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Moderating Influence of Sustainability Strategies on the Relationship between Institutional Management Practices and Performance of Chattered Public Universities in Kenya

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Abstract
The current environment in Kenya's public Universities is a turbulent one and highly competitive. To ensure survival and sustainability, public Universities require to adopt and implement competitive strategies. Thus, the study sort to determine the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of chattered public universities in Kenya. To achieve the objective, the study was based on a pragmatic philosophy and mixed research method with a target population of 31 chattered public Universities. Census approach was used with 234 respondents who were university top managers. Primary data was collected using a 5 point Likert type questionnaire. The instrument was validated by research experts and yielded a Cronbach's reliability between alpha of α= 78.7- 80.6. Data was analysed using descriptive and inferential statistics. Primary data was collected using a 5 point Likert type questionnaire and an interview guide. Data was analyzed using descriptive and inferential statistics. The regression analysis revealed that institutional management alone accounts for 52% of the variation of performance of chattered public Universities (Adjusted R^2=0.52). Sustainability strategies account for 39% (Adjusted R^2=0.39). The interaction term (institutional management and sustainability strategies) accounted for 72 % of the variations in performance of chattered public

Universities. This study concluded that implementation of sustainability strategies combined with adherence to good institutional management practices are essential strategies public Universities can use in their endeavour to improve on their performance. It is therefore recommended that University top managers that are yet to implement sustainability strategies should do so to remain competitive and relevant in this turbulent business environment. It is further recommended that University top managers should adhere to good institutional management practices. The results have diverse implications for theory, policy and practice.
Keywords: Sustainability Strategies, Institutional Management Practices, Performance.

Introduction

The legal frameworks for the Universities have significantly changed with the implementation of the new constitution of 2010. The establishment of the Universities Act and the Commission for University Education (CUE) has taken the legal framework to a new dimension. The Universities had to meet and adhere to the stipulated institutional requirements in order to be awarded Charters. recertification of the universities, also require the universities to demonstrate their sustainability strategies for their charters to be renewed. In the recent past, there has been an increased competition between public and private universities in Kenya. There has also been an increased presence of foreign Universities in the country. These developments have led to increased competition for qualified staff, scholarships, and research and development fund (CUE, 2019).

According to Porter (2017), sustainability strategy is the search for a favorable competitive position in the industry and aims at establishing a profitable and sustainable position against forces that determines industry competition. A University is said to have a competitive advantage whenever it has an edge over its rivals in securing customers and defending against competitive forces (Thompson and Strickland, 2011). Competitive advantage comes from the value that University create for their customers that exceed the cost of producing it. University create value by performing a series of activities that he identified as a value chain (Thompson and Strickland, 2011).

Institutional management practices have been advocated over the centuries (McNutt, 2010). However, the concept gained prominence in the nineteenth century, especially the 1980s, following a series of corporate collapses, board level excesses and detrimental effects of dominant chief executives (Tricker, 2011). As a result, various governments sought to use legislations to reverse this trend and to improve the governance of corporations (Vinten, 2001). Notable legislations include the (Companies Act, 2015) enforced by Capital Market Authority, (Corporate Governance Council, 2007), the (Cadbury, 1992) Report and the FRC (2010). An analysis of these legislations indicates that they advocate the need for transparency, adherence to management guidelines, public participation and governance matters in a timely and accurate manner. They also advocate the effective monitoring of management teams and making boards accountable for their activities, dealing with employees fairly, making decisions responsibly, maximizing the value of assets, operating ethically and recognizing the legitimate interests of stakeholders (Petra, 2006).

According to Mwiria (2007), University education in regard to institutional management is said to involve the management to make corporate decisions about key policies and practices in several critical areas concerning the University: their number and location, their mission, their enrolment size, the access of students to their instructional programmes and the access of citizens to other services, degree requirements, the quality standards expected in student performance, the quality of research and public service activities, the freedom available to individual faculty members in their instructional and research activities, the appointment of staff, internal organizational structure and the allocation of available resources. Compliance to set rules, guidelines and policies the university has set forth ensure trust and loyalty of the stakeholders for productivity (Millet, 1995).

