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**DETERMINANTS OF FINANCIAL SUSTAINABILITY OF UNIVERSITIES: A CASE  
OF STRATHMORE UNIVERSITY**

**CHRISTINE KIRINGA RIACHI**

**MBA/06338/17**



**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF BUSINESS  
ADMINISTRATION OF STRATHMORE UNIVERSITY**

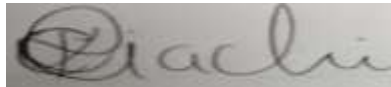
**January, 2021**

## DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University.

**Christine Kiringa Riachi**

**MBA/006338/17**



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**January, 2021**

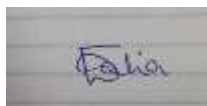


This Research Project of Christine Kiringa Riachi was reviewed and approved by the following:



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..... Date.....18<sup>th</sup> Jan 2021.....

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I sincerely and with a lot of humility thank God for the wisdom he gave me as I worked through this research project. My utmost gratitude goes to my husband for the support and Prayer, for my children for their patience as I pursued my studies. Special thanks to my supervisor Dr. Evelyne Makhanu for guiding me through this research journey, for the push when it was necessary and for the patience and to the entire SBS MBA team for their support throughout the MBA Journey



## DEDICATION

To my husband Jim Sakwa and my lovely children Gabriel, Gianna and JP, for their support and prayers and to my parents Mr. and Mrs. Riachi, I went the extra mile.



## ABSTRACT

With the changing landscape in the higher education sector in the world, only the strong Universities will survive. Financial sustainability will enable the university to fund innovation to adapt to dynamic changes. In Kenya there has been a lot of changes in the higher education sector, the universities found themselves with few students thereby reducing their main source of revenue which has been tuition fees, this brought about cash crisis that threatened the financial survival of the institutions. This study sought to find out the determinants of the financial sustainability of the private universities with a focus on the revenue diversification, cost management practices and human resource competence. The study adopted a descriptive research design with the population being employees of Strathmore University. Purposive sampling was used to identify middle managers; the data was collected using a structured questionnaire as well as secondary data from the published annual report covering the period from 2014 to 2018. The study established that while cost management practices and human resource competence had significant influence on financial sustainability of Strathmore University, revenue diversification strategies had insignificant effect. The study concluded that cost management practices had the largest influence on financial sustainability of Strathmore University followed by human resource competencies and lastly revenue diversification strategies. The study recommended that the Ministry of Education and the Commission of University Education (CUE) should ensure that Strathmore University policies are aligned with the cost management practices and the human resource competencies are emphasized for financial sustainability of the institution. The various practitioners including the finance managers and heads of department will be able to understand the need to focus on cost management practices to enhance financial sustainability of their organizations. The study recommends further studies to be conducted focusing on other universities for instance by comparing the public and the private universities in Kenya.

**Keywords:** *Financial Sustainability, Revenue Diversification, Cost Management, Human Resource Competence.*

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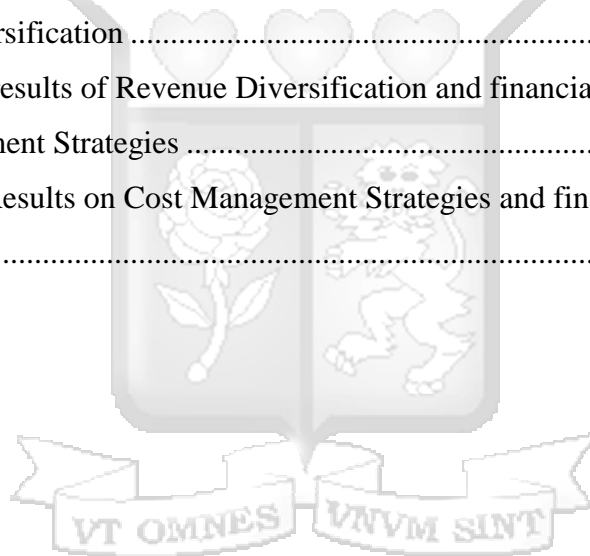
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## DEFINITION OF TERMS

### **Cost Management**

A continuous process of reducing costs while improving the strategic position. (Bragg, 2018)

### **Financial Sustainability**

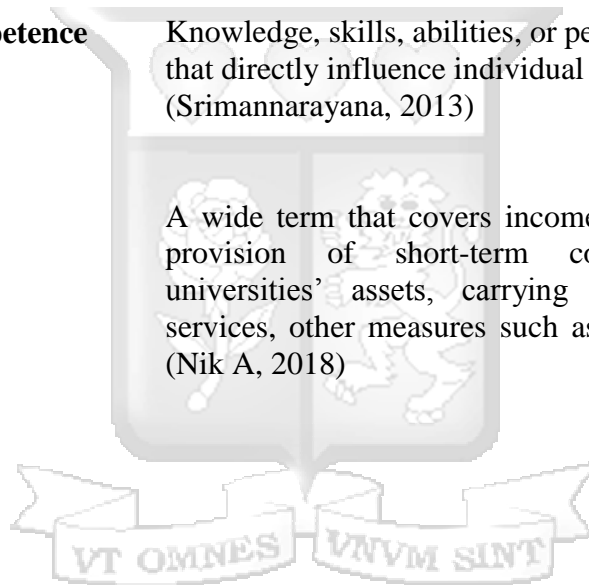
The ability of a university to continue with its operations now and in the future, to achieve its desired goals and add value to its stakeholders (Sami Al K, 2017)

### **Human Resource Competence**

Knowledge, skills, abilities, or personal characteristics that directly influence individual performance at work. (Srimannarayana, 2013)

### **Revenue Diversification**

A wide term that covers income generation through the provision of short-term courses, utilization of universities' assets, carrying out more consultancy services, other measures such as increasing tuition fees. (Nik A, 2018)



## CHAPTER ONE

### INTRODUCTION TO THE STUDY

#### 1.1 Background Information

Financial sustainability will be one of the major challenges for universities in the future, only those universities that have sound financial structures and stable income flows will be able to meet their various missions and respond to the changing landscapes (Sergei, 2015). ‘Financial sustainability is the ability of an entity or effort to economically endure time’ (Bellis, 2012). In the United Kingdom according to a report by European University Association universities are facing challenges of decreased funding from the government thereby requiring them to diversify their revenue stream to remain financially sustainable (Pruvot, 2012).

Universities have been experiencing cuts to capital grants and increased cap on tuition fees, this has threatened their sustainability. Demands from students and the expansion of undergraduate numbers place more importance on universities investing in new and maintaining the old facilities, universities need to find more diversified sources of funding for capital expansion but the costs of borrowing have continued rising. (Higher Education Commission (Great Britain), 2014)

According to a report on the financial situation of universities in UK (The Office for Students, 2019), most universities are currently reasonably financially healthy, however, there are some foreseen challenges including the uncertainty due to the uncertain UK’s future relationship with the EU, the decline in the 18-year-old population in 2020 coupled with reduction in funding from the government, these uncertainties mean that the universities have to be prepared and adapt very fast to ensure that they survive. In America the financial sustainability of most universities is in doubt, according to (Dumestre, 2016) the cost of education is higher than what most middle-income Americans can afford, for universities to come out of this the authors suggest three solutions: the creation of alternatives to traditional university organization structure, ensuring their output is highly appreciated by all their stakeholders and undertaking successful strategic planning and implementation.

In a study carried out in North Africa and the Middle East, the universities are facing constraint in funding and therefore they must look for alternative sources of funding, these sources must be consistent with their missions, the universities must focus on expanding access to capital, seeking continuous excellence, promoting equity and social mobility and working within the constraints of limited financial resources. (Jaramillo A, 2015). The role of Africa Universities is becoming more and more important due to the rising population in the continent, the universities have to play an important role in shaping the social, economic, technological and political future of Africa, for this to happen the universities have to be financially sustainable, In a study conducted on the governance of higher education, research and innovation in Kenya, Uganda, and Ghana, the universities need to collaborate more with the private sector to ensure that they have enough funding to ensure they have enough resources to cover their activities.

### **1.1.1 Financial Sustainability**

In the case of a university, financial sustainability is the ability to achieve teaching and research objectives while meeting the balance between incomes and expenditures (Francesca M, 2015). This means that a university is generating enough revenue and the revenue is used efficiently and effectively to ensure that the university continues in operation as a going concern.

Financial sustainability involves three key related dimensions Service, Revenue and Debt, for an entity to be sustainable it needs to meet its financial commitment and service delivery with the same quantity and quality, without causing debt to rise continuously and without compromising the future operations. (Bolivar, 2017). Financial sustainability can be measured using different metrics: its Liquidity and solvency, activity, efficiency, these are mainly expressed using ratios: liquidity ratios, activity ratios, solvency and profitability ratios (Cernostana, 2018).

### **1.1.2 Financial Sustainability of Universities in Kenya**

Many public universities are unable to pay their obligations (J, 2020). [NMI]Several institutions are unable to pay statutory obligations, salaries and suppliers (Wanzala, 2017).Universities revenue inflows have been hit hard after lower entry grade significantly reduced student population, this had a negative impact on parallel degree courses which students paid higher fees. This has necessitated the Commission of University Education to introduce a requirement where

all public universities are required to publish periodic financial statements. The universities have to periodically demonstrate that they are financially sustainable and that they have good governance and human resource management systems in place. Public universities are struggling to meet their financial obligations; a report by the Public Investments Committee showed that some universities are technically insolvent, with current liabilities exceeding total current assets while other institutions operated in deficit during the period under review (Kibet, 2016).

In a World Bank report on improving higher education performance in Kenya, the authors note that government of Kenya had closed some private universities as a result of a cash crisis and besides, the Vice-Chancellors in the Public Universities had complained of looming cash shortages that were affecting the quality of their courses (World Bank, 2019). According to published reports, prudent management of financial resources is undoubtedly lacking at Kenyan universities. A key finding of various investigative reports is outright theft and misappropriation of funds. For instance, a private religious university had a surplus five years ago, but is now on the verge of bankruptcy with a debt of around US\$4 million, owing to theft. Two other religious universities have experienced student strikes and disruptive changes of leadership as a result of irregularities in the management of their financial resources (Ishmael, 2019). The table below shows the deficit in the public and private universities in the year 2013/2014, it clearly shows that the universities are operating at a deficit raising the question of financial sustainability.

