

**INTERNAL EFFICIENCY, LEADERSHIP PRACTICES AND
COMPETITIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND
TRAINING INSTITUTIONS IN NYERI COUNTY, KENYA**

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Fulfilment of the Requirements for the Conferment of the Degree of Doctor of
Philosophy in Leadership and Education Management of
Kenya Methodist University**

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented for the award of a degree or any other award in any other University.



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Recommendation

We confirm that the candidate carried out the work reported in this thesis under our supervision.



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DEDICATION

I dedicate this work to my dear wife Carol W. Mutahi and our children Mumbi, Kahiga, Wangechi and Githinji for their unswerving love and support during this study.

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ABSTRACT

In meeting the changing needs of today's job market, Technical and Vocational Education and Training (TVET) institutions are essential for generating a workforce equipped with a diverse set of skills. However, the competitiveness of these institutions has faced challenges, prompting an investigation into the potential influence of internal efficiency. The purpose of this research, carried out in Nyeri County, was to explore the correlation between internal efficiency, leadership methodologies, and the competitive edge of Technical and Vocational Education and Training (TVET) institutions. The research objectives assessed the influence of institutional capacity, monitoring curriculum implementation, financial management practices, and internal systems. The study also investigated how leadership practices moderate the proposed relationship. It was informed by four theories namely, the Wheeler model of curriculum development, balance score card model, theory of dynamic capability, and the contingency theory of leadership. It employed a mixed-methods approach with a cross-sectional descriptive survey design. The target group consisted of principals, department heads, and students from 11 TVET institutions chosen randomly. A sample size of 11 TVET institutions, eleven principals, 11 students' presidents and 77 heads of departments. A systematic sampling technique was used to sample TVETs. Each TVET institute provided, a proportionally calculated number of respondents, where each participants from every selected TVETs were purposefully included in the study. Data was collected through questionnaires, interviews, and focus group discussions, and ensured quality through validity and reliability checks. The Cronbach alpha values were above 0.7 for each variable. The mean and standard deviation were computed accordingly, while correlation and multiple linear regression analysis were used to test the research hypothesis and the study's overall purpose. Thematic analysis was applied in analyzing the qualitative data. Information was presented using tables, figures, narration, and excerpts. The study overall response rate was 87%. TVETs show moderate overall competitiveness, excelling in accredited programs and leadership but lacking in facilities, infrastructure, and public perception. Institutional capacity requires improvement, with weak curriculum implementation, monitoring, and financial control systems. Internal operations are strong, but quality assurance and ISO certification need attention. Positive correlations exist between institutional capacity, curriculum monitoring, financial management, internal systems, and competitiveness. Leadership practices moderate internal efficiency's impact on competitiveness. Challenges include insufficient funding, inadequate capacity, and poor management. Recommendations include industry collaboration, expert integration in curriculum development, advisory board engagement, infrastructure enhancement, internships, revenue diversification, and staff development. Implications cover funding models, quality assurance, partnerships, societal perceptions, curriculum, infrastructure, library development, process streamlining, and financial management. Future studies should explore political support, stakeholder perspectives, policy interventions, technology. This research identifies critical areas for improving TVET institutions' competitiveness and efficiency. Future studies can focus on political influence, stakeholder perspectives, policy interventions, technology integration, and industry collaboration.

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LIST OF ABBREVIATIONS & ACRONYMS

ADB	Asian Development Bank
ADEA	Association for the Development of Education in Africa
ASEAN	Association of Southeast Asian Nations
CBET	competency-based education and training
HELB	High Education Loans Board
ILO	International Labor Organization
ISO	International Organization for Standardization
ISSN	International Standard Serial Number
KIPPRA	Kenya Institute for Public Policy Research and Analysis
MoLISA	Ministry of Labor, Invalids and Social Affairs
MRU	Mykolas Romeris University
NIVT	National Institute for Vocational Training
OVEC	Vocational Education Commission
SEAMEO	Southeast Asian Ministers of Education Organization
SPSS	Statistical Package for Social Sciences
TVET	Technical and Vocational Education and Training
TVETA	Technical and Vocational Education and Training Authority
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States

USA	Unites States of America
VVTAA	Vietnamese Vocational Training Accreditation Agency