Regrettably, Kenyan public Universities are currently faced with major challenges that include an uncertain future stability, political changes and a globalized market (Nafukho, 2008). Specifically, they encounter challenges that relate to the rapid expansion of University education, reduced government funding, gender inequality, low research capability, students living in poor conditions and the spread of HIV/AIDS (Mwiria and Ng'ethe, 2007). As a result of these challenges, there is need for reforms in the management of the said institutions and highlights institutional management as the area most in need of reform. Kenya's public University system has experienced very high rates of growth which have not been accompanied by a commensurate rise in the level of funding. This growth of Universities in the face of budgetary deficits and manpower surpluses is largely a product of the insatiable demand for higher and higher levels of education. The government seems to have exploited such demand and politicized decision-making in the expansion of University education whose effect appears to be a serious decline in the performance of Public Universities measured by the research grants, community engagement and completion rate of graduates coupled with acute shortage of facilities and teaching personnel (Mwiria, 2007).

Review of Literature

Theoretical Review

This study was anchored on Resource Based View theory as defined by Rothaermel (2012). The theory emphasizes resources of a University as fundamental determinants of performance and sustainability. It is a theoretical approach that considers strategies like diversification, cost reduction and collaboration as a way of seeking new uses for resources already existing or filling gaps in the resource base of a University (Theuven, 2004). It is a perspective that drew more from (Penrose, 1959) theory of enterprise growth and was popularized by Wernerfelt (1984); Barney (1991) in their works.

The traditional model of Resource Based View (RBV) was theorized in 1991 and is still acknowledged as one of the most capable models for studying and analyzing resource strategy relationships 20 years later (Barney et al., 2011). The view of the theory is that each University has a collection of unique resources and capabilities. Resources are fundamental in explanation of sustainability of Universities (Mwiria, 2004). The resources of a University can be categorized into three; physical, human and financials. These resources should be valuable, rare, inimitable and non-substitutable to enable a University to attain sustainability (Barney, 1991). The perspective of RBV as remarked by (Andreu et al., 2008) is that the growth of a University requires a balance between exploiting the already existing resources and developing new ones. RBV leans towards the University's sustainability, since it focuses on exploitation of its unique resources. Public Universities have capabilities which can be shared among the departments by transferring them from one department to another thus achieving synergy and hence giving a University an edge. Public Universities capabilities are complex bundle of skills and knowledge that have been accumulated over time and are exercised through processes that enable them to coordinate their activities and make use of their assets (Day and Nedungadi, 2004).

Diversification strategies allow Universities to start other revenue streams through commercialization, consultancies and customized course to improve the ability of the University for sustainability. This could also be creating new capabilities or changing the capabilities that are already in existence (Holcomb et al., 2006). Collaboration strategy is through the sharing of facilities and manpower and aims at increasing the share of the market thus economies of scale can be achieved. It can also be achieved through use of related diversification as this facilitates a University to assemble a mutually reinforcing business portfolio since resources that are critical can be shared among the units.

According to Prahalad and Hamel (1990), related product diversification leads to higher University performance compared to a focused University as the Universities can maximize their resources across business units to realize additional returns. Universities using related diversification strategy can outperform those using unrelated diversification strategies (Hitt et al., 1997). This is to the extent that the key to superior performance from a diversification strategy depends on the University's ability to share resources; an unrelated diversified University is unlikely to have resources that can be useful to all its business units. Asset specificity in a University's resources may bring sustainable competitive power to their owner relative to competitors, but also create a challenge on the other hand especially on the University's ability to transfer these resources to new application (Montgomery and Wernerfelt, 1988). University sometimes may not be in a position to use the available resources in new ventures especially where the new ventures require other resources different from what the University has. Asset specificity leads to several empirical predictions that revolve around the concept of relatedness of diversification activities: the more closely those activities are related or complementary, the more profitable diversification is expected to be. According to (Foss and Christensen, 2001), diversified Universities can create spill overs since the values of resources in one industry increases due to investment in another industry.

Previous studies have revealed that analysis of internal resources can enable Universities to determine their potential or realize sources of competencies and capabilities, and thus a University can achieve sustainability if its resources are inimitable by its competitors (Barney, 1991). Financial resources have the highest degree of flexibility and are suitable for both related and unrelated product diversification. However, sources of these finances should be considered as they have varying implications to the University. In many Universities, managers use internal funds for unrelated diversification. The RBV theory has been criticized for some reasons despite its increase in literature devoted to its advancement conceptually and empirically. The reasons are first; from the perspective of modern strategic management (Penrose, 1959) understanding of sustainability it missed out on how Universities developed sustainable superior products, but instead adopted a frame work for seeking profit. Second, RBV has been regarded as a static theory as it fails to address the fundamental issue of how future resources can be created or how the current stock of valuable, rare, imperfectly imitable and imperfectly sustainable resources can be refreshed in an unstable environment (Priem and Butler, 2001). On the same note according to Wasiamson's (1985) assertion that although resources can be exploited through contracts, due to their asset specificity nature it is sometimes almost impossible to contract in the market transactions with them.