**Table 1.1: Income and Expenditure for Public and Private Universities**

**Table 3. Income and Expenditure (KES, millions) - Academic Year 2013/14**

	Income				Total	Expenditure	Deficit
	Government Capitation	Student Fees	Research Grants	Other Incomes			
Public	133,398.26	117,922.89	14,495.33	13,801.49	279,617.98	281,487.54	1,869.56
Private	0	53,804.88	1,480.64	11,009.70	66,295.22	73,418.00	7,122.78
<b>Total</b>	<b>133,398.26</b>	<b>171,727.78</b>	<b>15,975.97</b>	<b>24,811.19</b>	<b>345,913.20</b>	<b>354,905.54</b>	<b>8,992.34</b>

*Source:* State of University Education in Kenya 2016.

Financial sustainability can be measured using different metrics; this study will focus on revenue diversification and cost management. [NM2]Revenue diversification according to (Navas, 2020)

has the greatest opportunity for growth in the universities, this is because it enables the management to depart from traditional ways of generating revenue to other modern ways. Traditional methods have resulted to low numbers both in the US and UK.

(Imhanzenobe, 2020) Carried out a study to identify the financial aspects that organizations need to focus on to remain financially stable, as per the study the organizations need to focus on cost management practices as this affect both the short term and long term sustainability of an organization.

According to the accounting standard liquidity is the ability to cover its current liabilities using the current assets; the current assets should be higher than the current liabilities. In addition to this, efficiency is also an indicator of sustainability, efficient use of resources both financial and non-financial is achieved when the intended output that is the grades and quality of graduants is achieved at the lowest cost of resource utilization (Jill J, 2017). Private universities in Kenya should borrow from the leading global universities and aim for revenue diversification of at least 10% of the traditional tuition fees and research activities (Shariff, 2018)

Faculty and staff members are found to be critical leaders in efforts to achieve lasting progress towards campus sustainability (Marena Brinkhurst, 2011), this means that its important for any instittion to have qualified and dedicated faculty and their staff to achieve financial sustainability. In a study carried out in Brazil on influence of intellectual capital on profitability (Riberio, 2017)concluded that intellectual capital (staff) influence financial performance over time.

### **1.1.3 Strathmore University Financial sustainability**

Strathmore University was registered in Kenya as a private not-for-profit entity (Kenya Government, 2008). As a non for profit its main aim is not to make a profit but to offer service, however, to be able to do this it must be financially sustainable. In the not for profit, “financial sustainability is defined as the ability to develop a diverse resources base so that the organization

can continue its institutional mission and production of benefits for the intended client population” (Omeri L., 2015)

According to Strathmore 2016 annual report, one of the key achievements for the year was the introduction of measures to achieve financial sustainability mainly through adapting revenue diversification channels to raise more revenue as opposed to overreliance on tuition fees (Strathmore University, 2017) This has been consistent with the years following that, the management board has continued to emphasize revenue diversification and efficient use of resources through proper cost management to ensure the university is financially sustainable.

## **1.2 Problem statement**

For the private universities to remain financially sustainable they must generate enough revenue to meet their expenses, Universities should seek modern ways of revenue generation instead of relying on tuition fees only (Lombardi, 2019). However many private universities in Kenya are experiencing financial difficulties, some of them have even closed some of the campuses they had opened, and others have been unable to pay salaries and other operational costs as well as repayment of loans they had taken for expansion (Wanzala, 2017). Different factors have contributed to this situation, both internal and external factors: External factors are the ones beyond the control of the institutions like the change in governmental policy. Internal factors are within the control of the institutions, an example includes the caliber of employees hired, the type of product being offered, the processes that the institution puts in place and the financial management in the institution. Financial management is a determinant of the financial sustainability of an institution, for an institution to be sustainable then the finance has to adopt the best practices (Akeel Al, 2019).

Oketch (2013) stated that one of the challenges of financial sustainability is brought about by overreliance on tuition fees by the private universities, the tuition fees have to be sufficient to meet the costs of the institution. This requires careful planning relating to student numbers, the cost per student, and expenditure levels. Errors in these calculations, the failure to meet enrollment goals, or unanticipated expenses can wreak havoc on institutional budgets and may

even threaten an institution's survival (Prince, 2016). Universities in Kenya have no financial surplus to protect themselves from cost increases as seen in Table 1.1.

A new policy was introduced in the 2017- 2018 financial year by the government to fund private universities using the model applied to public institutions (Achuka, 2018). Under the new system known as the Differentiated Unit Cost (DUC), all university academic programs were grouped into 14 clusters and the cost of teaching each fixed. (Ministry of Education, 2012) Delay in disbursing the money to private universities resulted in financial difficulties. Many of the private universities that had borrowed money to finance expansion either through setting up satellite campuses or putting up new buildings hoping to cash in on a demand for higher education in the last two decades have found it hard to adjust to strict reforms by the government introduced in 2016 (Achuka, 2018).

According to (Ishmael, 2019) its crunch time for universities because of the financial crisis, desperate is the situation that universities are unable to cover basic operating expenses like payment of salaries, utilities, and statutory contributions including income tax and pension funds. One private university has been ordered to close by regulators, owing to financial insolvency, while two other private universities have two years to clear all their debts or face a similar fate.

Financial sustainability in universities consists of three main factors: cost containment, income diversification; and ability to attract sufficient, reliable, and sustainable public funding with appropriate accountability mechanisms (Ferdinando D, 2019). According to the annual report, Strathmore University started different measures for revenue diversifications and cost management to remain financially sustainable, besides, this study focuses on human resource competencies, (Mangaleswaran, 2015). Human Resource Management competencies is core to every organization since the performance of the organization relies on the effective role of human resource within the organization. The study compared this with the actual financial sustainability indicators obtained from the financial statements.

### **1.3 Research Objectives**

The main objective of the study was to establish the determinants of the financial sustainability and the specific objectives were.

- i. To establish the influence of human resource competencies on financial sustainability of Strathmore University
- ii. To determine the influence of revenue diversification strategies on financial sustainability of Strathmore University
- iii. To determine the influence of cost management practices on financial sustainability of Strathmore University

#### **1.4 Research Questions**

- i. How do human resource competencies influence financial sustainability of Strathmore University?
- ii. What is the influence of revenue diversification strategies on financial sustainability of Strathmore University?
- iii. What is the influence of cost management practices on the financial sustainability of Strathmore University?

#### **1.5 Significance of the Study**<sup>[NM3]</sup>

In terms of policy - the research would enable the institution come up with policies that would increase the financial sustainability of Strathmore University

For Internal management both senior and middle level the study would make them appreciate how cost management, human resource initiatives and revenue diversification influence financial sustainability and therefore know what areas to focus on.

To the regulator, the study may assist the Commission of University Education to come up with policies that may prevent universities from becoming insolvent. The research may also contribute to the limited body of knowledge in Kenya about the financial sustainability of Universities.

#### **1.6 Scope of the Study**

The study focused on the influence of the revenue diversification strategies, cost management practices together with the human resource competences on financial sustainability. The study

was on Strathmore University in Nairobi. The period covered for the financial sustainability indicators was for the years 2015 to 2018.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter presents the review of relevant literature to the research. Specifically it covers the theories on which the study is based, the related empirical literature, the research gaps identified, the conceptual framework, and the operationalization of the study variables.

#### **2.2 Theoretical Review**

This study is informed by one theory and one model, the revenue theory of cost and the financial sustainability model. The revenue theory of cost explains the behavior of expenditure in the higher education sector. The financial sustainability model explains how for an organization to be financially sustainable any cost incurred to produce an extra unit has to result in higher marginal revenue.

##### **2.2.1 Revenue Theory of Cost**

This theory was proposed by Howard R Bowen in 1980 to explain the financial trends of higher education. The concept underlying this theory is that the university's cost per student is determined by the revenues available. So if universities revenue goes up, they should expect their costs to go up leading to a spiral. In the US, with the increased university funding from the government came the increased appetite for spending. However, as the government reduces the funding universities have had to adapt to spending less which has brought about financial sustainability doubts (Kimball, 2016).

The theory is based on five principles namely “the dominant goals of the universities are education excellence, prestige and influence, there is virtually no limit to the amount of money that the institution can spend for seemingly beneficial institutional needs, each institution raises all the money it can, each institution spends all it raises, the cumulative effect is towards spending” (Matthews, 2013).<sup>[NM4]</sup>

Roger (2000) agrees with Bowen's theory of Cost that in practice, the size of each year's budget is determined by the number of projected revenues. In a study on increasing higher education cost the authors conclude that unlike what Bowen proposed that universities spending is based only on revenue available, there are other factors like technological changes, certain mission-based needs that are unique to some particular universities. The author further states that the fact that selective universities commonly have long waiting lists is evidence that excess demand exists for places at those schools. Universities with excess demand could increase charges without suffering any excess capacity (Feldman, 2008).

In testing the Baumol and Bowen Effects (Robert Martin, 2012) concluded that Bowen theory on cost has a significant impact on cost, their results demonstrate that staff/student ratios have both individual and collective significant. The Bowen theory effects are as a result of decisions taken internally by the management. This theory was chosen for this study as it can be used to explain both the revenue and cost strategies used in the higher education sector. More specifically based on the revenue available universities practice cost rationalization to prioritize which expenditure to be incurred and the one to be postponed. Also, since this theory proposes that expenditure behavior is as a result of management decision then it's important in explaining how human resource competence comes in to facilitate cost-related decision making.

### **2.2.2 Financial Sustainability Model**

The model was first developed by Jackson and McConnell in 1980; it is based on the classic microeconomic theory. The model measures financial sustainability through the marginal revenue marginal cost approach. This means that for the viability of a product the marginal revenue of producing an extra unit has to exceed its marginal cost. The equilibrium point is the point at which the MR equals MC, for an entity to maximize profits then it should aim at producing above the equilibrium point (Jackson & McConnell, 1980).

