records of private universities. The study revealed the tuition fee control policy positively and significantly influences the universities financial management. However, the study relied on one independent variable which may not be the only variable that may influence the financial management of a university and since the study was carried out in a different geographical location from where the current research was be carried out, the findings of the study may differ from the findings of the current study. Amos (2018) investigated the effect of school-based income generating activities on quality education provided in Tanzanian secondary schools run by the Catholic Diocese of Moshi in Tanzania. The research study was completed in October of 2017. The study used a cross-sectional survey design with a quantitative approach. A sample of 252 respondents were considered. Stratified and simple random sampling technique was used to draw the sample. As a data collection tool, a self- administered questionnaire was. According to the findings, there is a significant link between school-based income generating activities and secondary school education quality in Moshi, in Tanzania. However, due to the type and size of the institutions in terms of capital investments, the study's conclusion may not be applicable to other tertiary institutions. The sampling method utilized was not the same as the current method, hence the study's results may differ.

Simiyu (2019) studied the effect of provision of bursaries on human capital development in secondary schools and tertiary learning institutions in Murang'a County in Kenya. The study adopted descriptive survey design and the targeted population was 399 respondents. Stratified random sampling was used and the sample was 120 respondents. Questionnaires and key informant interviews were used as instrument of data collection. Bursaries have a substantial effect on human development in secondary schools and tertiary institutions according to the findings of the study. The study has a methodological flaw in that it fails to draw a clear representative sample. Because secondary schools and private higher institutions differ in terms of funding, the study's conclusions could not be generalized.

Financial Sustainability

Financial sustainability refers to the organizations capacity to obtain revenues in response to demand to sustain productive processes at a steady or growing rate to produce results and obtain a surplus. Ahmad et al., (2018) studied financial sustainability of Malaysian public universities: senior academic officer's perceptions. The study adopted descriptive research design and the target population was 20 public universities in Malaysia. The study sampled up 69 senior academic staff members. The study employed the questionnaire as a tool of data collection. The study reviewed that the respondents were receptive of the financial sustainability challenges faced by their institutions. However, the limitation of the study is that the study was carried out in a different country from where the current research was be carried out and hence the findings of the study may differ.

Ayam (2020) studied the effect of Ghana's higher education governance and regulatory framework on financial sustainability, in Ghana. The study adopted descriptive research design. The study sampled 250 respondents. The study employed questionnaire as the instrument of data collection. The study revealed that institutional governance significantly influences financial sustainability of tertiary institutions in Ghana. However, the study suffers theoretical gap since some of the theories used by the researcher did not match the variable under study. The study was carried out in a geographical location that is different from where the current research was be carried out and hence the study findings may not be the same since the operating income financing used in Ghana may not be the same as the operating income financing used in Kenya.

Minyoso (2020) examined determinants of financial sustainability of public universities in Kenya. The study was carried out in 2019. The study sample 18 public universities and census sampling technique was used. Data collection sheets were used and instruments of data collection. Between 2015 and 2019, secondary data was gathered from financial accounts for the previous four years. The study found that liquidity management, financial investments and risk management all have a favorable and significant effect on the financial sustainability of public universities. However, because public universities get government money whereas private tertiary schools do not, the study conclusions may not be generally applicable in private colleges.

RESEARCH METHODOLOGY

Research Design

Research design is the plan for connecting the conceptual research problems to the pertinent and achievable empirical research. Research design provides an inquiry for specific direction for procedures in research (Creswell, 2014). The study adopted descriptive research design. This research design enabled the researcher to describe the accessible population, situation, and the phenomena accurately and systematically under study (Mugenda & Mugenda, 2003). Descriptive research design was appropriate since it was helping the researcher to obtain information required to establish the hypothesis. Descriptive research design is frequently used when the researcher wants to acquire the ideal present status of the population under study (Mugenda & Mugenda, 2008).

Target Population

The researcher's target population is the group of people with whom he or she wishes to conduct research and develop conclusions (Creswell, 2014). The proportion of the overall population to whom the researcher has reasonable access, which is the subset of the target population is referred to as the accessible population (Creswell, 2014). All private tertiary training institutes in Kiambu County comprised of the target population. The study however, used an accessible population of ninety-four (94) private colleges that operate in Kiambu County and are registered by TVETA. The list of the accessible population was drawn from the Technical and Vocational Education and Training Authority Data Base file, 2021 with the authority of the assistant manager for accreditation of colleges at technical and vocational education training authority.

Sampling Frame

The sampling frame is a list of all elements of the total population from which a sample can be drawn (Mugenda & Mugenda, 2003). The sampling frame for this study was all the ninety-four (94) private tertiary institutions that are operating in Kiambu County. The ninety-four private tertiary training institutions were those that are registered by TVETA (Technical Vocational Education and Training Authority Data Base file, (2021).