The theory has also been criticized for being too abstract and therefore lacking operational validity. Third, like the Porter's five forces model RBV cannot account for sustainability of Universities in highly dynamic markets. The unique path dependent resources can be leveraged across related product lines and provide higher rents. For instance, physical or tangible resources are highly inflexible because they can only be used in a few similar industries. Therefore, if a University has an excess physical capacity, it is very unlikely that the University was engage in unrelated diversification (Chatterjee and Wernerfelt, 2001). This is because some physical or tangible resources are very inflexible in their use; however, the flexible ones might also be limited in their use. Capabilities such as managerial expertise have the potential to create value when shared across businesses (Miller, 2006).

This theory informs the product diversification and cost strategies. Chatterjee and Wernerfelt (2001) assert that the type of diversification strategy depends on the University's resource specificity as this dictates which product diversification strategy a University can adopt. It can adopt either related or unrelated product diversification strategy. If the University is well endowed with physical resources, then this implies that it can only venture in related products. However, finances are highly flexible and this would allow a University to venture in both related and unrelated. Additionally, a resource that can only be used in one product is not suitable for diversification into unrelated businesses but rather in related businesses. In the resource-based approach, managerial expertise has the potential to create value when shared across businesses (Miller, 2006). This expertise if well managed can benefit the different business units of a University. Collaboration strategy can also be adopted especially by a University that is well endowed with facilities and manpower as it can share with its competitors with the aim of increasing its market share which in turn enables a University to achieve economies of scale.

Kenya's public University system has experienced very high rates of growth which have not been accompanied by a commensurate rise in the level of funding. This growth of Universities in the face of budgetary deficits and manpower surpluses is largely a product of the insatiable demand for higher and higher levels of education. The government seems to have exploited such demand and politicized decision-making in the expansion of University education whose effect appears to be a serious decline in the performance of Public Universities measured by the research grants, community engagement and completion rate of graduates coupled with acute shortage of facilities and teaching personnel.

Empirical Review

A University possesses sustainable competitive advantage when it has value creating processes and positions that cannot be duplicated or imitated by other Universities (Lippmann, 1982). It refers to the determination of the purpose and the long term objectives of an enterprise to have and adapt courses of action and allocation of resources necessary to achieve desired lead in the market (Thompson and Strickland, 2003). The concept of sustainability for Universities and other public institutions is essential in the light of the increasing importance of the public sector contribution to economic growth. Despite this important role during recent years, the public funding of the Public Universities in most countries has not increased, or at least not increased sufficiently to finance new investments (Porit, 2015). This seems strange but is comprehensible when considering that Universities have to compete with other priorities in public. Budgetary restrictions have been imposed by national governments as well as the aspiration of policy makers to introduce more "rational" management with the main objective of improving efficiency, effectiveness, and accountability (Bogt and Scapens, 2012). The development of sustainable competitive advantage lies at the core of strategy development (Lynch, 1997). For a University to have competitive advantage, it must have business strategies that improve the competitive position of its products and services. A business strategy can be too competitive if it involves battling out with other competitors or cooperative, if it involves working with one or more competitors to gain advantage against other competitors or both (Johnson and Scholes, 2003).

According to Pearce (1997), Sustainable competitive advantage involves every aspect of the way that University competes in the market place. Its real benefits come from advantages that competitors cannot easily imitate. Hence to be sustainable, competitive advantage needs to be more deeply embedded in the University in terms of its resources, skills, culture and investment over time. It involves seeking something unique and different from competitors (Hill and Jones, 2001). Sustainable competitive advantage is usually developed over time. It is based on stability and continuity in relationships between different parts of a University. The main reasons for analyzing competitors is to enable the University develop competitive advantage against them, especially advantage that can be sustained over time (Pearce and Robinson, 1997). The need for sustainable competitive advantage is due to rising and intense competition. The opportunity of Universities to sustain competitive advantage is determined by their capabilities. These capabilities of a University need to be distinctive. Distinctive capabilities are those characteristic of a University, which cannot be replicated by the competitors, or can only be replicated with great difficulty, even after these competitors realize the benefits which they yield for the originating University (Pearce and Robinson, 1997).