In a pure competition market where the price is determined by the forces of demand and supply an entity will remain financially sustainable by either maximizing profits or minimizing losses in

the short run by producing outputs at which Marginal Revenue equals Marginal Cost additionally the MR needs to be greater than minimum average variable cost (Jackson & McConnell, 1980). “If MR falls short of minimum AVC, the entity will minimize its losses in the short run by closing down. In this case, there is no level of output at which the entity can produce and realize a loss smaller than its fixed costs and it is therefore considered financially unviable” (Jackson & McConnell, 1980).

Massy (2010) in his study of the classic model suggested an adjustment to the financial stability model for universities by adding an element of marginal value, this is the non-financial contribution and the value-added. His study proposed that “academic programs will maximize the overall value by teaching at the (output) point where MV plus MR equals MC, subject to the constraint that total revenue (TR) equals total cost (TC. And so, in the absence of any kind of subsidization, if MV plus MR equals MC if, and only if, TR equals TC equals 0”, the program will not run and the university would move to discontinue it.

Bellis (2012) built on the study on the marginal value by suggesting that universities have to measure the marginal value, the measurement of marginal value should be based on academic value, both marginal revenue and average revenue, cost and the output together with the methods used for production. Academic value is the major differentiating element between the profit entities and not for profit, many authors have tried to define it but few have managed to quantify. For an academic program to be financially viable a university has to come up with a matrix that will be used to analyze and approve the program, the matrix should take into account the quality, financial viability, relevance and as well as helping the institution achieve its mission.

Universities have to move from traditional costing methods to modern ones like ABC (Activity Based Costing). The adoption of Activity-based costing enables institutions to have better cost allocation. (Naidoo, 2012). The model on financial sustainability applies to this study on how product innovation as a way of revenue diversification can create a competitive advantage for a university, also in analyzing the cost of a product finance department can come up with better controls to ensure that the sustainability of the institution is not put at risk.<sup>[NMS]</sup>

This model was chosen for this study as it helps in answering the question of what universities should do before they incur any extra cost example expansion, hiring of new staff, they should ensure that the marginal value from exceeds the marginal cost incurred.

### **2.3 Empirical Review**

The current section is integral in the study in reviewing the related literature in line with the research variables. The review of empirical studies helps in highlighting the various contextual and empirical gaps that the current study seeks to fill.

#### **2.3.1 Human Resource Competencies and Financial Sustainability**

Palagolla (2016) conducted a study on how human resource influence performance, the study highlighted that there has been a gap since there has been a narrow focus on “contextual factors, abstract and conventional measures, and unclear process of value creation in Human Resource Management” As a result of this lack of clear relation the fixed cost of HRM tends to be the highest in most entities in addition, Companies continue investing in HRM development yet it is not clear how they obtain value from this developments. The author proposes that more studies need to be carried out to come up with a comprehensive model to explain the relationship between human resource management and firm’s performance.

Juster (2019) conducted a study to determine how staff competence and process monitoring and determine performance of the automotive industry in Kenya. The study adopted a descriptive research design. The target population for the study was 482 staff and a sample of 145 employees. The study concluded that process monitoring had a positive and significant impact on performance. The researcher recommends that the industry should seek to continually improve its process monitoring activities by carrying out periodic checks on the manufacturing process and the product. The study recommends future comparative research on automotive industries to compare findings from different companies and different sectors.

A study carried out on achieving campus sustainability (Marena B, 2011) the study concluded that Faculty and staff member’s qualifications are found to be critical resource in efforts to achieve lasting progress towards sustainability. The study conducted a survey and reviewed data

from initiatives led by faculty and staff across 17 universities in Canada and the USA. The author recommends greater focus on the potential of faculty and staff leadership and how to effectively support their efforts to ensure the sustainability of the universities.

### **2.3.2 Revenue Diversification and Financial Sustainability**

Mugathia (2018) explored the ways in which private universities in Kenya to deal with financial sustainability, the study focused recruitment strategies, internal and external funding strategies and program development, review and diversification. The study focused on 20 faith-based fully chartered universities in Kenya, using a qualitative grounded theory design. The study findings indicated that the strategies put in place were not sufficient to bring in enough revenue due to the many internal and external challenges. The study recommended ways of developing, reviewing and diversifying revenue streams namely more fundraising, involving staff members more in decision making, coming up with better ways of using the space in the university to generate enough income to overcome the challenges in the system that are major hindrance to the establishment of a financially sustainable university. This study adopts some of the proposed revenue growth strategies.

Janet (2019) Assessed financial investment strategies on the financial sustainability of universities in Kenya. The study used a descriptive and cross-sectional co-relational survey design to study a population of all 71 universities in Kenya; the study targeted 142 respondents consisting of 71 DVCs in charge of finance and 71 Finance Officers from each university. The findings from the study reveal that with regard to investment strategies, the fact that universities had invested in real estate ranked the highest while the idea that universities had invested in catering services ranked the least, the consultancy had the highest mean for the idea that universities had specialized experts in different fields. The study recommends universities to adopt investment strategies to bring in more revenue as well as train their employees to engage more in consultancies.

Sacristán (2016) Explored how fundraising is affected by changes in the diversification of revenue for not for profits. Using random effect regression and Arellano Bond model to study a population of 10358 not for profits, the study findings revealed that revenue diversification

negatively impacts fundraising, some donors may deem that the not for profits have enough money and therefore doesn't need more donations, the study recommended consideration of how other sources of revenue like invest income, government funding influence fundraising, the authors appreciated the gap in that the data used could have been incomplete or inaccurate.

Some higher education institutions use internationalization as a way of increasing revenue, however, a study by (Seeber, 2016) the findings shows that the universities embrace internationalization as a way of increasing prestige as opposed to raising revenue. The study developed and tested a conceptual framework to predict the rationale for internationalization for 400 European Higher Education Institutions; the study recommends future studies to narrow down on a specific type of higher education institutions like faith-based or private institutions.

Pedro (2014) explored the relevance of institutional characteristics namely enrollments in undergraduate and postgraduate programs, the qualifications of academic staff, and the regional environment where institutions are located and their influence on an institutions ability to earn income from tuition fees and other non-public sources, the study focused on 15 universities and 15 polytechnics. The findings showed that factors like mission differentiation have a significant role to play in the amount of tuition fees that a university can earn, the study highlights the limitations in that different institutions charge different amount of tuition fees. This study will only cover one institution and thereby overcome the limitation of the differentiation in the tuition fees.

### **2.3.3 Cost Management and Financial Sustainability**

Imhanzenobe (2020) studied which areas of financial management should be prioritized to ensure financial sustainability of entities in Nigeria, the study focused on 17 companies from 2008 to 2016 using correlational matrix and random effect model. The study concluded that financial practices have a significant influence on the short-term profits and efficiency of the Company. The study was strictly based on qualitative data, the study recommends future use of quantitative measures of financial sustainability. This study combines quantitative as well as qualitative data.

Ellys (2017) study aim was to determine the financial management system of private universities through the implementation of one of the principles of good governance namely accountability.

This study used descriptive qualitative research, data was collected through observation and in-depth interviews. The results showed that private universities as a non-profit organization any surplus should be returned to the institution's investment fund to improve the quality of higher education. The author proposes future studies to focus on other principles of good governance.

In a study carried out in Malaysia on perceptions of university sustainability (Nik A, 2018) established that there are various cost management practices example more collaboration between the departments, consolidating units that have become redundant overtime, reducing student related expenses among others that the management of the university can adopt to make their institutions more financially sustainable. This study focuses on some of the practices suggested in this study and tests if they apply in Strathmore University.

Kegeza(2018) carried out a study to establish the effect of planned recruitment, training, process automation and outsourcing as cost reduction strategies revealed that service outsourcing helps to improve skills and knowledge that improve the performance of an organization. The study was a case study of Kenya Forest Service using descriptive statistics, with a target population of 219 employees and a sample size of 33. (Kegeza, 2018). The study recommends carrying out a similar study in another sector in Kenya. This study seeks to focus on outsourcing in the higher education sector.

Hoos (2016) carried out a study on impact of technology on education. The study illustrated that the steady progression, omnivorous management information systems and program budgeting makes quantitative measures useful university managements. This study will seek to understand if the findings above apply to the sample under study.

In a study carried out in the United States to examine whether online learning technologies have led to lower prices in higher education. (Deming, 2015) Concluded that online learning is concentrated on large for-profit universities and a few public universities. It was also revealed that online technology can reduce the cost of higher education. The study recommends an analysis of the impact of online technology on the quality of education. This study was confined to the United States, the current study will cover a university in Kenya.

