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CONTRIBUTION OF INTERNAL CONTROL SYSTEMS TOWARDS SUSTAINABLE FINANCIAL PRUDENCE IN PUBLIC UNIVERSITIES IN KENYA

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Abstract

The study assessed the contribution of internal control systems towards sustainable financial prudence in public universities in Kenya. The agency cost theory and the African political economy model guided the study. The study adopted descriptive survey research design. The study was conducted across six selected chartered public universities in Kenya where a total of 289 accounts, finance, and management staff constituted the study population. A sample of 127 respondents was obtained using stratified random sampling method. The study employed semi-structured questionnaires to collect data. The data collected were analyzed with the aid of the Statistical Package for Social Sciences Version 24 tool. Data analysis was both descriptive and inferential. The findings of the study were presented in form of tables. The study indicated that strengthening internal control systems in public universities was likely to result in enhanced sustainable financial prudence (r= 0.609; p< 0.05). Moreover, the study indicated that 37.0% of sustainable financial prudence in local public universities could have been attributed to internal *control systems. Internal control systems were concluded to be essential in enhancing sustainable financial prudence in local public universities. It is recommended that public universities in Kenya should put in place sound internal control systems that advocate for ethical values and integrity. The finance managers in these universities are advised to objectively implement policies on internal control systems in order to ultimately ensure sustainable financial prudence.*

Keywords: Agency cost theory, African political economy model, Financial prudence, Internal controls, Sustainable financial prudence, Public universities

INTRODUCTION

Prudence concept is one of the generally accepted accounting principles (GAAPs). GAAPs are a set of accounting principles, standards and procedures that companies use in recording financial transactions and compiling their financial statements. They are a combination of authoritative standards set by policy boards and are simply the commonly accepted ways of recording and reporting accounting information. Prudence ensures that assets and income are not overstated and liabilities and expenses are not understated in recording the financial transactions and preparing financial reports (Financial Accounting Standards Board (FASB), 1973).

The rules and clarifications published by FASB are meant to ensure that corporations fully account for different kinds of income, properly categorize and fully record income and expenditure in the year they occur. Financial prudence is a theme that is synonymous in all organizations; private or public. It involves ensuring that the finances at the disposal of the firm are employed in tandem with their intended use. Financial prudence encapsulates the sourcing of funds and how those funds are utilized. A study by Prabhakara and Begum (2013) tested the aspect of financial prudence. They noted that financial prudence is linked to financial portfolio.

The Institute of Chartered Accountants of England and Wales (ICAEW) (2000) defines internal control as the whole system of controls established by management in order to carry on the business of the organization in an orderly and efficient manner, ensure adherence to management policies, safeguarding of assets and secure, as far as possible, the completeness and accuracy of financial records. According to the Committee of Sponsoring Organizations (COSO) (1992), an efficient internal control system aims at achieving three objectives namely, effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations.

In 1986, prompted by growing concerns on fraudulent financial reporting, the National Commission on Fraudulent Financial Reporting (the Treadway Commission) commissioned an extensive study and evaluation of the system of financial reporting. Arising from the study, in 1992 COSO published the Internal Control–Integrated Framework which established 17 principles of an effective internal control system which was revised in 2003 to explicitly explain the 17 principles of an effective internal control.

Other scholars, Pillai et al (2010) observed that financial prudence could enlighten university students to avoid debt and wasteful spending which could consequently lead to financial soundness. They explain that financial prudence entails making well informed financial decisions and ensuring that the expenditure is within the budget allocated. Prudent financial management largely determines the performance of learning institutions. Competence in financial management enables competent preparation of books of accounts and financial statements as well as financial reporting and auditing.

The researcher, Prowle (2010) brings out distinctly the essence of prudent financial management in running the financial affairs of public sector organizations since they deal with huge chunks of public funds and mainly operate in a political environment. The author further asserts that there is dire need for a high degree of confidence in matters relating to financial decisions in such public sector organizations. Hayles (2005) also notes that to mitigate exposure to financial risks which is arguably a consequence of financial imprudence, financial controls and other internal controls must be instituted in organizations to ensure accountability and safeguarding of sensitive information.

As noted by Eli-Nafbi (2008), the deficiency in the financial control systems in Sudan and other developing countries has facilitated the improper use of public funds and fuelled financial corruption. The author continues to state that in Zambia, there have been no specific financial improvements in the public sector. An acute shortage of professionals with requisite skills and knowledge on financial management has been reported in Zimbabwe and Botswana. This illustrates that most developing countries in Africa lack an efficient and effective financial management system that has facilitated malpractices in such countries.

The principles of financial prudence in the public sector are enshrined under Chapter Twelve of the Constitution of Kenya, 2010. They include the need to use public money in a prudent and responsible way. It also requires financial management to be responsible and fiscal reporting to be clear and revenue collected to be shared equitably among national government and county governments.

Statement of the Problem

Student enrolment in public universities in Kenya soared by 17% from 361,338 in2013 to 421,152 in 2014 and by 12% to 470,152 in 2015 (Kenya Education Sector Report 2015). Traditionally, public universities are mainly funded by the government which is now supplemented through revenue from income generating activities. There has been a declining state funding through the National Treasury (Mbirithi 2013). A comparison of state funding between 2014 and 2015 indicates that government funding has declined by 6% where the higher education spending was adjusted downwards from US$ 627.2 million (Ksh.54,930.127 million, at the exchange rate of Ksh.87.58 to the US dollar on 30th June, 2014) in 2014 to US$ 588 million (Ksh.58,241.4 million at the exchange rate of Ksh.99.05 to the US dollar on 30th June, 2015) in 2015.