According to Thompson and Strickland (2003), distinctive capabilities can be of many kinds. University capital projects, leadership qualities for top managers, capital capabilities, statutory monopolies or effective patents and copy rights are particularly stark examples of distinctive capabilities. They also include strong brands, patterns of supplier or customer relationships and skills, knowledge and routines which are embed in teams. Reproducible capabilities can be bought or created by any University with reasonable management skills, diligence and financial resources (Mwiria, 2004). Only distinctive capabilities can be the basis of sustainable competitive advantage (Thompson and Strickland, 2003). Generic strategies are strategies expected of every University any time and they are applicable to all universities without exception. A University that gets stuck in the middle needs to decide a low cost strategy in a broad or narrow market or offer a differential or unique product or service in a broader or narrow market. According to Porter (2008), cost advantages and differentiation combined seeks to achieve three generic strategies which are cost leadership, differentiation and focus. To understand this better one needs to know how each of this strategies work while comparing them with other strategies. One of Porter's generic strategies is cost leadership (Porter, 2008). This strategy focuses on gaining competitive advantage by having the lowest cost in the industry (Porter:1979: 1987b: 2008c).

In order to achieve a low cost advantage, University must have a low cost leadership strategy, low cost manufacturing, and a workforce committed to the low cost strategy (Malburg, 2000). The University must be wanting to discontinue any activities to other universities with a cost advantage (Malburg, 2000). For an effective cost leadership strategy, a University must have a large market share (Malburg, 2000). Differentiation is another one of Porter's key business strategies (Malburg, 2000). When using this strategy, a University focuses its efforts on providing a unique product or service (Hyatt, 2001). Since, the product or service is unique; this strategy provides high customer loyalty (Porter, 1985).

Pearce and Robinson (2007) contend that strategies dependent on differentiation are designed to appeal to customers with a special sensitivity for a particular product attribute. By stressing the attribute above other product qualities, the University attempts to build customer loyalty. As a result, such loyalty translates into a University's ability to charge a premium price for its products. The product attribute can also be the marketing channels through which it is delivered, its image for excellence, the features it includes and the services network that supports it. The third generic strategy is focus strategy. In a focus strategy, a University targets a specific segment of the market (Davidson, 2001; Porter, 2008).

The University can choose to focus on a select customer group, product range, geographical area, or service line (Porter, 2008). For example; some European universities focus solely on the European market (Stone, 1995). Focus also is based on adopting a narrow competitive scope within an industry. Focus aims at growing market share through operating in a niche market or in markets either not attractive to, or overlooked by, larger competitors. These niches arise from a number of factors including geography, buyer characteristics, and product specifications or requirements. These generic strategies are not necessarily compatible with one another. If a University attempt to achieve an advantage on all fronts, in this attempt, it may achieve no advantage at all. For example, if a University differentiates itself by supplying very high quality products, it risks undermining that quality if it seeks to become a cost leader as well. Even if the quality did not suffer, the University would risk projecting a confusing image (Stone, 1995).

Based on the literature, many scholars have study on strategy implementation for sustainability of the firms. Mile and Snow (1978) study to operationalize sustainability strategies on performance for firms they generated a nominal scale hence regression model could not be used. The analysis was therefore limited to descriptive design with analysis done at the univariate level. The current study use data framework of a likert scale, considered to be an interval scale. A study by Christensen et al (2015) established that strategic choice was deliberate on winning, and concerned with creating and sustaining growth and other indicators of organizational performance. Being a case study, the study results relate exclusively to the organization concerned, with inferential statistics rendered irrelevant. The current study, using a mixed survey design, used inferential statistics as part of the analytical model.

A study by Wheelen and Hunger (2012) concluded that strategic actions are within the realm of strategy implementation, and that the performance of an organization is critically dependent on how well its chosen strategies are implemented but not of how great the strategy is. They further found that strategy implementation addressed the who, where, when and how of reaching desired levels of organizational performance. A similar determination was arrived at by Simerly and Mingfang (2000) who established that effective strategic choices and action were key antecedents of organizational performance. Nevertheless, neither of the two studies has focused on the influence of sustainable strategies and performance of Universities in Kenyan context.