## 2.4 Research Gaps

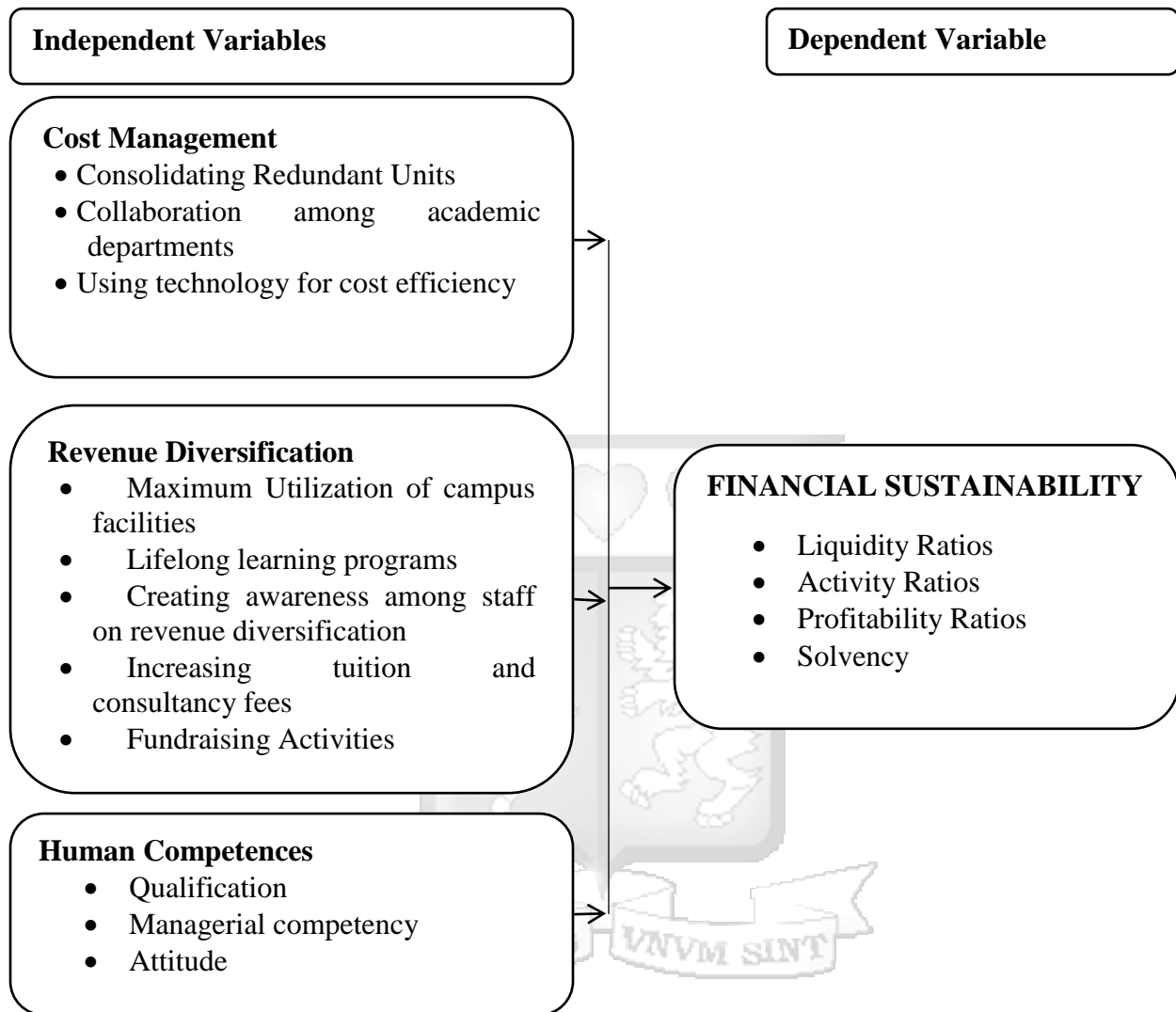
Most of the studies carried out emphasize the factors within the financial department and focus on the data in the financial statement only. The figures in the financial statements are a result of a lot of activities being carried out in an organization. This study filled in this gap by focusing on the non- financial elements that influence financial sustainability. Additionally, very few studies have been carried out in Kenya, this study seeks to fill this gap. The table below highlights additional and specific research gaps.



**Table 2.1: Research Gaps**

Author	Title	Research Findings	Research Gaps
Wanjiku (2018)	Leadership styles of top management and their effect on university performance	The study concluded that leadership styles affect the performance of universities in Kenya. Transformational and transactional leadership were found to have a significant association with the performance of universities in Kenya.	The study focused on Leadership and the performance, the current study focuses on other areas such as faculty qualification and attitude which are key when it comes to financial sustainability.
Nik A (2018)	Financial sustainability of Malaysian public universities: officers' perceptions	The study concluded that respondents appreciate the financial sustainability challenges faced by their institutions. Respondents agree that increasing tuition fees may not be a feasible revenue enhancement strategy for public universities. Instead, all respondents agree that full utilization of resources is a key strategy that the universities can adopt.	The study was carried out in Malaysia in several public universities, the current study adopts some of the variables and seeks to apply them in the Kenyan Context.
Ng'ang'a(2016)	Determinants of financial sustainability in private middle-level colleges in Nakuru county, Kenya	The influence of capital structure, resource allocation, and financial accountability on the financial sustainability of private middle-level colleges was found to be significant.	The research examined financial sustainability from a finance department perspective, whereas the current study goes further and looks at other non-finance perspectives
Aemiro(2013)	Determinants of Financial Sustainability of Microfinance Institutions in East Africa	The study focused on management inefficiency, portfolio at risk, loans intensity, and size and how these determine the financial sustainability for 23 MFIs in Kenya	The study focused on the determinants of financial sustainability in the financial sector, this study borrows from this and focuses on the unique variables in the Education sector,

## 2.5 Conceptual Framework



**Figure 2.1: Conceptual Framework**

The study conceptualizes the determinants of financial sustainability as revenue diversification, cost management, and human resource competency, the financial sustainability was contextualized using financial ratios namely liquidity, Activity, sustainability, and profitability ratios.

## 2.6 Operationalization of Variables

Table 2.2 outlines how the variables have been operationalized.

**Table 2.2: Operationalization of variables**

Variable	Indicator	Author	Measurement	Tools of Analysis
Financial Sustainability	Liquidity Activity Profitability Sustainability	Cernostana Z. (2018)	Secondary Data Using Financial Statements	<ul style="list-style-type: none"> <li>• Mean and Standard deviation</li> <li>• Correlation &amp; Regression</li> </ul>
Cost Management Initiatives	Consolidating Redundant Units Collaboration Using Technology for cost efficiency	Nik A, Suhaiza I & Siti S(2018)	-5-point Likert scale	<ul style="list-style-type: none"> <li>• Mean and Standard deviation</li> <li>• Correlation &amp; Regression</li> </ul>
Revenue Diversification Strategies	Maximum Utilization of campus facilities Lifelong learning programs Creating awareness among staff on revenue diversification Increasing tuition and consultancy fees Fundraising Activities	Nik A, Suhaiza I & Siti S(2018), Webb J(2015)	-5-point Likert scale	<ul style="list-style-type: none"> <li>• Mean and Standard deviation</li> <li>• Correlation &amp; Regression</li> </ul>
Human Resource competences	All staff is properly qualified. The management is competent. The staff have a positive attitude towards the universities mission	Marena B, Peter R, Gillian M & Josef A (2011)	-5point Likert scale	<ul style="list-style-type: none"> <li>• Mean and Standard deviation</li> <li>• Correlation &amp; Regression</li> </ul>

**Source: Author (2020)**

## 2.7 Chapter Summary

The chapter outlines the dynamic competencies theory and the financial sustainability model which are key for this study, further to this the chapter adds empirical review on the various studies that have been carried and the research gap, very few studies have been carried out on the financial performance or sustainability of the higher education in Kenya. Further to this none of

the studies carried out have combined the factors as chosen for this study.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter presents the research methodology of the study and outlines the methods to be used in collecting and analyzing the study. The section expounds on the data collection instruments and procedures that were used to get relevant, reliable, valid, and complete information that is related to the area of study. The chapter covers the following sub-sections: research design, the population of the study, sample design, data collection methods, data analysis, and ethical considerations.

#### **3.1 Research Design**

Research design is the journey that the researcher intends to follow in conducting the study. This study adopted a descriptive and correlation research design study. Descriptive research seeks to obtain information that describes existing phenomena, by asking individuals about their implementations, attitude, behavior or values (Forzano, 2019 ). Further it enables the researcher to answer the question of who, what, when, where and how (Mark S, 2016). Using descriptive and correlation design enabled the researcher to analyze the relationship between the independent and dependent variable. The institution under study was Strathmore University, a private university in Kenya. The selection of one private university in Kenya was based on the fact each university had its business model and therefore different universities used different revenue and cost strategies to achieve financial sustainability. The study adopted a quantitative design, this allowed an examination of the relationship between variables which are measured numerically and analyzed using a range of statistical and graphic techniques (Mark S, 2016).

#### **3.2 Target Population**

The accessible population for this study was 1192 employees of the university (Strathmore University, 2017). Further, the target population for the study was middle managers for the whole university, this population was chosen as they hold unique characteristics of the responsibility of budget implementation and ensuring the policies of the university are followed.

In the period under study, the university had a total of 109 middle managers. See appendix IV for levels of management.

### 3.3 Sampling Design and Size

The sample was the middle level managers. This sample was arrived at using purposive sampling technique, also called judgment sampling, this is the deliberate choice of a participant due to the qualities the participant possesses (Etikan, 2016). The sample size was 86 respondents. This sample size was arrived at using the Yamane formulae at a 5% estimation error, as shown below:

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

Where: n is the sample size, e is the error term, and N (109) is the total target population.

$$n = \frac{109}{1 + 109(.05^2)} = 86 \text{ respondents}$$

The distribution per department is as shown in the table below:

**Table 3.1: Sampling frame**

	<b>Department</b>	<b>Number of Employees</b>	<b>%</b>	<b>Sample</b>
1	Strathmore University Business School	263	22%	19
2	Strathmore Law School	63	5%	5
3	Faculty of IT	61	5%	4
4	School of Humanities and Social Studies	37	3%	3
5	School of Hospitality and Tourism	19	2%	1
6	University Administration	549	46%	40
7	Research Centers	123	10%	9
8	Strathmore Institute of mathematical Sciences	77	6%	6
	<b>Total</b>	<b>1192</b>	<b>100%</b>	<b>86</b>

The study focused on the financial statement for the period from 2015 to 2018 as this is the period the university introduced a new strategic plan.

### **3.3 Data Collection Methods and Procedures**

Data collection was done using questionnaires which was completed by the respondents. It was more efficient in that it required less time to respond to information, permits respondents to remain anonymous in their responses and it is easy to administer (Mugenda and Mugenda, 2013). The questionnaire (Appendix II) contained the following sections background information, Human resource Competence, Revenue Diversification, and Cost Management initiatives. Secondary data was collected using data collection sheet (appendix III). Before data collection, an introduction letter authorizing data collection was obtained from Strathmore University. The research adopted a drop and picked technique or an email technique in the data collection process.

### **3.4 Research Quality**

#### **3.4.1 Reliability of Research Instruments**

Reliability of the questionnaire was established through Cronbach Alpha Coefficient. In this regard, the questionnaire from the pilot study was coded and the values of Cronbach Alpha coefficients were generated. The value 0.7 was taken as the threshold.

#### **3.4.2 Pilot Study**

A pilot study was carried out in the special projects department of the business school which enabled the researcher to fine-tune the instrument to ensure objectivity and efficiency. The feedback from the pilot study assisted in identifying any complexity of the terms in use. Corrections were done to ensure clarity, relevance, and simplicity of terms.