There have been mediocre financial management systems in public universities which facilitate channeling the funds to non-strategic projects rather than equipping the institutions with the necessary infrastructure for enhanced performance. This state of financial impropriety has exerted a strain on the existing facilities and adversely affected the quality of teaching and learning; the morale of staff; research productivity and the intellectual climate of public universities as a whole; and inadequate carrying capacity of the universities. Ultimately, the country will suffer from inadequacy of educated and skilled manpower. Prowle (2010) emphasizes the essence of prudent financial management public sector organizations. Chiemeka and Nwagwu (2015) analyzed financial prudence in the public universities. However, it is apparent that hardly are there any empirical investigation in regard to the contribution of internal control systems towards sustainable financial prudence in public universities in Kenya.

Study Objective

To examine the contribution of internal control systems towards sustainable financial prudence in public universities in Kenya.

Research Hypothesis

H_0: Financial control systems have no significant contribution towards sustainable financial prudence in public universities in Kenya.

H_A: Financial control systems have significant contribution towards sustainable financial prudence in public universities in Kenya.

THEORETICAL FRAMEWORK

The theories reviewed include the agency cost theory and the African political economy model. The foregoing theory and model are then discussed in the context of internal control systems and sustainable financial prudence.

Agency Cost Theory

The proponents of agency cost theory were Jensen and Meckling (2001). The theory examines the conflict between shareholders and managers. Shareholders are owners of the enterprise. Managers are composed of agents or stewards appointed by the shareholders.

Conflict between the shareholders and managers is said to stem from the fact that shareholders are entitled to payouts for their investments thus minimizing the internal resources under the control of managers. On the other hand, managers are incentivized to manipulate information. Managers are also motivated to favour projects with poor net present value (NPV) if they provide immediate profits due to the reasoning that they are compensated on the premise of accounting profits (Jensen 1986; Dogan & Smyth 2002). In the event that managers insubordinate the firm's interest while prioritizing their personal interests, the firm they work for is likely to lose its value (Jensen & Meckling 2001). The theory further indicates that the managers' strong desire for high rewards encourages them to manipulate, overestimate or underestimate indicators in order to make them appear more achievable to the detriment of the firms. To this effect, the authors advised that the agency costs of separating ownership from control should not be excessive as long as factors such as competition and incentive plans are designed to reduce the self-interest of managers. However, conflict may arise when either of the parties feels the other is not doing what is required. They opine that managers may feel that their compensation is not commensurate to their efforts. On the other hand, the stakeholders may feel that the managers are not prioritizing the institution's interests. The foregoing disharmony is a recipe for conflict. In the context of public universities in Kenya, the owners, made up of the government and other stakeholders of these institutions, mandate the managers (University Council, Senate and other management staff) they have recruited to ensure that universities realize maximum output in terms of both quality and quantity of students graduating each year.

On the other hand, the management team expects the university and other stakeholders to compensate them for their efforts. The theory is therefore relevant in the current study to the extent that there exist an owner-steward relationship whereby the university council, through the university administration, is entrusted with the running of public universities in Kenya.

The African Political Economy Model

The African Political Economy (APE) Model partly explains the behavior of universities in times financial needs (Wangenge-Ouma & Cloete, 2008). The key assumptions of the model revolve around the governments' reaction to declining economic conditions and how such reactions affect the government's allocation to education. It focuses on the effect of political and economic forces on the environments within which universities carry out their core functions of teaching and research within the context of inadequate funding by the major economic financiers.

The scholars allude that the model helps to highlight the particular political, economic and social environments the country faces which include the debt burden, political instability, inadequate infrastructure. These factors lead to consistent reduction in government funding with the education sector being the worst hit by such reductions.

The model explains the specific political, economic and social state in Kenya in which economic decline, political turbulences and reduction in government spending affect the university system. Universities are then forced to embrace sustainable prudence in financial management in order to ensure their survival.

EMPIRICAL REVIEW

A review of past empirical studies in respect of internal control systems and sustainable financial prudence is presented in this section.

Internal Control Systems and Sustainable Financial Prudence

Scholars Boyle, Cooper and Geiger (2004) carried out a study on internal control reports of 32 RhodesIslands State agencies seeking to provide feedback on the practical application of internal control currently adopted by the accounting profession. The study concluded that the integrated internal control framework was able to effectively classify the 213 reported control weaknesses. The classification showed that control activities had the highest proportion of identified weaknesses and monitoring had the lowest proportion of weaknesses. Another study by Lemi (2015) on Ethiopian universities sought to inform management of universities how a strong internal control can be used to detect and at least minimize the misuse, theft of resources and in attaining institutional objectives. Knowing the areas of deficiencies enables the universities to design strategies to seal the loopholes. Thus, strong internal controls safeguard an organization's resources enabling it to achieve its objectives. This is acknowledged to be a recipe for sustainable financial prudence.