Census Survey Technique

Census survey is a technique where the data is collected from all the elements of the target population (Creswell, 2014). The study adopted a census survey technique. Census survey was done to all 94 private tertiary training institutions in Kiambu County in Kenya. The census survey provided intensive and in-depth information about the phenomena understudy. Census survey technique was used in this study since the accessible population was too small for the researcher to draw a representative sample and the results of the investigation was more accurate and reliable. The researcher carried out census publicity to ensure that the respondents were adequately informed about the scope and the coverage of the census survey. This was to enable the respondents to familiarize themselves with the type of data that was to be provided. Census publicity was done through a phone call which was made to the owner and/or the administrator in advance before the date of data collection. The census publicity phone call was to enable the respondents to adequately prepare with relevant information before the actual date of data collection.

Data Collection Instruments

Research instrument is any tool that is used to collect data that is relevant to the subject under study. The researcher used a secondary data collection sheet since the researcher was relying on the existing data that is available in the financial statements of the private tertiary training institutions (Thuva, 2017). The data collection covered a five (5) years period from 2017 to 2021. This period was selected for the study to establish the changes in the private institutions over time and to base the analysis on the most recent data possible. A five-year period enabled the researcher to compute the operating surplus ratio for the dependent variable for various years for better analysis (Simiyu, 2019). The secondary data was collected from the financial statements of the sampling units relating to cash in hand, accounts receivables, cash at bank, prepayments, long term bank loans, lease contracts, hire purchase, asset financing, retained earnings, students' tuition fees, scholarships, CDF bursaries, academic incubators, research grants, academic linkages, and donor funds. The researcher relied on panel data for collecting the secondary data from the ninety-four private tertiary training institutions (Awuor, 2015). Panel data analysis refers to the statistical analysis of data consisting of multiple observations on each sampling frame. The panel data was used since it had less collinearity among variable than a time series data. The researcher used panel data to study complex issues relating to the sampling units and to run regression model to conclude the analysis (Minyiso, 2020).

Data Collection Procedure

The researcher obtained introduction letter for data collection from the College of Economic Studies of Jomo Kenyatta University of Agriculture and Technology. Thereafter, the researcher obtained authorization from NACOSTI to collect data from Kiambu County's private tertiary training institutes. The researcher booked appointment with proprietors of private tertiary training institutes to collect data. The researcher formally invited respondents to engage in the study by visiting private tertiary institutes in Kiambu County. The researcher was engaging one (1) owner/administrator from each private tertiary training institution to make a total of ninety-four (94) respondents. To obtain the essential data from the respondents, the study used a standardized secondary data collection instrument (Mugenda & Mugenda, 2008). The researcher requested for financial statements for the private tertiary training institution from the respondents and extracted the relevant data from the financial statements for final analysis and presentation.

Pilot Testing of Research Instruments

A pilot study was conducted in private tertiary training institutions in Nairobi County in Kenya. The purpose of pilot study was to establish the accuracy and appropriateness of the research instruments and therefore to enhance validity and reliability. The pilot study was to assist the researcher to determine whether there are any flaws, limitations, or other weaknesses within the research instruments. This was to allow the researcher to revise the research instrument prior to the implementation of the study (Creswell, 2014). The researcher selected those respondents who participated in the pilot study from private tertiary training institutions in Nairobi County in Kenya. These respondents were chosen because their traits were like those of the respondents in the main study. The participants in the pilot study were not included in the main study. The accessible demographic for the successful pilot research was 10% of the target demographic (Mugenda & Mugenda, 2003). The pilot study included 10% of the accessible demographic, which was consisting of 9 proprietors of private tertiary training institutes in county government of Nairobi. The research tool was pilot tested on 9 proprietors of private institutes of higher learning in Nairobi County who were not to participate in the main study.

Reliability of Research Instrument

Reliability of research instrument is the ability of the research instrument to yield consistent results after repeated trials (Mugenda & Mugenda 2003). The research instrument was reliable if it was able to measure a variable accurately and obtain the same results over a period. Reliability of research instrument was affected by random errors and the pre-test helped the researcher to identify the errors and hence respond to them before the main study. The study used internal consistency measure known as Cronbach's Alpha coefficient to test the reliability of the research instrument. The value of the Alpha was ranging from 0 to 1 with reliability increasing with increase in value. Coefficient of 0.7 and above was taken, as it is commonly acceptable rule of thumb that indicates acceptable reliability in the study (Creswell, 2014).

Validity of the Research Instrument

Validity of research instrument is the extent to which a concept is accurately measured in a research study. Validity is the accuracy and meaningfulness of inferences, which are based on the research results (Mugenda & Mugenda, 2008). The research instrument was validated in terms of content validity. The content related technique measured the degree to which the data collected reflected the specific areas covered. In this study, the secondary data collection sheet was be submitted to the supervisors who are experts in the field to ascertain validity. Incorrectly and inadequately phrased data items in the secondary data collection sheet were corrected to ensure content validity before the main study.