A pilot study was conducted among respondents who did not participate in the final study. The essence of the pilot study was to determine the reliability of the study instrument. In total, 10 questionnaires were administered to respondents during the pilot study and eight of them were dully filled and returned. The researcher computed the values of Cronbach Alpha Coefficients from the dully filled questionnaires in the pilot study. Table 3.1 is a summary of the findings.

**Table 3.2: Pilot Study Results**

	<b>Cronbach Alpha Coefficient</b>	<b>No. of Items</b>
Revenue Diversification	.702	12
Cost Management Strategies	.845	13
Human Resource Competencies	.773	6

*Source: Field Data (2020)*

The results in Table 3.1 indicate that revenue diversification had Cronbach Alpha Coefficient value of 0.702, cost management had 0.845 and human resource competencies had 0.773. Therefore, all the variables had Cronbach Alpha Coefficient values of above 0.7, which means that the questionnaire used in the study was reliable.

### **3.4.3 Validity of Research Instruments**

Validity tells you how accurately a method measures what it is supposed to measure. If a method measures what it claims to measure, and the results closely correspond to real-world values, then it can be considered valid (Middleton, 2019). To ensure content validity, the research held meetings with the supervisor to make adjustments and/or additions to the research instruments as necessary. To ascertain construct validity, indicators and measurements were carefully selected using existing knowledge.

### **3.5 Data Analysis**

The data collected was cleaned before analysis. This involved editing of the primary data to identify and eliminate errors made by respondents. The data was analyzed and presented using descriptive statistics such as mean scores and standard deviation to determine the distributions of the variables. The study used both Pearson's correlation and multiple regression analysis to test the influence of independent variables on the dependent variable. The regression model is

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

Where

Y: financial sustainability,

$\beta_0$  =constant.  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  =constants,

$X_1$ = Revenue Diversification

$X_2$ =Human Competences,

$X_3$ =Cost Management

### **3.6 Ethical Considerations**

The study ensured that appropriate ethical guidelines are adhered to throughout the conduct of the research. The researcher sought for clearance from Strathmore University Ethical Committee, before undertaking the study. The study further obtained a research permit from the National Commission for Science Technology and Innovation. The researcher asked for consent from the participants and included an introduction section, which assured the respondent that the research is for educational purposes. Lastly, the researcher observed confidentiality and maintained the anonymity of the respondents through the research work.



## CHAPTER FOUR

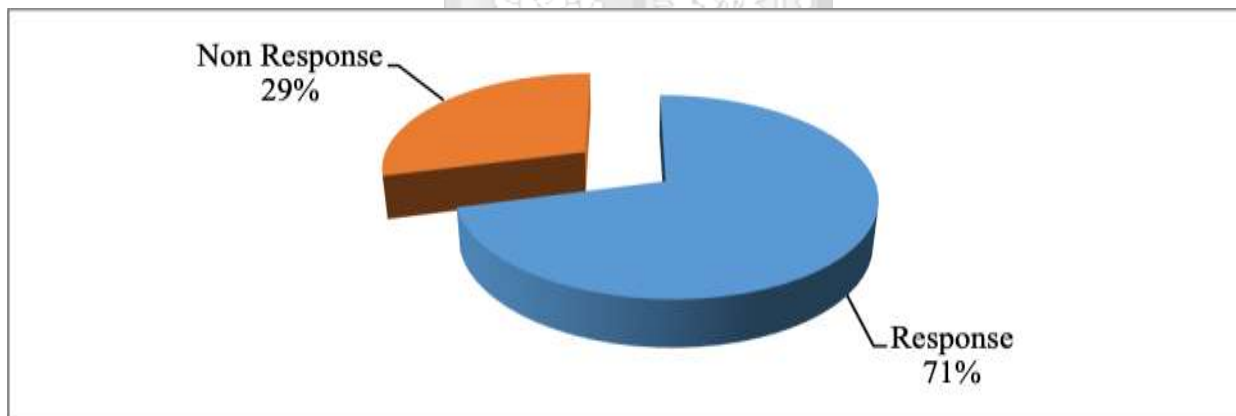
### DATA ANALYSIS AND PRESENTATION

#### 4.1 Introduction

The chapter presents the findings of the analysis on the primary and secondary data that was gathered. The analysis of the findings was done using descriptive statistics; mean and standard deviations, while the inferential statistics are presented based on correlation and regression analysis. The presentation of the results was done using tables and figures.

#### 4.2 Response Rate

A total of 86 questionnaires were administered to middle managers of Strathmore University. From these, 61 of completed and resulting to a response rate of 71% as represented in Figure 4.1 below.



**Figure 4.1: Response Rate** (Source: Field Data (2020))

The response rate in Figure 4.1 is consistent with Mugenda and Mugenda (2003) who shared that a response rate of over 70% is deemed to be adequate for presentation of the findings.

#### 4.3 Respondent Background

The summary of the general information of the respondents covering their gender, level of education, years worked in the organization and the department is shown in Table 4.1.

**Table 4.1: General Information**

Category	Classification	Frequency	Percentage
Gender Distribution	Male	41	67.2
	female	20	32.8
	<b>Total</b>	<b>61</b>	<b>100.0</b>
Level of Education	Diploma	10	16.4
	Bachelors	15	24.6
	Masters	30	49.2
	PhD	6	9.8
	<b>Total</b>	<b>61</b>	<b>100.0</b>
Years Worked in Organization	Less than 1 year	7	11.5
	1- 5 Years	8	13.1
	6-10 Years	31	50.8
	More than 10 years	15	24.6
	<b>Total</b>	<b>61</b>	<b>100.0</b>
Years Worked in Department	Less than 1 year	4	6.6
	1- 5 Years	18	29.5
	6-10 Years	30	49.2
	More than 10 years	9	14.8
	<b>Total</b>	<b>61</b>	<b>100.0</b>

**Source: Field Data (2020)**

The findings in Table 4.1 indicate that while 67.2% of the respondents were male, 32.8% were female. This implies that the finding sought by the study was gender representative and thus not biased. In view of the level of education, it was shown that 49.2% of the respondents had masters, 24.6% had bachelor's degrees, 16.4 had diplomas and 9.8% had PhDs. This shows that respondents who took part in the study were literate enough and thus could read and interpret the research questions as sought by the study.

The sought to establish the number of years which respondents had worked in their organizations and respective departments. From the findings, it was shown that while 50.8% had worked in the University for 6-10 years, 24.6% had worked for over 10 years, 13.1% for 1-5 years and 11.5% for less than a year. The study further noted that 49.2% of the respondents had worked for 6-10 years, 29.5% for 1-5 years, 14.8% for over 10 years and 6.6% for less than a year. These findings indicate that the respondents had worked in their organization and departments for a relatively longer period of time and thus probably they were knowledgeable on financial sustainability and its determinants.

#### 4.4 Financial Sustainability of Strathmore University

Financial sustainability was the dependent variable of the study and it was represented by liquidity ratio, activity ratio, sustainability ratio and profitability ratio. The study collected secondary data on this variable covering the period from 2014-2018. The collected secondary data was coded into SPSS and the values of means and standard deviations were generated. Table 4.2 is a summary of the findings.

**Table 4.2: Financial Sustainability of Strathmore University**

		<b>Formula</b>	<b>Recommended</b>	<b>Mean</b>	<b>Std. Dev</b>
Liquidity Ratios	Current Ratio	Current Assets/Current Liabilities	>1	.73	.050
	Quick Ratio	Current Assets-Inventory/Current Liabilities	0.3- 1.0	.69	.050
Activity Ratios	Total Asset Turnover	Net sales/Average Total Assets	Higher is better	.35	.048
	Fixed Asset Turnover	Net sales/Non-current assets	Higher is better	.40	.065
	Accounts Receivable Turnover	Net sales/Average accounts receivable	Lower is better	3.56	.542
Solvency Ratios	Debt/Equity Ratio	Total Liabilities/Total Equity	<0.45	.49	.124
	Equity Ratio	Total Equity/Total Assets	>0.55	.61	.038
Profitability Ratios	Return on Equity	Net Income/Total Equity	Higher is better	.74	1.517
	Return on Assets	Net Income/Total Assets	Higher is better	.41	.833

**Source: Field Data (2020)**

Table 4.2 is a summary of the means and standard deviation on the secondary data that was collected. Liquidity had two measures current ratio and quick ratio. The study noted that on average, Strathmore University had a current ratio of 0.73 with the quick acid ratio being 0.69. Thus, the current ratio of the University was far below the recommended one of above 1. However, the quick ratio was within the recommend threshold of 0.3 to 1.0.

Activity ratio was represented by total asset turnover, fixed asset turn-over and accounts receivable turnover. From the results, total asset turnover of the University was 0.35, the fixed asset turnover was 0.40 and accounts receivable turnover was 3.56. Based on the findings, the total asset turnover and the fixed asset turnover are not higher enough while accounts receivable

turnover is too high than the recommend relatively lower value. The debt to equity ratio and the equity ratio were used to represent sustainability ratios. The results showed that the debt/equity ratio of the University averaged at 0.49 while the equity ratio stood at 0.61. Thus, both debt to equity ratio and the equity ratio were within the recommended thresholds of above 0.45 and above 0.55 respectively. This means that the University was doing well in terms of sustainability ratio.

Profitability ratios were represented by ROA and ROE. From the findings, the average ROA of the University stood at 0.41 while ROE was 0.74. This implies that that the University was generating more revenues from its equities as compared to its assets.

#### **4.5 Human Resource Competencies and Financial Sustainability**

The first objective of the study was to establish the effect of HR competencies on financial sustainability of Strathmore University. This section presents the findings of the descriptive statistics, correlation analysis and regression analysis.

##### **4.5.1 Descriptive Statistics of Human Resource Competencies**

The data was collected and measured using a likert scale 1-5 (strongly disagree to strongly agree) and then analyzed using descriptive statistics, this is important as it enables the data to be represented in a more meaningful way to allow for easier interpretation. Table 4.3 gives the findings of descriptive statistics on human resource competencies.