There are various types of control systems as evidenced in different studies which revolve around similar objectives. An empirical study was carried out by Dumitru, Dumitrana

Jinga and Radu (2010) on the need to implement the human resources (HR) management control system amongst Romanian entities. The scholars observed that a feasible HR control system ought to have one key attribute, namely, flexibility to the current HR needs. The authors observe that there are many multinational firms that have experimented on a number of accountability systems while considering sustainable development. The authors indicated that a control system strives to ensure that the organization is run smoothly, for instance, by ensuring that employees are placed on the suitable positions in tandem with their skills and competences. Davila, Foster and Li (2005)opine that there are different ways of designing management control systems. The authors used two sequential empirical studies. The first examined the adoption of management control systems while the second aimed to generalize the findings in regard to the influence of external parties on the adoption of the management control system. They acknowledged that even though management control systems could limit innovation, they could also enhance the same in an organization. It was also indicated that managers adopt the management control systems in order to address specific needs they face. The needs include external contracting, legitimizing the process with external parties, internal drivers like managers' background, need to focus on how managers react to problems.

The analysis by Lovstal (2008) on management control systems in entrepreneurial organizations as a balancing challenge focused on medium-sized firms which, he argued, were an interesting situation of overall tensional requirements. The scholar suggested that due to the persistent use of formal management control systems which include budgeting and reporting systems, performance measurement systems, and project costing systems, the firms face a challenging task of handling the delicate issue for medium-sized enterprises and their managers. The study involved two firms namely Soft Tel and Family Tech which were both medium-sized and growing. The scholar interviewed the managers of these companies on their use of management control systems and what drives them to adopt or fail to adopt the systems.

Another study by Fosu, Krah and Obeng (2013) underlines the importance of financial controls in ensuring that the metropolitan, municipal and district assemblies in Ghana are always solvent and able to provide the necessary services to the local population. The authors maintain that the financial controls ensure that the spending officers in these assemblies authorize the commitment of funds within the limits of the authorized budget and in line with the rules and procedures. The authors further maintained that, as a control measure, the expenditure must be authorized. They found that control of the expenditure is exercised by the district chief executives, finance officers and the internal auditor.

According to Simiyu (2011), technical training institutions face a number of challenges relating to the impact of internal controls on the institution's performance. Such challenges in internal controls arise as a result of liquidity problems, financial reports that are not prepared on time, problems in the accountability of financial resources and misappropriation of institution resources. In yet another study on the effects of internal controls on financial performance of technical training institutions in Kenya, Munene (2013) observed that indeed the technical institutions were committed to the control systems and actively participated in the monitoring and supervision of the activities of the institutions. Notably, the authors found inefficiency in the internal audit department in the duties of conducting regular audits and reporting on the same. The study recommended competence profiling of the staff in the internal audit department. This is in context that character plays an important role in shaping the quality of output from an internal audit department owing to its reporting relationship. Thus, an efficient and effective internal control system that has an empowered internal audit serves as the foundation of sustainable financial prudence.

Sustainable Financial Prudence

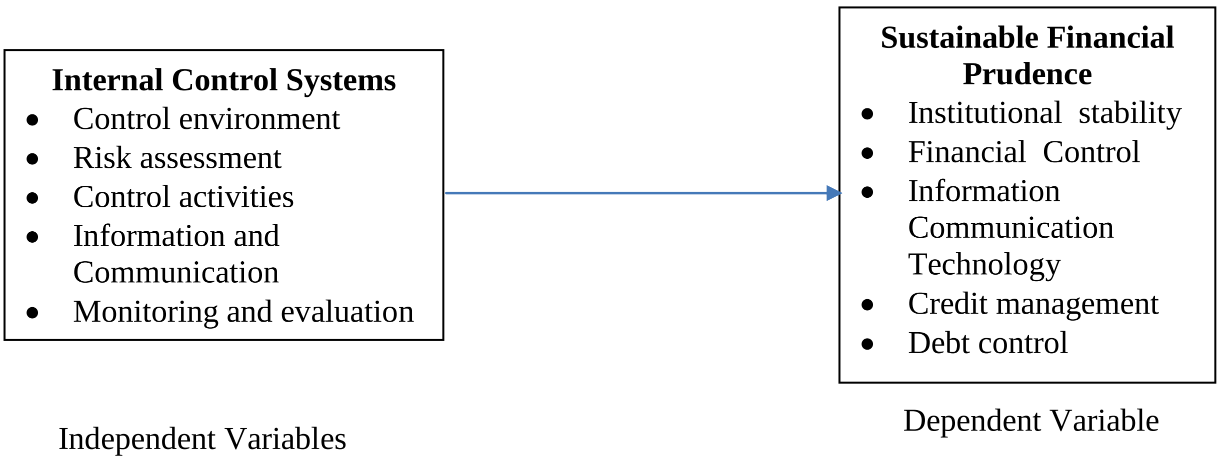
A study by Prabhakara, & Begum (2013)on financial prudence argued that financial prudence is linked to financial portfolio. Financial portfolio aims at placing its funds available for investment in assets whose returns are affected differently by economic conditions to enable organizations to sustain their expected income. The study concluded that 90 per cent of studies on the cost of capital indicate that prudent sustainability standards lower the cost of capital. 80 per cent of studies illustrate that stock price performance of firms is positively affected by good sustainability practices. They note that it is beneficial to investors and corporate managers to incorporate sustainability considerations into the decision making processes. They emphasize that there is a relation between longevity and performance of firms. Essentially, high performing firms have a high likelihood of operating long into the future.