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Technical and Vocational Education and Training (TVET) is an educational approach aimed at providing students with practical skills that help them adjust to rapidly advancing technological developments. UNESCO (2018) defined TVET as the training, education and research institution that focuses on building skills and competencies in young adults, hence this enhances their chances of finding employment in the job market. Due to their capacity to enhance individual employability, TVET-learned skills are crucial for increasing workers' competitiveness and productivity (Selina, 2021). TVET programs further promote the development of attitudes that help people succeed in the workplace. Their primary objective is to foster entrepreneurial spirit and readiness which leads to skills development, equity, and social responsibility. Oluwatoyin (2020) states that the primary aim of TVET is to provide individuals with technical and professional skills required to boost output, alleviate poverty; and contribute to the socioeconomic and industrial growth and long-term sustainability.

TVET institutions are globally recognized for promoting education, lifelong learning, economic development, reducing youth unemployment and retaining relevancy in the market workforce (Kenya Institute for Public Policy Research and Analysis [KIPPRA], 2019; Khan et al., 2017; Rahman, 2015). Notably, the United States of America, China, Australia, Canada, Japan, Finland, Korea, Taiwan, Singapore and even many African nations are strengthening their social-economic development by embracing

globally accepted mechanisms aimed at stimulating the growth of TVET sector (Hanni, 2019; Khan et al., 2017; Okoye & Okwelle, 2014; Pan et al., 2020). Some of key strategies implemented across many developed countries are focusing on leadership innovation, training and development; financial investment, policy and legislative reforms; and quality service delivery (Nägele & Bestvater, 2016; Khan, 2015). The effective implementation of these strategies is envisaged to enhance their competitiveness. In this study, the competitiveness of technical and vocational education and training institutions is investigated by examining the interplay of internal efficiency and leadership practices in making TVET competitive.

In the context of this study, competitiveness refers to an aggregate term characterized by the ability of a TVET institution to achieve timely course completion, growth in student population, increase of the accredited programs, ability to produce employable graduates and achieve low staff turnover (Sankale et al., 2017; Dyllick & Muff, 2016). Competitiveness is also about the ability of TVET institutions to stand out distinctively among its peers in the unpredictable and volatile environment (Dyllick & Muff, 2016; Gachunga et al., 2020). According to Urdaneta (2017) and UNESCO (2017), the competitiveness of TVET institutes is also evidenced by attributes such as internal efficiency mechanisms such as resource allocation, infrastructural development, internal capabilities and controls; achievement of institutional goals and good leadership and the ability to compete with other tertiary colleges and higher learning institutions (KIPPRA, 2019; Yuliastuti et al., 2017; Gachunga et al., 2020).

The competitiveness of TVET institutions is significant both to individual institutes and stakeholders by enabling the attainment of financial accountability, physical

infrastructural advancement and robust learning facilities such as workshops, libraries, classrooms and laboratories (Yulastuti et al., 2017; Peters, 2021). On the one hand, the graduates from a competitive TVET institution gain relevant skills and attitudes towards employment and job creation. On the other hand, the staff who work in a competitive TVET institutions enjoy professional development, have access to capacity building opportunities, provide in-depth instructional delivery and develop strategic leadership capabilities (Hilbig, 2019; Gyimah, 2020). Good job satisfaction among staff suppresses turnover antecedents, hence the retention of skilled employees. This underscores the essence of the internal efficiencies among TVETs institutions.

TVET institutions are highly prioritized in the US, UK, Germany, Europe, and Australia, as characterized by progressive investment in human resources, fiscal resources, material resources, and technology, among others (Nägele & Bestvater, 2016; Hilbig, 2019). Other notable competitive features of TVET include prudent management practices, visionary leadership, internal efficiency and development of capacity to adapt in the external environment (Thi & Dornberger, 2021).

Some of the observable internal efficiency measures employed by TVET institutions in America include well-articulated financing strategies, robust resource mobilization models, policies, structural reforms, market-driven curriculum, flexible operational frameworks, state-of-art learning facilities, investment in training materials, workforce development programs, leveraging on modern technologies and provision of scholarship opportunities (Hanni, 2019; Peters, 2021). These countries have also embarked on financial sustainability measures, continuous trainers' development programs and robust institutional linkages (Thi & Dornberger, 2021; Osidipe, 2019). This orientation and

preparedness have enabled TVET institutions in America to remain competitive, hence creating millions of employment opportunities in various sectors of the economy.