**Table 4.3: Human Resource Competencies**

	<b>Mean</b>	<b>Std. Dev</b>
The University having qualified lecturers	3.80	.726
The Universities having qualified head of department and supervisors	3.77	.937
Management board providing clear guidelines on the mission and vision of the University	3.57	.865
Management listening to ideas from the employees	3.85	.792
The staff members resonate with the mission and vision of the University	3.68	.992
The staff members empowered to make financial decisions	3.85	.928
<b>Overall Score</b>	<b>3.75</b>	<b>0.873</b>

**Source: Field Data (2020)**

As indicated in Table 4.3, the overall mean is 3.75 with a standard deviation of .873. This shows that respondents agreed that their institution practiced human resource competencies. The value of standard deviation implies that respondents shared similar views and opinions on cost

management as a practice in their organization. Respondents highly agreed on the fact that the management listened to ideas from the employees (M=3.85, SD=.792) and that the staff members empowered to made financial decisions (M=3.85, SD=.928).

#### 4.5.2 Relationship between Human Resource Competencies and Financial Sustainability

The relationship was established by correlation analysis and regression as determined and summarized as indicated in Table 4.4.

**Table 4.4: Relationship Results of Human Resource Competencies and Financial Sustainability**

				Financial Sustainability	Human Resource Competencies
Financial Sustainability	Pearson Correlation		1		
	Sig. (2-tailed)				
	N		61		
Human Resource Competencies	Pearson Correlation		.276*		1
	Sig. (2-tailed)		.031		
	N		61		61
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate
1	.276 <sup>a</sup>	.076	.060		2.22315
		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
(Constant)		.920	3.200		
Human Resource Competencies		.312	.141	.276	
				t	Sig.
				.287	.775
				2.205	.031

a. Dependent Variable: Financial Sustainability

#### Source: Field Data (2020)

From Table 4.4, it was shown that human resource competencies ( $r=0.276$ ) had a weak and positive relationship with financial sustainability of Strathmore University. The findings of regression analysis on HR competencies and financial sustainability are included in this section. The results show the coefficient of determination of R square as 0.076, which is interpreted to mean that 7.6% change in financial sustainability of Strathmore University is solely explained by HR competencies.

The first objective sought to establish the influence of human resource competencies on financial sustainability of Strathmore University. From the results in Table 4.4, it can be shown that when all other variables are held constant, a unit increase in human resource competencies would lead

to 0.312 unit increase in financial sustainability of Strathmore University. At 5%, the p-value was less than 0.05 ( $p < 0.05$ ), which infers that human resource competencies were a significant determinant of financial sustainability of Strathmore University.

#### 4.6 Revenue Diversification and financial sustainability

The second objective was to determine the relationship between the revenue diversification and financial sustainability, the relationship was established using correlation and regression analysis. The descriptive and inferential statistics on revenue diversification and financial sustainability were established and summarized as shown in subsequent sections.

##### 4.6.1 Descriptive Statistics on Revenue Diversification

The means and standard deviations on revenue diversification were established and summarized as indicated in Table 4.5.

**Table 4.5: Revenue Diversification**

	<b>Mean</b>	<b>Std. Dev</b>
Fully utilizing the University building and other physical facilities	3.73	.704
Offering executive courses	3.83	1.003
Raising awareness on revenue diversification amongst staff	3.77	1.086
Securing more research and donor grants	3.91	.953
Giving employees bonuses for revenue diversification initiatives	3.72	.933
Adopting blended learning for academic courses	3.93	.727
Increasing consultancy fees	3.50	.976
Training employees to do more consultancy	3.80	.891
Increasing tuition fees	3.78	.896
Partnering with other Universities	3.22	1.131
Investing more in fundraising activities	3.42	1.024
Recruiting more international students	3.67	1.127
<b>Overall Score</b>	<b>3.69</b>	<b>.954</b>

*Source: Field Data (2020)*

The results in Table 4.5 indicate an overall mean of 3.69 with standard deviation of 0.954. The interpretation of this overall mean is that revenue diversification was practiced in the University. Majority of the respondents agreed on adopting blended learning for academic courses ( $M=3.93$ ,  $SD=.727$ ) and more research and donor grants ( $M=3.91$ ,  $SD=.953$ ). On the other hand, some other respondents moderately agreed on partnering with other Universities ( $M=3.22$ ,  $SD=1.131$ ) and investing more in fundraising activities ( $M=3.42$ ,  $SD=1.024$ ).

#### 4.6.2 Relationship between Revenue Diversification and financial sustainability

The relationship was established using correlation and regression analysis. The results of correlation analysis were established and summarized in Table 4.6.

**Table 4. 6: Relationship results of Revenue Diversification and financial sustainability**

				Financial Sustainability	Revenue Diversification	
Financial Sustainability		Pearson Correlation		1		
		Sig. (2-tailed)				
		N		61		
Revenue Diversification		Pearson Correlation		.278*	1	
		Sig. (2-tailed)		.030		
		N		61	61	
Model	R	R Square		Adjusted R Square	Std. Error of the Estimate	
1	.278 <sup>a</sup>	.077		.061	2.22204	
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		2.047	2.674		.765	.447
Revenue Diversification		.134	.061	.278	2.220	.030

Source: Field Data (2020)

From the results in Table 4.6, the study noted that revenue diversification had a weak and negative relationship ( $r=-0.278$ ) with financial sustainability of Strathmore University. The findings in Table 4.9 indicate the value of R square as 0.077, which was interpreted to mean that 7.7 change in financial sustainability of Strathmore University is solely explained by its revenue diversification in place.

The second objective sought to determine the influence of revenue diversification strategies on financial sustainability of Strathmore University. It was noted that a unit decrease in revenue diversification while holding other factors constant would lead to 0.134 unit increase in financial sustainability of Strathmore University. The study further noted that the p-value was greater than 0.05, ( $p>0.05$ ) which deduces that revenue diversification strategies were insignificant determinants of financial sustainability of Strathmore University.

## 4.7 Cost Management Strategies and financial sustainability

The third objective of the study sought to determine the influence of cost management practices on financial sustainability of Strathmore University.

### 4.7.1 Descriptive Statistics of Cost Management Strategies

The findings on cost management strategies are as shown in Table 4.7.

**Table 4.7: Cost Management Strategies**

	<b>Mean</b>	<b>Std. Dev</b>
Merging redundant units/departments	3.54	.905
Using Technology for cost efficiency	3.73	1.063
Reducing Utilities Cost	3.73	.873
Limiting International Travel	3.78	1.034
Discontinuing courses with low enrolment numbers	3.55	.827
Reducing full-time administrative staff positions	3.49	1.119
Reducing part-time lecturer positions	3.80	.996
Reducing the purchase of Assets	3.54	1.041
Reducing expenditure on Maintenance	3.90	.888
Increasing the teaching load for full-time academic programmes	3.83	.687
Reducing the duration of academic programmes	3.98	.939
Reducing funding for student activities	3.57	.887
Reducing the amount of scholarships	3.70	.882
<b>Overall Score</b>	<b>3.70</b>	<b>.934</b>

**Source: Field Data (2020)**

Table 4.7 indicates the overall mean of 3.70 with standard deviation of 0.934. The interpretation of this value of mean is that the University had put in cost management strategies. Some of these cost management strategies practiced by the University included reducing the duration of academic programmes (M=3.98, SD=.939), reducing expenditure on maintenance (M=3.90, SD=.888) and reducing part-time lecturer positions (M=3.80, SD=.996). On the other hand, the least practiced revenue diversification strategy was reducing full-time administrative staff positions (M=3.49, SD=1.119).

#### 4.7.2 Relationship between Cost Management Strategies and financial sustainability

The results of correlation analysis on cost management and financial sustainability are as indicated in Table 4.8.

**Table 4.8: Relationship Results on Cost Management Strategies and financial sustainability**

				Financial Sustainability	Cost Management Strategies	
Financial Sustainability		Pearson Correlation		1		
		Sig. (2-tailed)				
		N		61		
Cost Management Strategies		Pearson Correlation		.659	1	
		Sig. (2-tailed)		.000		
		N		61	61	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.659 <sup>a</sup>	.435	.425	1.73921		
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
(Constant)		7.631	2.324		3.283	.002
Cost Management Strategies		.325	.048	.659	6.734	.000

Source: Field Data (2020)

Table 4.8 indicate that cost management strategies ( $r=0.659$ ) had a strong and positive relationship with financial sustainability of Strathmore University. Further the table shows the value of the coefficient of correlation was 0.659; this means that some of the established determinants were strongly correlated with financial sustainability of Strathmore University. The coefficient of determination R square is given as 0.435, which means that 43.5% change in financial sustainability of Strathmore University is solely explained by its cost management strategies.

The study noted that holding all other factors constant, a unit change in cost management strategies would lead to 0.325 unit increase in financial sustainability of Strathmore University. The findings of the study showed that the p-value was less than 0.05, ( $p<0.05$ ) and hence cost

management practices were significant determinants of financial sustainability of Strathmore University.

#### 4.8 The Overall Model of Determinants of Financial Sustainability

The study focused on revenue diversification, human resource competencies and cost management strategies as the determinants of financial sustainability, the findings of the regression analysis explains the extent of which the variability of the dependent variable is explained by the independent variables. To achieve this objective regression analysis were used. Table 4.9 is the model summary.

**Table 4.9: Overall Model**

			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
(Constant)			14.034	3.291		4.264	.000
Revenue Diversification			.010	.050	.021	.204	.839
Cost Management Strategies			.325	.049	.661	6.623	.000
Human Resource Competencies			.302	.110	.267	2.760	.008
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate		
1	.710 <sup>a</sup>	.504	.477		1.65792		

Source: Field Data (2020)

As indicated in Table 4.9, the value of the coefficient of correlation was 0.710; this means that some of the established determinants were strongly correlated with financial sustainability of Strathmore University. The coefficient of determination R square is given as 0.504, which means that 50.4% change in financial sustainability of Strathmore University is explained by its human resource competencies, cost management strategies and revenue diversification. The general objective of the study was to establish the determinants of financial sustainability of Strathmore University. The overall predicted model become:

$$Y = 14.034 + .010X_1 + .325X_2 + .302X_3$$

Where

Y: Financial Sustainability,

X<sub>1</sub>= Revenue Diversification

X<sub>2</sub>=Human Competences,

X<sub>3</sub>=Cost Management

From the results in Table 4.9, it can be shown that when all the determinants are held constant, financial sustainability of Strathmore University would be at 14.034. The first objective sought to establish the influence of human resource competencies on financial sustainability of Strathmore University. From the results in Table 4.9, it can be shown that when all other variables are held constant, a unit increase in human resource competencies would lead to 0.302 unit increase in financial sustainability of Strathmore University. At 5%, the p-value was less than 0.05 ( $p < 0.05$ ), which infers that human resource competencies were a significant determinant of financial sustainability of Strathmore University.