Similarly, Clark, Feiner and Viehs (2004) acknowledged that sustainability is one of the most significant trends in financial markets over the years. The authors concur that, the content, focusing on financial sustainability is the same regardless of investor's desire for sustainable responsible investing (SRI). Management perceive sustainability as an avenue of gaining competitive advantage relative to competitors (Ashbaugh-Skaife Collins & LaFond 2006). The relationship between sustainability and performance is debatable and is a subject of many empirical studies that seek to confirm the positivity of that link (Sahut et al 2012).

The study concluded that sustainable development policies can create a strong wall that protects firms against crisis through its three crucial pillars namely environmental, social and economic. Wallstedt et al (2014) observe that the solutions for financial sustainability are subject to the size and organizational structure. There is a scarcity of local empirical studies into the theme of financial prudence. This partly persuades the present study to be carried out with a view of bridging the existing research and knowledge gaps.

CONCEPTUAL FRAMEWORK

Figure 1: conceptual framework



As shown in Figure 1, there are two variables which are internal control systems and sustainable financial prudence. Each of the foregoing variables is operationalized by a set of parameters. The indicators of internal control systems include control environment, risk assessment, control activities, information and communication, and monitoring and evaluation. On the other hand, indicators for sustainable financial prudence include institutional stability, financial control, ICT, credit management, and debt control. The study hypothesized that internal control systems contributed toward sustainable financial prudence in public universities in Kenya.

METHODOLOGY

Research Design

A research design constitutes decisions regarding what, where, when, how much, and by what means concerning a research study. In other words, it is the blueprint of the entire study (Howell 2013). This study aimed to find factors affecting the sustainable financial prudence in public universities in Kenya. The study adopted descriptive survey design where the respondents' views regarding the study themes were analyzed. This design was used to fulfill the objectives of the study. Descriptive designs are used to portray an accurate profile of persons, events or situations (Saunders et al. 2009).The method of survey allowed collection of data from a sizeable population in a highly economical way. Experience survey uses the people who have had practical experience with the problem being studied (Kothari 2004).

Target Population

The aggregate of individuals sharing similar objectives describes the target population (Kothari, 2004). The target population further refers to the population to which the study findings are generalized. The 289 accounts, finance, and management staff at the 6 selected chartered public universities in Kenya constituted the accessible population as shown in Table 1. The 6 public universities studied were selected randomly from a list of all chartered public universities. The target staff members in the universities were believed to be the most conversant with issues touching on financial prudence in public universities.

Table 1: Distribution of the Accessible Population

University	Accountants/Finance Officers	Management Staff	Sub-Total
Egerton University	15	27	42
JKUAT	16	22	38
Kenyatta University	21	32	53
UoN	34	37	71
Moi University	24	26	50
Maseno University	14	21	35
Total	**124**	**165**	**289**

Sample Size

Sampling was necessitated by the relatively large study population. Sampling is the selection of a few items or parts of an aggregate to be used to make an inference about the aggregate population. It is used to obtain information about the aggregate population by examining only a few items out of it (Kothari, 2004). Essentially, Nassiuma's (2009) formula was employed to determine the sample. The value of 'n' obtained in the calculation is taken as the number of items to be used in the analysis, that is, the size of the sample. The calculation using the formula is as outlined here below.

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

Where

n = Sample size

N = population size

C = Coefficient of variation (21% ≤ C ≤ 30%)

e = Precision level (2% ≤ *e* ≤ 5%)

Substituting these values in the equation, estimated sample size (n) was:

$$n = \frac{289\,(0.3)^2}{0.3^2 + (289-1)0.02^2}$$

$$n = 126.75$$

$$n = 127 \text{ respondents}$$

Therefore, the sample size constituted 127 respondents drawn from 6 public universities in Kenya. Table 2 shows the distribution of the sampled respondents.

Table 2: Distribution of the Sampled Respondents

University	A/F(N)	%	A/F(n)	MS (N)	%	MS (n)	Sub-Total (n)
Egerton University	15	12.1	7	27	16.4	12	19
JKUAT	16	12.9	7	22	13.3	10	17
KU	21	16.9	9	32	19.4	14	23
UoN	34	27.4	15	37	22.4	16	31
Moi University	24	19.4	10	26	15.8	12	22
Maseno University	14	11.3	6	21	12.7	9	15
Total	**124**	**42.9**	**54**	**165**	**57.1**	**73**	**127**

A/F represent 'accountants/ finance officers'; MS represent 'management staff'

Sampling Technique

The study adopted stratified random sampling method to obtain the sampled respondents from the target population. Stratified sampling divides the population into sub-populations that are more homogeneous as compared to the total population. This makes it possible to make more accurate inferences concerning the sub-population or stratum by selecting samples for study from that stratum. The strata are purposively formed based on the researcher's past experience and personal judgment. Data is then selected from each stratum using simple random sampling (Kothari, 2004).

The number of strata in this study was equivalent to the 6 selected public universities. This stratified random sampling method was appropriate to this study. This is because of the fact that it ensured that all the involved institutions were proportionately represented in the study. Each stratum was homogenous in that the employees had similar knowledge of their respective institutions (strata) relative to sustainable financial prudence. Therefore, the stratified random sampling method reduced sampling bias and also ensured relatively fair representation of the institutions that were studied.