A study by Carton (2004) determined strategy implementation was the process through which strategic choices were translated into strategic actions in order to steer the organization in the desired performance. Strategic choice is the heart of strategy as it is concerned with strategy implementation; it is the glue that binds the ambitious aspirations of organization and organization performance together. How well the strategic choices are reduced into strategic actions dictates the outcome of an organization performance. However, the study had a stronger orientation towards strategy implementation rather than strategic choice. The current study focus on sustainable strategies and performance, rather than strategy implementation alone.

There is increasing indication that the internal management of Public Universities in Kenya is in a state of crisis. Despite the fact that the system of University governance is now well established with its components of Chancellor, University Council, Vice-Chancellor, Senate, staff and students. Universities, whether political or administrative are being emptied of their substance, their Statutes are ignored and their governing rules are side-stepped and therefore unable to implement their sustainability strategies outlined in their strategic plans (Mwebi and Simatwa, 2011).

A study by Viravaidya et al (2001) titled "Strategies to Strengthen NGO Capacity in Resource Mobilization through Business Activities" concluded that NGOs can no longer rely solely on traditional good was and generosity of others to cover their costs. Some of the diversification strategic choices suggested by this study include; reaching out to new donors, redesigning program activities to include a cost-recovery component and making money through commercial ventures. The study however concentrated more on the financial performance of NGOs only. Hence, the objective of this study was:

❖ To establish the moderating influence of sustainability strategies on the relationship between institutional management and performance of chattered public Universities in Kenya.

Hypothesis

H_0: There is no significant moderating influence of sustainability strategies on the relationship between institutional management and performance of chattered public Universities in Kenya.

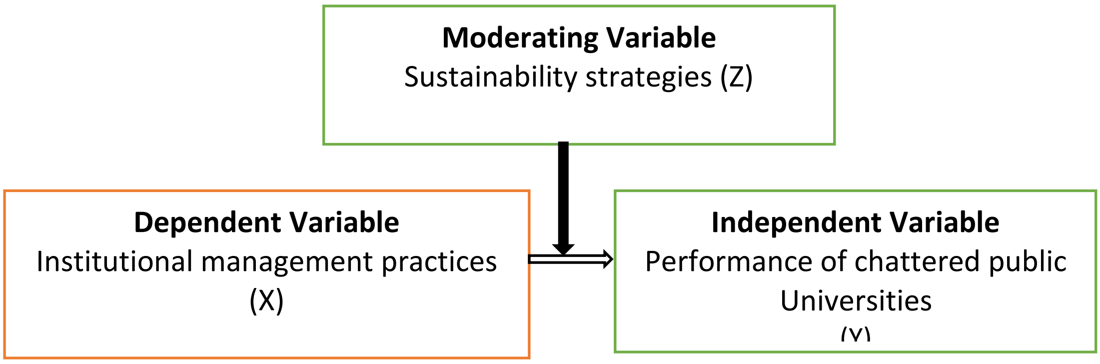

Figure: 1- Conceptual Framework
Source: Author, 2021

Methodology

The study adopted mixed method research and in particular convergent parallel design. The design enabled the researcher to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to understand the research problem (Creswell and Clark, 2011). The study surveyed 31 public chattered Universities in Kenya. Primary data was obtained through semi structured questionnaires and an interview guide which was tested for validity using content validity and reliability internal consistency via Cronbach's alpha coefficient (α) respectively. The questionnaire was designed on a five point Likert -type scale ranging from (1) - strongly disagree to (5) – strongly agree (Sekaran and Bougie, 2017); (Saunders, et al. 2017). Moreover, Pilot testing was done to ensure that the research tool was valid and reliable and also to improve its content validity (Cooper and Schilder, 2011). The target respondents were Vice Chancellor, Deputy Vice Chancellors, Registrars, Finance Officers and Quality Assurance Officers because they were best placed to answer the research questions.

In this study, data was analysed using descriptive statistics such as frequencies, means and standard deviation and presented inform of tables as well as inferential analysis using measures such as correlation and multiple regression analysis to establish the nature and magnitude of the relationships between the variables (Jobson, 2012).