In Asian countries such as Bangladesh, India, Pakistan and Malaysia, skills gap among TVET graduates exists and has been reported as noted by Remington (2018) and Widiastuti et al. (2021). This affects how competitive TVET institutions are in certain nations. This competitiveness of Asiatic TVET institutions has been attributed to poor internal efficiency bottlenecks. Other challenges include underinvestment in the sector, trainers-based factors, inadequate learning materials, underdeveloped institutional infrastructure, and half-baked skilled trainees' release (Widiastuti et al., 2021; Remington, 2018; Chukwu et al., 2020; Paryono, 2017). Despite these challenges, TVET institutions have been linked to Asian countries' social-economic development (Remington, 2018).

The situation in Africa is not very different. Most African countries, for example, Sudan, Nigeria, Ethiopia, Uganda, Ghana and Tanzania, acknowledge the valuable contribution of TVETs in achieving social and economic development as noted by Kirya (2016), Osidipe (2017), Ramadan & Xiaohui (2019) and Odoom et al. (2016). Common to the developed world, socio-economic development and impact on employability skills are experienced (Kirya, 2016; Osidipe, 2017; Ramadan & Xiaohui, 2019; Odoom et al., 2016). Some of the measures that have been implemented in TVETs include policies on various areas such as human resources, infrastructural development, and others. Some have also pursued external strategies, including public-private partnerships and collaborations (El-Ashmawi, 2019; Okoye & Okwelle, 2014). Despite these measures, most TVET institutions have not been competitive. Scholars such as Okoye and Okwelle (2014) and Odoom et al. (2016) argue that strategic reform toward maintaining TVET institutions'

competitiveness in Africa is inevitable. These scholars seem to have anchored the changes on adopting legal reforms for transforming internal operations. Some of the critical aspects noted for driving the global competitiveness of TVET institutions in Africa are the workforce, learning and training facilities, and linkages with the labour market, among others (Ramadan & Xiaohui, 2019; Odoom et al., 2016; Kirya, 2016; Paryono, 2017).

Although there is potential for growth and competitiveness of TVET institutions in Africa, most colleges are experiencing unprecedented challenges. These include inadequate training facilities, unequipped workshops, outdated curriculums, poor adoption of training technology, poor remuneration of the workforce, insufficient learning & materials resources, the inability of graduates to employ acquired skills, skill-mismatch, trainers' characteristics, inappropriate pedagogy, inadequate funding and slow technology integration (Atari & McKague, 2015; Osidipe, 2017; Odoom et al., 2016; Ramadan & Xiaohui, 2019; Okoye & Okwelle, 2014).

Some countries, for example, South Africa, have revamped the TVET sector by leveraging technology, faculty exchange, pursuing public-private partnerships similar to the Japanese and the Singapore partnership models, and encouraging collaborations and resource sharing among neighboring TVETs (Oviawe 2018; Oviawe et al., 2017). Other countries such as Angola, Gabon, Liberia, Ivory Coast, Mauritius, Morocco and Rwanda have embarked on advocacy programs for digitizing the sector by advancing the available ICT policies and frameworks and automating curriculum and training programs (Association for the Development of Education in Africa [ADEA], 2020; Kirya, 2016).

Locally, TVETs have become a successful strategy towards achieving the Kenya's Vision 2030. The vision largely relies on human resources and technical knowhow in

fostering industrialization and other related development (Kigwilu & Akala, 2017). Consequently, Kenya expects TVET to contribute in meeting market demands by preparing students to take up jobs in the competitive world. From Kenyan context, the competitiveness of TVET institutions is critical for achieving social-economic development and impacting the employability skills among trainees (KIPPRA, 2019; World Bank, 2018; Chepkoech, 2021; Gachunga et al., 2020). Indisputably, Kenya has made a deliberate effort to revamp and support TVET institutions by enacting the Technical and Vocational Education and Training Act, number 29, in 2013. The ACT provides guidance on accreditation, licensing, registration, governance systems, standard guidelines on quality of training, quality assurance mechanisms and procedures, training curriculum development, implementation and assessment, and establishing a TVET funding board (TVET ACT, 2013).