Research Instrument

The study employed a semi-structured questionnaire to collect primary data from the sampled respondents. This type of questionnaire provides the general guide on the type of information to be obtained allowing the respondent to formulate the responses in their own words as much as possible (Kothari, 2004). According to Mugenda and Mugenda (2009), a questionnaire is the most appropriate tool of collecting primary data from sampled respondents in survey research as was the case with the current study. The questionnaire was structured in such a way that it captured demographic information of the respondents, and data pertinent to the study variables (income generating activities, internal control systems, management support, credit controls, external borrowing, and sustainable financial prudence in public universities in Kenya). Factors touching on the study constructs were on a 5-point Likert scale where integers 1 to 5 representing the levels of agreement from strongly disagree, to strongly agree.

Pilot Testing

Pilot testing is carried out as a means of testing sound measurement of the research instrument, that is, the research questionnaire. The research instrument (questionnaire) underwent a pilot testing in order to determine its reliability and validity before it was used to collect data for the final study. The pilot test involved administering a set of the structured questionnaires on a few respondents. The respondents were drawn from MasindeMuliro University of Science and Technology (MMUST). The participants in this study were approximately 10 per cent of the study population (Kothari, 2004). The filled questionnaires underwent both reliability and validity tests.

Reliability Testing

Reliability describes the consistency of the research instrument, that is, its ability to return similar results when administered on different respondents. The study adopted three tests of reliability; test re-test method, split-half method and the use of Cronbach alpha. Test-retest reliability is calculated by administering the same test to the same participants on two different occasions and the correlating the two tests. Split-half reliability method is calculated by administering one test once and then calculating the reliability index. Greater emphasis in thus study was on the latter due to the argument that it is the most widely used and recommended test of reliability (Kimberlin & Winterstein 2008). The instrument was deemed reliable after attaining the alpha threshold of 0.77; that is $\alpha \geq 0.77$ as shown in Table 3.

Table 3: Reliability Test Results

Study Construct	Test Items	Cronbach Alpha Coefficient
Internal control systems	11	0.781
Sustainable financial prudence	6	0.800

Validity Testing

The study further assessed the content validity of the instrument. Validity is asserted to be the extent to which the interpretations of the results of a given test are warranted (Kombo and Tromp, 2010). Content validity, which examines how well the items developed to operationalize a variable provide a sufficient representative sample of all the items that probably measure the construct of interest, was assessed by involving the assigned supervisors since according to Kimberlin and Winterstein (2008), this type of validity cannot statistically be determined. After consulting the assigned University supervisors, the instrument was amended in accordance with the suggestions made before it was employed in collection of the requisite data.

Data Collection Procedure

After determination of both validity and reliability of the research instrument, the next step involved collection of requisite data from the sampled respondents. Necessary authorization was sought prior to embarking on data collection. The researcher sought both a research permit and authorization letter from the National Council of Science, Technology and Innovation (NACOSTI). This was followed by seeking the authority from the respective County Director of Education where the universities of study are situated. The researcher also sought the consent of the top administration of the public universities whose staff were to participate in the study. The researcher then distributed the questionnaires in person to individual respondents. The respective departmental heads in the respective public universities were the first to be visited in most cases. The aim was to distribute the questionnaire to each of them and in the process notify them that data was being collected from the staff in their departments.

Data Analysis and Presentation

The data collected were analyzed with the aid of the Statistical Package for Social Sciences (SPSS) Version 24 software. Data analysis was both descriptive and inferential. Descriptive analysis constituted finding the frequencies and percentages of respondents' demographic information. It was also in form of means and standard deviations for data touching on study variables. On the other hand, inferential analysis was in form of both Spearman rank correlation co-efficient and multiple regression analysis (Kothari 2004). The correlation analysis facilitated the researcher to establish the strength and significance of relationships between the independent and the dependent variables. The independent variable was internal control systems while the dependent variable was sustainable financial prudence in public universities in Kenya. The following regression model was further employed to guide linear regression analysis of the collected data.

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

Where:

Y represents Sustainable Financial Prudence

β_0 represents Constant

X_1 represents InternalControl Systems

ε represents Error Margin

β_1 represent Regression Coefficient

The research hypothesis was tested at 0.05 level of significance (95% confidence level). The findings of the study were presented in form of descriptive and inferential statistical tables.

FINDINGS

Response Rate

Response rate, which also refers to questionnaires return rate, is described as the number of questionnaires that were returned to the researcher having been correctly filled. In the context of this study, a total of 127 questionnaires were administered to the sampled respondents drawn from accounts, finance and management staff working with 6 selected chartered public universities in Kenya. The number of the ones appropriately filled and duly returned was 101. The foregoing questionnaires did not have any missing values and were as such deemed suitable for use in the analysis. Therefore, the return rate, as outlined in Table 4, equaled 79.53%. The stated response rate was established to be sufficient in a survey study (Nulty, 2008) as it was the case with the present research study.

Table 4: Response Rate

Criteria	Frequency	Percentage
Responded	101	79.53
Failed to respond	26	20.47
Total	**127**	**100.00**

Descriptive Analysis, Interpretations and Discussions

This section covers results of analysis, interpretations and discussions that address the objectives of the study on public universities in Kenya. The study sought to establish the contribution of internal control systems towards sustainable financial prudence in public universities in Kenya.The key data collected in respect to the two study constructs (internal control systems and sustainable financial prudence) were in a 5-point Liker scale.The 'means' and 'standard deviations' were used in making interpretations and discussions.