Results and Discussions

Reliability of the Research Instruments

Reliability of the research instrument in this study was tested using internal consistency test. The internal consistency was measured using Cronbach's alpha coefficient (α) which indicates how well the items in a set are positively correlated to one another (Nunally, 1978). The study calculated the reliability of the study variables and the results are as shown in Table 4.0.

Table 4.0
Validity and Reliability Analysis

Variables	No. of Measures	Cronbachs' Alpha	Comments
Institutional management	21	0.806	Reliable
Sustainability strategies	15	0.881	Reliable
Performance measures	9	0.787	Reliable

The results in Table 4.0 show that Chronbach's Alpha coefficient ranged between 0.787 (performance measures) and 0.806 (institutional management). The results indicate that measurement scales used were sufficiently reliable and measured the study variables adequately. The reliability coefficient for all the constructs used in this study by far exceeded the 0.5 minimum level of acceptability recommended by (Hair et al., 1998) and are above the 0.7 range advocated by (Nunally, 1978); thus are reliable and acceptable for further analysis. The study constructs were highly correlated to each other.

Testing for Moderation
According to Baron and Kenny (1986) a moderating variable is a qualitative or quantitative variable that affect the direction or strength of the relation between a predictor variable and the criterion variable. In a correlational analysis context, a moderator is a third variable that affects the zero-order correlation between two other variables. In this case the sustainability strategies were introduced as the moderating variable to assess how they influence the relationship between institutional management practices and performance of chattered public Universities.

Table 4.1
Decision Making for Moderation

Model 3.2	Model 3.2	Total effect	Conclusion
β_1 is not significant ($p>0.05$)		_	No overall effect to moderate
β_1 is not significant ($p>0.05$)	β_2 is not significant ($p>0.05$)	β_3	Moderating variable is an explanatory variable
β_1 is not significant ($p>0.05$)	β_2 is significant ($p>0.05$)	_	Moderating variable has a moderating variable

Source: Author,2021

Table 4.1 indicates that in case moderation is significant, the coefficient (β_3) of the interaction term (Institutional management * sustainability strategies) in model 3.2 would yield the strength and direction of the moderating variable.

Table 4.2
Multicollinearity Matrix of Independent Variables

	Institutional management	Sustainability strategies
Institutional management	1	0.217
Sustainability strategies	0.217	1

Source: Author (2021)

Table 4.2 shows that when institutional management was correlated with sustainability strategies it yielded 0.217. The correlations were below 0.7, the lower limit for significant multicollinearity of independent variables (Pedace, 2013). This has an implication that institutional management and sustainability strategies shared no significant amount of information that would make them compete to explain a variance in the performance of public universities. It was thus possible to assess the influence of each independent variable on performance of public universities without the risk of factoring in shared variance between the independent variables.

Test for Normality

Test for normality was conducted to determine whether the responses on performance of public universities were normally distributed. This was fundamental in order to determine the appropriate tests to be conducted and make sure that assumptions of normal distribution were not violated (Shapiro and Wilk, 1965).