The second objective sought to determine the influence of revenue diversification strategies on financial sustainability of Strathmore University. It was noted that a unit decrease in revenue diversification while holding other factors constant would lead to 0.010 unit increase in financial sustainability of Strathmore University. The study further noted that the p-value was greater than 0.05, ( $p > 0.05$ ) which deduces that revenue diversification strategies were insignificant determinants of financial sustainability of Strathmore University.

The third objective of the study sought to determine the influence of cost management practices on financial sustainability of Strathmore University. The study noted that holding all other factors constant, a unit change in cost management strategies would lead to 0.325 unit increase in financial sustainability of Strathmore University. The findings of the study showed that the p-value was less than 0.05, ( $p < 0.05$ ) and hence cost management practices were significant determinants of financial sustainability of Strathmore University.

#### **4.9 Chapter Summary**

The chapter was set out to analyze the findings as informed by the specific objectives. The chapter covers the general information that was analyzed through frequencies and percentages. The analysis of the objectives was done using means and standard deviations as the descriptive statistics besides correlation and regression analysis as the inferential statistics. The next chapter presents a summary of the findings with the conclusions, recommendations and the areas that require further studies.

## CHAPTER FIVE

### DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter provides a discussion of the findings of the study as guided by the objectives. The contribution of the findings to knowledge is also indicated with conclusions and recommendations. The chapter also has the limitations of the study and the suggestions on areas of further research.

#### 5.2 Discussions of research findings

A discussion of the findings of the study is presented in this section as guided by the specific objectives.

##### 5.2.1 Human Resource Competencies and Financial Sustainability

The first objective sought to establish the influence of human resource competencies on financial sustainability of Strathmore University. The results of descriptive statistics showed that human resource competencies were practiced at Strathmore University. According to the annual report, Strathmore University started different measures for revenue diversifications and cost management to remain financially sustainable. Besides, this study focuses on human resource competencies, (Mangaleswaran, 2015) Human Resource Management competencies are a core for every organization because the performance of the organization depends on the effective role of human resource within the organization.

Based on correlation analysis, it was shown that It was shown that human resource competencies ( $r=0.276$ ) had a weak and positive relationship with financial sustainability of Strathmore University. A study carried out on achieving campus sustainability (Marena B, 2011) the study concluded that Faculty and staff members are found to be critical leaders in efforts to achieve lasting progress towards campus sustainability. The results regression analysis showed that when all other variables are held constant, a unit increase in human resource competencies would lead to 0.312 unit increase in financial sustainability of Strathmore University. In a study carried out

in North Africa and the Middle East, the universities are facing constraint in funding and therefore they must look for alternative sources of funding, these sources must be consistent with their missions, the universities must focus on expanding access, seeking excellence, promoting equity and social mobility; and working within the constraints of available financial resources. (Jaramillo A, 2015). At 5%, the p-value was less than 0.05 ( $p < 0.05$ ), which infers that human resource competencies was a significant determinant of financial sustainability of Strathmore University.

The results are supported by the financial sustainability theory. According to this theory, realization of financial sustainability requires an organization to come up with creative ways of managing the resources including the finances and labor force that is in place.

### **5.2.2 Revenue Diversification Strategies and Financial Sustainability**

The second objective sought to determine the influence of revenue diversification strategies on financial sustainability of Strathmore University. In view of the descriptive statistics, it was shown that revenue diversification strategies were practiced in Strathmore University. In the United Kingdom according to a report by European University Association universities are facing challenges of decreased funding from the government thereby requiring them to diversify their revenue stream to remain financially sustainable (Pruvot, 2012).

The results of correlation analysis showed that revenue diversification had a weak and negative relationship ( $r = -0.278$ ) with financial sustainability of Strathmore University. Sacristán (2016) Explored how fundraising is affected by changes in the diversification of revenue for not for profits. Using random effect regression and Arellano Bond model to study a population of 10358 not for profits, the study findings revealed that revenue diversification negatively impacts fundraising, some donors may deem that the not for profits have enough money and therefore doesn't need more donations, the study recommended consideration of how other sources of revenue like invest income, government funding influence fundraising, the authors appreciated the gap in that the data used could have been incomplete or inaccurate. Regression results noted that a unit decrease in revenue diversification while holding other factors constant would lead to 0.134 unit increase in financial sustainability of Strathmore University. The study further noted

that the p-value was greater than 0.05, ( $p > 0.05$ ) which deduces that revenue diversification strategies were insignificant determinants of financial sustainability of Strathmore University.

Generally, these results are in line with the revenue theory of cost. This theory provides the need for an organization to diversify various avenues of collecting revenues for realization of sustainability.

### **5.2.3 Cost Management Practices and Financial Sustainability**

The third objective of the study sought to determine the influence of cost management practices on financial sustainability of Strathmore University. The results of descriptive statistics indicated that cost management was highly practiced at Strathmore University. In America the financial sustainability of most universities is in doubt, according to (Dumestre, 2016) the cost of education is higher than what most middle-income Americans can afford, for universities to come out of this the authors suggest three solutions: the creation of alternatives to traditional university organization structure, ensuring their output is highly appreciated by all their stakeholders and undertaking successful strategic planning and implementation.

Correlation results indicated that cost management strategies ( $r=0.659$ ) had a strong and positive relationship with financial sustainability of Strathmore University. In view of regression results, the study noted that holding all other factors constant, a unit change in cost management strategies would lead to 0.325 unit increase in financial sustainability of Strathmore University. The findings of the study showed that the p-value was less than 0.05, ( $p < 0.05$ ) and hence cost management practices were significant determinants of financial sustainability of Strathmore University. Ellys (2017) study aim was to determine the financial management system of private universities through the implementation of one of the principles of good governance namely accountability and the results showed that private universities as a non-profit organization any surplus is returned to the institution's investment fund to improve the quality of higher education.

The findings are in line with the revenue theory of cost. The theory support the need for an organization to minimize on the costs in operations so as to achieve financial sustainability.

### **5.3 Contribution of the Study to Knowledge**

The findings of the study have shown that cost management was highly practiced at Strathmore University followed by revenue diversification and lastly HR competencies. From these three constructs, only cost management and HR competencies were significant determinants of financial sustainability of Strathmore University. The findings contribute towards understanding of the revenue theory of cost where its underlying concept is that the university's cost per student is determined by the revenues available. The revenue theory of cost raises the need for institutions of higher learning to leverage on their cost management practices to achieve financial sustainability.

### **5.4 Conclusions**

The study sought to establish the influence of human resource competencies on financial sustainability of Strathmore University. It was shown that human resource competencies were practiced at Strathmore University. Based on correlation analysis, it was shown that human resource competencies had a weak and positive relationship with financial sustainability of Strathmore University. The results regression analysis showed that human resource competencies had the least influence on financial sustainability of Strathmore University. Furthermore, human resource competencies were a significant determinant of financial sustainability of Strathmore University

The second objective sought to determine the influence of revenue diversification strategies on financial sustainability of Strathmore University. It was noted that revenue diversification strategies were practiced in Strathmore University. The results of correlation analysis showed that revenue diversification had a weak and negative relationship with financial sustainability of Strathmore University. Regression results noted that revenue diversification had the second largest influence on financial sustainability of Strathmore University. The study further noted that revenue diversification strategies were insignificant determinants of financial sustainability of Strathmore University.

The study third objective sought to determine the influence of cost management practices on financial sustainability of Strathmore University. It was indicated that cost management was highly practiced at Strathmore University. Correlation results indicated that cost management

strategies had a strong and positive relationship with financial sustainability of Strathmore University. In view of regression results, it was shown that cost management practices had the largest influence on financial sustainability of Strathmore University. It was also noted that cost management practices were significant determinants of financial sustainability of Strathmore University.

### **5.5 Recommendations of the Study**

Based on the findings, the study suggests the following recommendations for policy, practice and management.

- i) **For policy:** The policy makers of Strathmore University should focus more on cost management practices and human resource competencies when formulating policies to on financial sustainability. The Ministry of Education and the Commission of University Education (CUE) should ensure that Strathmore University policies are aligned with the cost management practices and the human resource competencies for financial sustainability of the institution.
- ii) **For practice:** The various practitioners including the Heads of Department and Finance Managers will be able to understand the need to focus on cost management practices to enhance financial sustainability of their organizations. The Heads of Department and Human Resource Managers will be able to understand the role played by HR competencies as far as financial sustainability of the institution is concerned.
- iii) **For management:** The Senior Management of Strathmore University will be able to understand and focus more efforts on costs management practices for enhancing financial sustainability of their institution. The HR and head of Departments of Strathmore University will be in position to appreciate the role that HR competencies play as far as financial sustainability is concerned.

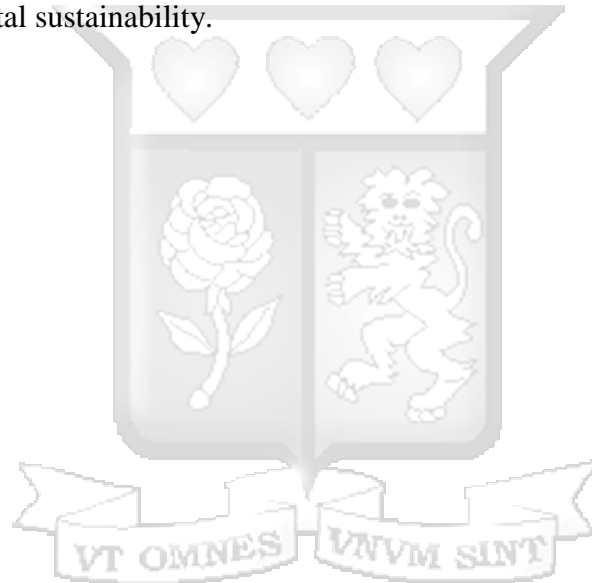
### **5.6 Limitations of the Study**

The study was limited to a one institution only, where only one institution was involved. More specifically, the study focused on Strathmore University. The focus on one institution allowed for an in-depth understanding of the determinants of financial sustainability of Strathmore University. The study was further limited by a small sample of 86 respondents. Such a small

sample limits the generalization of the findings to a wider population. The study was limited to the determinants of financial sustainability. More specifically, the study looked at human resource competencies, revenue diversification strategies and cost management practices and how they determine financial sustainability of Strathmore University.