Internal Control Systems

The study analyzed the views of the sampled accounts, finance and management staff in regard to internal control systems and sustainable financial prudence in public universities in Kenya. The descriptive results emanated from analysis of data on a 5-point Likert scale where integers 1 to 5 represented 'strongly disagree (SD)', 'disagree (D)', 'neutral (N)', 'agree (A)', and 'strongly agree (SA)' respectively. The pertinent descriptive results which are presented in form of percentages, means, and standard deviations are as shown in Table 5.

Table 5: Descriptive Statistics for Internal Control Systems

	SA	A	N	D	SD	Mean	Std. Dev
Top management is committed to integrity, ethics	26.7	49.5	11.9	8.9	3.0	3.88	1.003
There is clear assignment of authority	22.8	61.4	5.9	8.9	1.0	3.96	0.859
There is effective authorization and approval	26.7	55.4	8.9	6.9	2.0	3.98	0.905
Reconciliations are done on schedule and checked	17.8	56.4	10.9	13.9	1.0	3.76	0.940
Risks identified, analyzed and evaluated regularly	10.9	43.6	25.7	13.9	5.9	3.40	1.050
Prompt payments for supplies and capital projects	14.9	49.5	10.9	14.9	9.9	3.45	1.204
No threats of interruptions because of debts.	11.9	34.7	17.8	23.8	11.9	3.11	1.240
Capital projects are completed on schedule	7.9	36.6	18.8	25.7	10.9	3.05	1.178
No major audit issues raised by the auditor general	8.9	33.7	21.8	27.7	7.9	3.08	1.137
Departments are involved in budgetary preparation	19.8	52.5	10.9	11.9	5.0	3.70	1.073
Departments are required to explain any variances	18.8	38.6	19.8	13.9	8.9	3.45	1.204

The grand mean for the study variables on internal control systems is 3.53. This falls roughly on the integer 4 which represents agree on the 5-point Likert scale. This is an indication that, cumulatively, the respondents were agreed that the study variables on internal control systems contribute to sustainable financial prudence in public universities in Kenya. Each of the study variables are discussed below with reference to previous studies. As indicated in Table 5, the respondents affirmed that the top management in public universities was committed to integrity and ethical values (mean = 3.88; std dev = 1.003). They also agreed that there was a clear assignment of authority and responsibility (mean = 3.96; std dev = 0.859); and also that there was an effective authorization and approval system (mean = 3.98; std dev = 0.905). The respondents to the current study believed that reconciliations were done on schedule and checked by a respective officer in charge of the unit (mean = 3.76; std dev = 0.940) and that all departments were involved in budgetary preparation process for their departments (mean 3.70; std dev = 1.073). The findings of the current study complements the study by Fosu, Krah and Obeng (2013) who maintained that financial controls ensure that the respective spending officers should authorize the commitment of funds within the budgetary limits in adherence to the laid down procedures.

Nevertheless, the respondents to this study generally admitted that they did not know whether risk department carried out risk identification, analysis and evaluation on a continuous basis (mean = 3.40; std dev = 1.050). Other respondents did not know whether payments for supply of goods and services, including capital projects, were made as per the terms of payments (3.45; std dev = 1.204); Similarly, other respondents did not know whether public universities were not facing any threats of interruption in the provision of goods and services or in construction of capital projects as a result of pending debts (mean 3.11; std dev = 1.240). Moreover, the respondents were not certain whether capital projects were completed on schedule and whether any variations in the cost was usually within the allowable limits (mean 3.05; std dev 1.178; whether there were usually no major audit issues raised by the auditor general (corporations) on the audited financial statements (mean =3.08; std dev = 1.137); whether all departments were required to explain any variation from budgeted income and expenditure (mean = 3.45; std dev = 1.204).

As seen from the analysis on Table 6, it is further established that 60.4% of the respondents were aware that public universities in Kenya had their 2013/2014 audited financial reports tabled by the Minister in charge of finance before the National Assembly. In the preceding three years, that is, 2012/2013, 2011/2012, and 2010/2011, 62.4%, 64.4%, and 68.3% respectively of the respondents were aware that the audited financial reports had been tabled before the National Parliament by the Minister. It appears that more than a third of the respondents were not aware whether financial statements of the public universities had been tabled by the Minister in charge of finance before the Parliament. In this connection, the Universities Act, 2012 requires the Auditor-General (Corporations) to audit the financial statements and report to the university councils and the Cabinet Secretary within six months after the end of the financial year, and the minister to table the same before the National Assembly as soon as it was practical.

Table 6: Level of Awareness of tabling of Financial Reports before the National Assembly

Financial Year	Aware (%)	Not Aware (%)
2013/2014	60.4	39.6
2012/2013	62.4	37.6
2011/2012	64.4	35.6
2010/2011	68.3	31.7

Sustainable Financial Prudence

The study further examined the views of the respondents in respect of sustainable financial prudence in public universities in Kenya. The analyzed data were on a 5-point Likert scale where 1 (SD), 2 (D), 3 (N), 4 (A), and 5 (SA) represented 'strongly disagree', 'disagree', 'neutral, 'agree', and 'strongly agree' respectively. The results to this effect are as illustrated in Table 7.