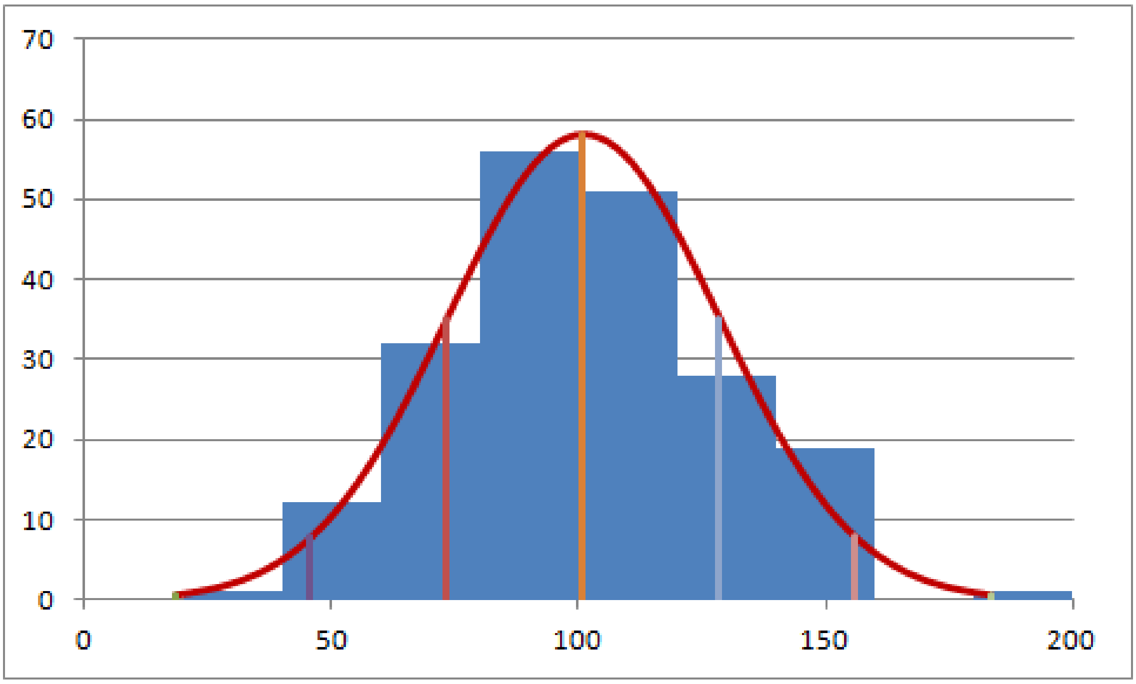

Figure 2: Histogram showing the distribution of performance of chattered public universities responses
Source: Field data (2021)

Figure 4.3 shows that there were minimum deviations from normality in which case the overall distribution appeared normal. From the histogram it appears that the distribution is symmetrical hence the distribution was normal. A visual inspection of histograms thus showed that performance of public universities responses was approximately normally distributed for all the public universities. The distribution was therefore considered normal.

Regression Analysis Results
The study tested the hypothesis that there is no significant moderating influence of sustainability strategies on the relationship between institutional management and performance of Public Universities. To test this hypothesis, the moderating effect was computed using the method proposed by (Baron and Kenny, 1986). A moderator is a variable that specifies conditions under which a given independent variable is related to an outcome. The moderating effect is measured in terms of how the effect of the explanatory variables changes when the moderator variable is introduced. The following hypothesis was formulated:

H_{o3}: There is no significant moderating influence of sustainability strategies on the relationship between institutional management and performance of Public Universities in Kenya. A three-step stepwise regression analysis was then used to test this hypothesis
Step 1: Dependent variable is regressed on the independent variable.
Step 2: Moderating variable is added to the regression equation.
Step 3: The interaction term between independent and moderator variables was introduced to the regression model. All the variables comprising institutional management, sustainability strategies and the interaction term were entered in the regression model. To ascertain the moderation, the interaction term should be significant ($p<0.05$). The results of stepwise regression predicting that the influence of institutional management on performance of Public Universities is moderated by sustainability strategies are presented in table 5.1.

Table 5.1
Model summary of influence of sustainability strategies on the relationship between adherences to institutional management and performance of public universities

					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df 1**	**df 2**	**Sig. F Change**
1	.91a	0.83	0.82	0.42	0.83	247.98	1	52	0.00
2	.97b	0.94	0.94	0.25	0.11	94.58	1	51	0.00
3	.97c	0.94	0.94	0.25	0.00	0.01	1	50	0.92

a. Predictors: (Constant), QMS
b. Predictors: (Constant), Institutional management
c. Predictors: (Constant), Institutional management , Sustainability Strategies

Table 5.2
Model summary of influence of sustainability strategies on the relationship between adherences to institutional management and performance of public universities

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	4.11E-17	0.06		0.00	1.00
	(CG)	0.53	0.06	0.52	15.75	0.00
2	(Constant)	6.86E-17	0.03		0.00	1.00
	(CG)	0.53	0.04	0.52	18.12	0.00
	(SS)	0.39	0.04	0.39	9.73	0.00
3	(Constant)	0.00	0.04		-0.05	0.96
	(CG)	0.72	0.04	0.52	17.92	0.00
	(SS)	0.39	0.04	0.39	9.63	0.00
	CG*SS	0.00	0.04	0.00	0.01	0.72

* Sustainability Strategies (SM), CG (Institutional management)
Source: Field data (2021)

According to the results in Table 5.2, in step 1, R^2 =0.52 indicating that institutional management alone accounts for 52% of the variation of performance of Public Universities. In step 2, R^2=0.39 indicating that sustainability strategies account for 39% of variations in performance of Public Universities. In step 3, the result for institutional management and sustainability strategies (institutional management * sustainability strategies) were included in the model to determine whether sustainability strategies moderates the relationship between institutional management and performance of Public Universities. The interaction term (institutional management and sustainability strategies) accounted for 72 % of the variations in performance of Public Universities. The results in step 2 showed that when the interaction term was entered into the model, this lead to an increase in performance of Public Universities as the variation increased from 0.52 to 0.72. This implied that institutional management, and the interaction term (institutional management *, sustainability strategies) causes variation of 72 % on performance of Public Universities.