Data Processing, Analysis and Preparation

Data preparation is the process of putting collected raw data in an ordered way and organizing it to extract useful information (Mugenda & Mugenda, 2003). Data preparation involves editing, coding, classification, and tabulation (Murage, 2015). In this research study, the collected data was read and scrutinized to reveal their structure, meaningful configuration, and their coherence. Further, the collected data was edited to eliminate ambiguity and obvious errors. The researcher organized and classified the collected data based on the research design and problem formulated. The data was referenced, coded, and checked to facilitate data entry. Thereafter, the data was processed by converting it into a computer readable form.

The study adopted Statistical Package of Social Sciences as the statistical software of analysis. Data collected was entered into the computer system for statistical analysis using the Statistical Package for Social Sciences, Version 20. The statistical analysis was run to obtain descriptive statistics, frequencies, and percentages from the actual secondary data collection sheets. This software enabled the researcher to generate many different forms of tabulated reports.

Model Specification

Model specification is the process of determining which independent variable to include and exclude from the linear regression equation (Wakoli, 2019). To statistically define the link between independent and dependent variable, the researcher used multiple linear regression model. The type of multiple linear regression model of panel data that was employed by the researcher was as follows.

$$Y_{it} = \beta_o + \beta_1 X_{it,\,1} + \varepsilon_{it}$$

Where.

Y – represents Financial Sustainability as measured by operating surplus ratio.

β_o - denotes Constant

β_1 - signifies Beta Coefficient

i - is the unit of observation

t - is the period for which the study was be conducted

X_1 – represents operating income financing as measured by retained earnings, students' tuition fees, scholarships, and CDF bursaries

ε - represents error margin

Data Presentation

Data presentation is the process of using graphical formats to visually represent the effect between the independent variable and the dependent variable to allow for a decision to be made based on them (Mugenda & Mugenda, 2003). In this study, the results of analysis were presented using tables.

Diagnostic Tests

Diagnostic tests are performed to ascertain whether the notions of linear regression model are met. Linear regression model assumes that the study variable was linearly related, normally distributed, no multicollinearity, no autocorrelation, and no homoscedasticity. The study adopted linearity test, normality test, heteroscedasticity test, multicollinearity test and autocollinearity test

Normality Test

The researcher adopted Kolmogorov-Smirnov test. This statistical test enabled the researcher to make objective judgement of normality. The researcher used this test since it is most appropriate for large sample where the *n* is greater than 50. In Kolmogorov-Smirnov test, the null hypothesis stated that the data was be taken from a normal distributed population. Where $p > 0.05$, null hypothesis was to be accepted, and the data was assumed to be normally distributed (Creswell, 2014).

Linearity Test

Linearity test measures whether the independent variable and the dependent variable are linearly related. The linear regression model was conducted on the assumption that there was a linear effect between the independent variable and the dependent variable. The linearity assumption was tested using the Karl Pearsons coefficient of correlation. The values of coefficient of correlation ranges from -1 to +1. A value greater than + 5 indicated a high positive correlation between the variable under study

Heteroscedasticity Test

Heteroscedasticity was used to test whether the error variance was from a linear regression model or was dependent on the values of the independent variable (Charana, 2018). The researcher employed Breusch-Pagan and Koenker test to test for heteroscedasticity in the regression model. The test assumes that the variances from the linearity model are homogeneous and that the errors of the model are distributed across all the observations. Constant variance results indicated that the linear regression model did not have biased predictions. Breusch-Pagan and Koenker test enabled the researcher to decide on the p-value obtained. If the p-value was greater than the significant level of 0.05, then this was a clear indicator that there was no heteroscedasticity in the distribution (Chiwodza, 2020).

Multicollinearity Test

The multicollinearity test was used to check whether the independent variable and the linear regression model are related (Lee, 2020). A variance inflation factor was used to determine whether multicollinearity exists. There was a multicollinearity problem if the results obtained were greater than 10 and no multicollinearity concern if the results obtained were less than 5 (Lee, 2020).

Autocorrelation Test

Autocorrelation is the association of variable observed in an ordered time or space. The researcher used Durbin-Watson test to determine the autocorrelation between the independent variable and the dependent variable. Durbin-Watson statistic ranges from 0 to 4. A value near 2 indicated that there is non-autocorrelation between the variable while value closer to 0 indicated positive autocorrelation. A value between 1.5 to 2.5 indicated absence of autocorrelation between residual value (Murage, 2015).