Table 7: Descriptive Statistics for Sustainable Financial Prudence

	SA	A	N	D	SD	Mean	Std. Dev
IGAs and investments ensure sustainable stability	10.9	48.5	11.9	22.8	59	3.36	1.128
Compliance with internal control ensures prudence	13.9	61.4	8.9	14.9	1.0	3.72	0.918
There is modern ICT system in our university	21.8	58.4	7.9	8.9	3.0	3.87	0.956
Timely, accurate reports enable decision making	14.9	59.4	13.9	9.9	2.0	3.75	0.899
Credit controls ensure timely debt collection	14.9	41.6	20.8	19.8	3.0	3.46	1.063
Debt control ensures low interest and collection	10.9	40.6	28.7	16.8	3.0	3.40	0.991

The grand mean for the study variables on to sustainable financial prudence in public universities in Kenya is 3.61. This falls roughly on the integer 4 which represents agree on the 5-point Likert scale. This is an indication that, cumulatively, the respondents were agreed that the study variables wholly contribute to sustainable financial prudence in public universities in Kenya. Each of the study variables are discussed below with reference to previous studies. The study indicated that, in general, there was compliance with internal controls in public universities, a factor which ensured financial prudence (mean = 3.72; std dev = 0.918); that there was modern ICT system in public universities (mean = 3.87; std dev = 0.956); and also that timely and accurate reports were produced which enabled proper decision making (mean = 3.75; std dev 0.899).

The respondents, however, stated that they were not certain as to whether the various IGAs and investments undertaken in public universities ensured sustainable financial stability (mean = 3.36; std dev = 1.128). The respondents did not know whether credit control processes in these institutions ensured timely debt collection from students and credit customers and reduced default rate (mean 3.46; std dev = 1.063); and whether proper debt management policies ensured fair borrowing rate and adherence to debt obligation (mean = 3.40; std dev = 0.991). Cumulatively, respondents are of the view that the study variables contribute to sustainable financial prudence which concurs with the study by Prabhakara, & Begum (2013) who proposed that it is beneficial to investors and corporate managers to embrace sustainability considerations into the decision making process.

Inferential Analysis, Interpretations and Discussions

The study evaluated the relationship between the internal control systems and sustainable financial prudence. In order for the foregoing relationship to be determined, the study employed Pearson's rank correlation analysis. The study further examined the extent to which the internal control systems contributed towards sustainable financial prudence in public universities in Kenya. This was achieved through facilitation of coefficient of determination (R^2). Moreover, the study analyzed the extent to which the internal control systems influenced sustainable financial prudence in public universities in Kenya. The analysis was achieved through determination of regression coefficient (β_n). Lastly, the results of the inferential analysis, specifically, t-statistics facilitated testing of the null hypothesis.

Correlation Analysis

The study employed the Pearson's correlation coefficient to analyze the relationship between the internal control systems and sustainable financial prudence. The results of the correlation analysis are illustrated in Table 8.

In the illustration the study constructs have been abbreviated whereby ICS and SFP represent internal control systems and sustainable financial prudence respectively. The level of significance, otherwise referred to as probability (*p*) value, was 0.05 (Kothari, 2004). This implies that in the event that the relationship returned p-value less than 0.05 ($p < 0.05$) it was deemed to be statistically significant whereas any results in which p-value was greater than 0.05 ($p > 0.05$) were considered not to be statistically significant.

Table 8: Relationship between Internal Control Systems and Sustainable Financial Prudence

		SFP
ICS	Pearson Correlation	.609**
	Sig. (2-tailed)	.000
	n	101

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

It was also revealed that there existed a positive, moderately strong, and significant relationship between internal control systems and sustainable financial prudence in public universities in Kenya (r_s= 0.609; p< 0.05). Interpretatively, strengthening internal control systems in public universities was likely to result in enhanced sustainable financial prudence. Impliedly, these institutions of higher learning should ensure that they have strong and reliable internal control systems in order to improve the sustainability of their financial prudence. This will be achieved through incorporating all the five components of an effective internal control in their operating systems. The components of an effective internal control have been identified to include the control environment, risk assessment, control activities, information and communication and monitoring.

Contribution of Internal Control Systems towards Sustainable Financial Prudence

The study put into perspective the extent to which the internal control systems explained sustainable financial prudence in public universities in Kenya. The results to this effect are as presented in Table 9.

Table 9: Regression Weights for Overall Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.609[a]	.370	.364	.63780

a. Predictors: (Constant), Internal Control Systems

b. Dependent Variable: Sustainable Financial Prudence

Similar to the results of the Pearson's correlation analysis (Table 8), the findings depicted in Table 9 show that the contribution of internal control systems towards sustainable financial prudence was moderately strong and statistically significant (F = 58.259; p< 0.05) as illustrated in Table 10. In addition, the results shown in Table 9 depict that 37.0% (R^2 = 0.370) of sustainable financial prudence in local public universities could have been attributed to internal control systems

Table 10: Significant Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.699	1	23.699	58.259	.000[a]
	Residual	40.272	99	.407		
	Total	63.971	100			

a. Predictors: (Constant), Internal Control Systems

b. Dependent Variable: Sustainable Financial Prudence

Regression Analysis

The study further examined the extent to which internal control systems influenced sustainable financial prudence. The pertinent results are as demonstrated in Table 11.