The results show a statistical significance for the effect of institutional management on performance of Public Universities ($t= 15.75$, $p<0.05$). At step 2, the model of sustainability strategies and performance of Public Universities was statistically significant $t=9.73$, $p<0.05$). In step 3, the overall model was statistically insignificant ($t=1.0$, $p>0.05$). Regression coefficients for the test of hypothesis three are presented in table 4.20, the regression coefficient was significant at all the three steps of the analysis. Of importance is the fact that the effect of interaction term between institutional management and sustainability strategies on performance of Public Universities was significant ($t=0.01$, $p<0.05$), implying that for every unit change in interaction between level of implementation of sustainability of strategies and adherence institutional management, there is a significant corresponding change in performance of Public Universities.

These results provided sufficient evidence to reject the hypothesis that there is no significant influence of sustainability strategies on the relationship between institutional management and performance of Public Universities in Kenya. Therefore, the alternative hypothesis that there is a significant moderating influence of sustainability strategies on the relationship between institutional management and performance of Public Universities was accepted.

The study findings are consistent with those of Militao (2015) as the reseacher's arguments are that sustainability strategies moderated the relationship between institutional management and firm performance in the sense that equity capital was preferred for related diversification while debt for unrelated diversification. However, they in contrast with findings of Menendez –Alonso (2003) who established that diversification did not influence the leverage ratios which means that capital structure did not moderate this relationship ad also that product diversity in unconnected to debt as revealed by Singh et al (2003) though there are some circumstances where the two are negatively related.

Additionally, concurs with those of earlier studies (Ndwiga, 2018; Kamau, 2018; Gregg, 2001; Letting, 2011; Gompers et al., 2003; OECD, 2004; Kiel & Nicholson, 2002) that have reported a positive and significant relationship between sustainability strategies and institutional management on organizational performance and found a significant effect of sustainability strategies on organizational performance. Paramitha et al (2017) also reported a conceptual relationship between sustainability strategies on performance of Indonesian Universities but recommended that a study to establish whether such a relationship was significant or not needed to be carried out. Nonetheless, the results contradict that of a study by Garaika et al (2018) who found that sustainability strategies did not have any effect on performance of private Universities in Indonesia, although performance was measured based on the balanced score card theory which was not adopted by the current study.

However, the study findings are in contradiction with the findings of a study done by Jouida and Hellara (2017) whose results established a negative relationship among the diversification, cost reduction and collaborations and firm performance of 412 French financial institutions. These findings implied that these firms may have problems of information processing and coordination of activities which would in turn impair firm performance.

Conclusion
The study established that sustainability strategies significantly moderated the relationship between institutional management practices and performance of public universities in Kenya. The study therefore recommended that management of Universities should consider an optimal implementation of cost, collaboration and diversification strategies and adhere to institutional management practices in matters of transparency, adherence to management guidelines and public participation to propel effective performance of the institutions for sustainability.

The study contributes to strategic management literature and specifically on sustainability strategies and institutional management practices across the Universities for superior performance by providing empirical evidence. Also, the study contributes to resource based theory by examining the implication of institutional management on transparency, adherence to management guidelines and public participation on matters affecting various stakeholders and performance of public Universities.

Recommendations

The study strongly recommends that both the government and the individual university top managers in Kenya should seek to adhere and improve institutional management practices through effective implementation of the various governance mechanisms established in the institutions of higher learning. In particular, the government through the Commission for University Education should enhance surveillance to ensure compliance with the Universities Act, 2012 and the Universities Standards and Guidelines, 2014 which provide institutional management framework for all Universities in Kenya. The study further suggests that other studies be conducted among private universities in Kenya to determine if there are relational factors that influence the relationship between institutional management and performance of private universities in Kenya.

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