Hypotheses Testing

The study assumed that no other external operating income financing that influence financial sustainability other than the variable under study. Linear regression analysis was used to test hypothesis at 95% level of confidence (level of significance is 0.05), guided by the conceptual framework. To test the hypothesis of the study, if the *P* value is less than 0.05 then the null hypothesis was rejected and if otherwise it was not rejected.

RESEARCH FINDINGS AND DISCUSSIONS

Inferential Analysis

The purpose of the study was to investigate the relationship between operating income financing and financial sustainability of private tertiary training institutions in Kiambu County. The independent variable was operating income financing while the dependent variable was financial sustainability. The study therefore sought to establish the statistical relationship between these variables through multiple linear regression analysis and Chi-Square tests. The main measures that were used included the R-squared (R^2), the P-value, Beta coefficients and chi -square values.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.9473	0.8974	0.768	0.049

The *R* value was 0.947, the R-Square was 0.8974 and the adjusted R-Square was 0.768. The R-Square value of 0.8974 implies that the independent variable (Operating income financing) would contribute to 89.74% of the dependent variable (financial sustainability) when the external effects are not eliminated from the model. In addition, the adjusted *R-square* of 0.768 indicated that when the external effects are eliminated, the independent variable would provide a 76.8% of the prediction of the dependent variable. The values of the Adjusted *R-Squared* showed that after the model is adjusted for inefficiencies the independent variable would explain 76.8 percent of financial sustainability of private tertiary institutions in Kiambu County.

Analysis of Variance

The Analysis of variance (ANOVA) was employed in this study to help establish if there was a regression relationship between the variables in the study. A significant F statistic indicated in ANOVA simply demonstrated that the model was fit for the estimation. The model was tested at 5 percent significance level with a 2 tailed test.

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.9040	4	0.4760	3.528	.010(a)
Residual	0.2178	90	0.00242		
Total	2.1218	94			

The F value estimated at a 5 percent significance level was 3.528, with a significance value of 0.010, which was less than the crucial value produced from a 2-tailed test at the same significance level. This model's computed F was higher than the F critical (at 4 90, F critical= 2.47). This was an indication of the model's overall importance. As a result, the study established that there was a substantial link between operating income financing and financial sustainability of private tertiary institutions in Kiambu County.

Regression Coefficients

To answer the proposed model for the relationship between operating income financing and financial sustainability of private tertiary institutions in Kiambu County, the multiple regression coefficients were calculated and presented in the table form. These with their significance values (also given in the table) measures the effect of each independent variable on financial sustainability (dependent variable). The effect that would occur to financial sustainability of private tertiary institutions in Kiambu County to changing (increasing/decreasing) this variable.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.856	0.578		1.481	0.021
Operating income financing	0.755	0.494	0.261	1.528	0.042

Based on these coefficients, the regression model ($Y = \beta_0 + \beta_1 X_1 + \varepsilon$) therefore becomes.

$Y=0.856 +0.755X_1$

The model indicates that, holding the predictor variable constant, the financial sustainability of private tertiary institutions in Kiambu County would be 5.970. The results from the regression analysis revealed that there was a beta coefficient of 0.755 for operating income financing. The corresponding t and p values for operating income financing was ($t= 1.528$; $p= 0.042$) which was statistically significant, because p values were less than 0.05.

Hypothesis Testing

The chi-square tests were undertaken for to test the null hypotheses as proposed in the study. The null hypothesis was undertaken for analysis. The chi-square (I) test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. To achieve this, a Chi-square (χ^2) test of significance was used to determine whether a relationship other than chance existed between the variables investigated.

Hypothesis Statement	Value	df	Asymp. Sig. (2-sided)	Decision Rule
H_{03}: Operating income financing has no significant effect on financial sustainability of private tertiary training institutions in Kiambu County,	13.383(a)	4	0.014	Reject H_{03}

The chi-square statistic was 13.383. Since this is greater than p-value of 0.014, it was concluded that there was a statistically significant relationship between the two categorical variables hence the null hypothesis was rejected. Thus, operating income financing affects the financial sustainability of private tertiary training institutions in Kiambu County.

CONCLUSIONS

The study establishes that there is a positive correlation between operating income and financial sustainability of private tertiary training institutions in Kiambu County. The exploration concludes that increase in operating income increases financial sustainability in a significant way.

RECOMMENDATIONS

From the findings of the study some policy implications are suggested as follows: private tertiary training institutes to adopt adequate operating income financing to maintain their financial sustainability, the government of Kenya formulate a policy that shall enable the state to support private colleges through the annual fiscal budget, donor funding organizations to collaborate with private tertiary training institutions to provide financial support and to appoint their representative whose mandate is to make sure that donor funds are used wisely in the beneficiary private institution and organizations offering research grants to collaborate with private tertiary training institutions to provide research grants to students studying in the private colleges.

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