Table 11: Significant Test Results for Overall Model

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	1.180	.322		3.660	.000	.540	1.820
InternalControlSystems	.684	.090	.609	7.633	.000	.506	.862

a. Dependent Variable: Sustainable Financial Prudence

The results indicated in Table 11 were employed to interpret the following linear regression model:

$$\mathbf{Y= \beta_0 + \beta_1 X_1+\varepsilon}$$

$$\mathbf{Y= 1.180+ 0.684X_1}$$

In tandem with the above illustration of the interpreted linear regression model, it was observed that in order for sustainable financial prudence in public universities in Kenya to be enhanced by a single unit, it was required to effect 0.684 unit change on internal control systems while holding other factors (1.184) constant.

Testing Null Hypothesis

The null hypothesis was tested at 95% level of confidence which was equivalent to 5% (0.05) probability level/p-value. The t-test statistics as shown in Table 11 were employed to test the null hypothesis. The hypothesis was tested as follows.

i. **H_0:** Internal control systems have no significant contribution towards sustainable financial prudence in public universities in Kenya.
ii. **H_A**: Internal control systems have significant contribution towards sustainable financial prudence in public universities in Kenya.
iii. Results of t-test statistics ($t = 7.633$; $p < 0.05$)
iv. As such, the *p*-value was found to be less than the acceptable threshold of 0.05
v. Verdict: The null hypothesis (**H_0**) was rejected.

SUMMARY

According to the study findings, the top management in public universities in Kenya was committed to integrity and ethical values where assignment of authority and responsibility was very clear. It was further noted that there was an effective authorization and approval system in the said institutions of higher education. Moreover, the study found that reconciliations were done on schedule and checked by a respective officer in charge of the concerned unit.

In the same vein, it is true to state that the respective departments in public universities in Kenya are involved in budgetary preparation process and are required to explain any variation from their allocated budgets. The study further established that, though the financial statements were submitted and audited within the schedule by the Auditor-General, Corporations the discussion thereon by the National Assembly has been declining over the recent years. However, usually no major audit issues are raised on the audits by the Auditor-General. (Corporations). In the final analysis, the study demonstrated that strengthening internal control systems in public universities in Kenya was likely to result in enhanced sustainable financial prudence.

Basically, strengthening internal control systems can be achieved through the use of the five components of internal control namely the control environment, risk assessment, control activities, information and communication and monitoring which are considered necessary for achievement of internal control objectives. Public universities in Kenya were found to comply with internal controls. This subsequently resulted in financial prudence. The foregoing institutions were also found to have modern Information Communication Technology system.

Moreover, it was noted that the public universities produced timely and accurate reports which enabled them to make timely and appropriate decisions efficiently and effectively. More so, the study established that credit control processes in Kenyan public universities ensured timely debt collection from students and credit customers thereby reducing the default rate and delinquent debts. The study further revealed that most of the public universities invested in business ventures such as hotels, bookshops, cyber cafes among other projects and various forms of farming. Moreover, the study indicated that 37.0% of sustainable financial prudence in Kenyan public universities could be attributed to internal control systems. Internal control systems were further found to have a statistically significant influence on sustainable financial prudence in public universities in Kenya.

CONCLUSIONS

It was concluded that the top leadership in public universities in Kenya was committed to ensuring that integrity and ethics are integrated in these institutions of higher education. The study also concluded that all departments within each university participated in making decisions. This could have been partly due to the fact that the departments were viewed as being resourceful in providing pertinent inputs for the decision making process as well as in operationalization of the resultant policies. It is further concluded that although the public universities submitted their financial reports which were audited by the Auditor General there was a delay in their subsequent tabling before the national assembly. Lastly, the study concluded that formulation of internal control systems were imperative in relation to sustainable financial prudence in public universities in Kenya.

RECOMMENDATIONS

With respect to internal control systems, the study suggests that policy makers in public universities in Kenya should put in place sound internal control systems that advocate for ethical values and integrity within institutions of higher learning. In addition, there is a possibility that some of these institutions have other external powers controlling finances. This underscores the need for sound internal control systems. It is important to have an exhaustive and strong internal control system in order to mitigate these challenges.

The finance managers in these universities are advised to objectively implement policies on internal control systems in order to ultimately ensure sustainable financial prudence in these institutions of higher learning. Managers, both in the finance and ICT departments, should ensure complete automation of financial transactions and reliability of the information systems which ensure confidentiality, security, integrity, privacy and availability of processed financial information. The foregoing initiative is bound to ensure reliability of information specifically in light of finances and financial transactions.

LIMITATIONS

The study was carried out to draw conclusions on the views of a large population of accounts, finance and management staff working in 30 chartered public universities in Kenya using a sample thereof of 6 chartered public universities. Like in other studies, sampling poses difficulty if the process of selecting the sample does not present a truly representative sample. However, the stratified random sampling method used in this study ensured proportional representation of the total population. Further, the choice of the respondents ensured that the level of staff selected possessed the knowledge required to yield reliable results for the study. In addition, there was skepticism by some of the respondents to willingly participate in the study for fear of reprisals from their superiors in the event that they divulged information regarding their institutions. In this respect, the researcher assured all the sampled respondents that they needed not indicate their identities or the identity of their institutions.

SCOPE FOR FURTHER STUDIES

Arising from the findings of this study, there are crucial areas that are recommended for further research. Studies on the suggested areas will complement the results of this study. Further research is recommended on various internal controls put in place by Kenyan public universities. Specifically, the study recommends an empirical investigation into the effectiveness of internal audit in enhancing financial prudence in public universities in Kenya.

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