### **5.7 Suggested Areas for Further Research**

The study recommends further studies to be conducted focusing on other universities for instance by comparing the public and the private universities in Kenya. This will increase the sample size and thus allowing proper generalization of the findings. Future studies should relate the identified determinants with sustainability from an environmental point of view to incorporate the issues of environmental sustainability.



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## APPENDICES

### Appendix I: Introduction Letter

To the Respondent

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#### **RE: REQUEST TO COLLECT DATA FOR ACADEMIC RESEARCH**

My name is Christine Riachi, and I am a student in the Masters of Business in Administration program at Strathmore Business School, Strathmore University. As a requirement for the award of my academic degree, I am required to undertake a research study that will foster practice and policy within my area of study. To this end, I'm conducting a study on the '*The Determinants of financial Sustainability of private universities, A case of Strathmore University.*

As part of middle management, you have been selected as part of the current study. Any assistance offered in the collection of the research data will be highly appreciated. The findings of the research will be pivotal to fostering management and decision-making practices and will be shared with your you upon request.

With Warm Regards,

Christine Riachi



## Appendix II: Approval Letter from Strathmore University



**Strathmore**  
UNIVERSITY

30<sup>th</sup> June 2020

Ms Riachi, Christine  
riachix@gmail.com

Dear Ms Riachi,

**RE: Determinants of Financial Sustainability of Universities: A Case Study of Strathmore University**


This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0828/20**. The approval period is **30<sup>th</sup> June 2020 to 29<sup>th</sup> June 2021**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

  
Dr Virginia Gichuru,  
Secretary; SU-IERC

Cc: Prof Fred Were,  
Chairperson; SU-IERC



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Email [info@strathmore.edu](mailto:info@strathmore.edu) [www.strathmore.edu](http://www.strathmore.edu)

## Appendix II: NACOSTI Research Permit

 <b>REPUBLIC OF KENYA</b>	 <b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b>
<b>Ref No: 939623</b>	<b>Date of Issue: 23/October/2020</b>
<b>RESEARCH LICENSE</b>	
	
<b>This is to Certify that Ms.. Christine Riachi of Strathmore University, has been licensed to conduct research in Nairobi on the topic: DETERMINANTS OF FINANCIAL SUSTAINABILITY OF UNIVERSITIES: A CASE STUDY OF STRATHMORE UNIVERSITY for the period ending : 23/October/2021.</b>	
<b>License No: NACOSTI/P/20/7284</b>	
<b>939623</b>	
<b>Applicant Identification Number</b>	<b>Director General</b>
	<b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b>
	<b>Verification QR Code</b>
	
<b>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</b>	

### Appendix III: Questionnaire for Employees of Strathmore University

As an MBA student from Strathmore Business School, I am carrying out a study on *the determinants of the financial sustainability of Strathmore University*. This study is being carried out through the use of questionnaires and financial statements. The results of this study will only be used for academic purposes.

Please fill in the questionnaire to the best of your ability, as accurately and truthfully as possible. Your participation in this study will be highly appreciated and all information provided by yourself will be held in strict confidence.

#### SECTION A: RESPONDENT BACKGROUND INFORMATION

1. What is your gender?

Male

Female

2. What is your highest academic Qualification?

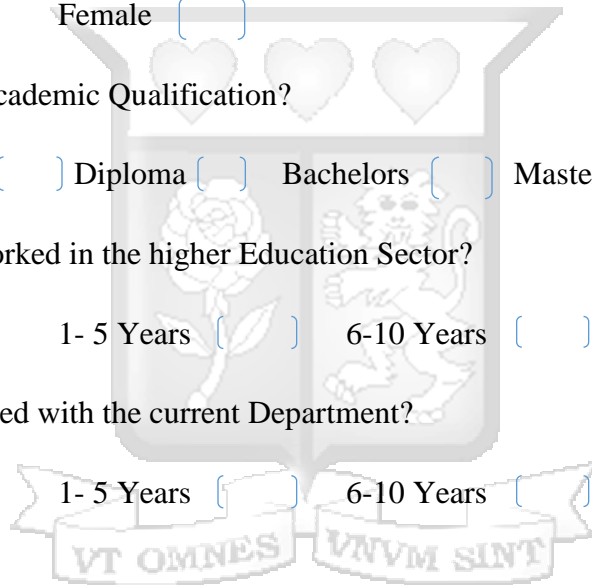
Professional Certificate  Diploma  Bachelors  Masters  PhD

3. How long have you worked in the higher Education Sector?

Less than 1 year  1- 5 Years  6-10 Years  More than 10 years

How long have you worked with the current Department?

Less than 1 year  1- 5 Years  6-10 Years  More than 10 years



## SECTION B: REVENUE DIVERSIFICATION

In the following Section: Kindly indicate by ticking (√) the extent of your agreement on revenue diversification strategies concerning financial sustainability. On a scale of 1-5 where, 1= **strongly disagree**, 2= **Disagree**, 3= **Neutral** 4= **Agree**, 5= **Strongly Agree**

	1	2	3	4	5
Fully utilizing the university building and other physical facilities					
Offering Executive Courses					
Raising Awareness on revenue diversification amongst staff					
Securing More research and Donor grants					
Giving employees bonuses for revenue diversification initiatives					
Adopting blended learning for academic courses					
Increasing consultancy fees					
Training Employees to do more consultancy					
Increasing tuition Fees					
Partnering with other Universities					
Investing more in fundraising Activities					
Recruiting More International students					

## SECTION C: COST MANAGEMENT STRATEGIES

In the following Section: Kindly indicate by ticking (√) the extent of your agreement on Cost management strategies concerning financial sustainability. . . On a scale of 1-5 where, 1= **strongly disagree**, 2= **Disagree**, 3= **Neutral** 4= **Agree**, 5= **Strongly Agree**

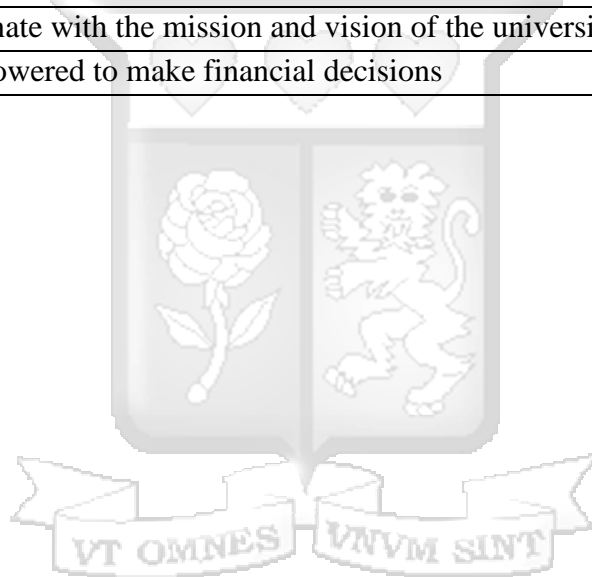
	1	2	3	4	5
Merging redundant units/departments					
Using Technology for cost efficiency					
Reducing Utilities Cost					
Limiting International Travel					
Discontinuing courses with low enrolment numbers					
Reducing full-time administrative staff positions					
Reducing part-time lecturer positions					
Reducing the purchase of Assets					
Reducing expenditure on Maintenance					
Increasing the teaching load for full-time academic programmes					
Reducing the duration of academic programmes					
Reducing funding for student activities					

Reducing the amount of scholarships					
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**SECTION D: HUMAN RESOURCE COMPETENCIES**

In the following Section: Kindly indicate by ticking (√) the extent of your agreement on human resource competencies concerning financial sustainability. On a scale of 1-5 where, 1= **strongly disagree**, 2= **Disagree**, 3= **Neutral** 4= **Agree**, 5= **Strongly Agree**

	1	2	3	4	5
The university having qualified lecturers					
The universities having qualified head of department and supervisors					
Management board providing clear guidelines on the mission and vision of the university					
Management listening to ideas from the employees					
The staff members resonate with the mission and vision of the university					
The staff members empowered to make financial decisions					



## APPENDIX IV STRATHMORE UNIVERSITY LEVELS OF MANAGEMENT

### KEY:

#### ACADEMIC STAFF

SUA 7	Professor
SUA 6	Associate Professor
SUA 5	Senior Lecturer
SUA 4	Lecturer
SUA 3	Assistant Lecturer
SUA 2	Instructor
SUA 1	Graduate Assistant

#### NON-ACADEMIC STAFF

SU 9	Vice Chancellor
SU 8	Head of Division
SU 7	Senior Manager
SU 6	Director
SU 5	Manager
SU 4	Administrator
SU 3	Assistant
SU 2	Support II
SU 1	Support I

## Appendix V: Data Collection Guide

Year		2014	2015	2016	2017	2018
<b>Variable</b>	<b>Formula</b>					
Financial Sustainability	$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon,$					
X <sub>1</sub> =	Revenue Diversification					
X <sub>2</sub> =	Human Competences					
X <sub>3</sub> =	Cost Management					
<b>Liquidity Ratios</b>						
Current Ratio	Current Assets/Current Liabilities					
Quick Ratio	Current Assets- Inventory/Current Liabilities					
<b>Activity Ratios</b>						
Total Asset Turnover	Net sales/Average Total Assets					
Fixed Asset Turnover	Net sales/Non-current assets					
Accounts Receivable Turnover	Net sales/Average accounts receivable					
<b>Sustainability Ratio</b>						
Debt/Equity Ratio	Total Liabilities/Total Equity					
Equity Ratio	Total Equity/Total Assets					
<b>Profitability Ratios</b>						
Return on Equity	Net Income/Total Equity					
Return on Assets	Net Income/Total Assets					