An oversight body namely, the Technical and Vocational Education and Training Authority (TVETA) was also established under the Ministry of Education and given the mandate to accredit and inspect institutions and programs, come up with national training objectives, promote access to TVET institutions by learners, develop policy to operationalize the TVET ACT, develop admission criteria in TVET institutions, provide a framework for equating qualifications awarded by TVETs, implement systems for ensuring quality, and develop schemes of service for TVET trainers (Ali, 2016; Musyimi, 2021; TVETA, 2018).

As evidenced by TVET policies, several activities have been witnessed in the TVET sector in Kenya including multiple learning programs, easy access to HELB loans, capacity building programs for staff, academic conferences, development of career advice

office and services, college branding, local collaboration and partnerships, resource mobilization and public-private partnerships among others (Alando, 2016; Kenda et al., 2020; Gachunga et al., 2020; Kipkoge, 2018). These measures and the establishment mentioned above attest to the government's commitment and determination to invest in the TVET sector.

However, there have been criticisms of TVET's rigidity in training and development, job-mismatch, and diminishing competitiveness (TVETA, 2018; KIPPRA, 2019; Gachunga et al., 2020; Kipkirui, 2018; Kipkoge, 2018). The poor state of competitiveness has been attributed to learners' entry behaviour, teachers' competencies, instructional delivery mechanisms, institutional infrastructure, trainers' factors, and learning facilities (Chepkoeach, 2021; Ali, 2016). More than ninety per cent of these constraints are largely internal and calls institutional-based solutions. This backdrop exposes an opportunity to carry out the current study, which investigates the relationship between the internal efficiency, leadership practices and competitiveness of technical and vocational training institutions in Nyeri County.

In Nyeri County, TVETs have had tremendous input from the national and county government to give the youth a conducive environment for learning and innovativeness. There are 39 TVET institutions in Nyeri County (Ministry of Education, 2022). The county government of Nyeri has built and renovated 13 polytechnics and equipped them with an intention to making them centres of excellence (County Government of Nyeri, 2021). The Department of Education has also conducted training exercises for VTCs managers and chairpersons, which aim at educating them on how to account for funds, bookkeeping practices and leadership matters. The training would ultimately enable TVET institutions

to run better and enhance services to students. However, despite the upgrading, the competitiveness of most TVETs in Nyeri County is still low, as characterized by a gap between enrolment and graduation and slow growth of infrastructures, and absorption of TVETs graduates among others. This raises a concern about the internal efficiency and aspects of competitiveness in TVET institutions, and indicates the need to address this gap to facilitate the achievement of the SDGs and the Kenya Vision 2030. If the issues of internal efficiency in TVET institutions are not addressed, it will negate the heavy investment made by national and county governments.

1.2 Statement of the Problem

The contemporary job market and the sector of self-employment are showing growing demands a multi-skilled workforce. This has orchestrated a change in how the training and education are done at TVETs (Kipkoge, 2018; Chepkoech, 2021). It also underscores the competitiveness of TVET institutions in producing quality graduates. In responding to this situation, the Ministry of Education in Kenya enacted the TVET Act of 2013, established TVET authority (TVETA) and Kenya National Qualifications Authority (KNQA). The TVETA has since established standard reforms and policies to operationalize the functions of TVET institutions in Kenya. Other notable measure is the licensing of TVET Curriculum Development Assessment and Certification Council (TVET-CDACC) courses (Kasuku, 2022; Republic of Kenya [RoK], 2013; KIPPRA, 2019; TVET Act, 2013). Ideally, these measures are expected to foster competitiveness of TVET institutions in Kenya in producing graduates that have competencies required in the job market.

Despite the above reforms, initiatives and strong regulatory framework, TVET institutions in Kenya are still less competitive. Furthermore, there is still negative perception among employers in Kenya where most employers prefer to hire graduates from universities rather than TVET institutions. This results in a lack of employment opportunities for TVET graduates, making them less competitive. (Wakoli et al., 2019; Nyerere, 2018; Mbogo, 2018). This made the researcher to raise question on their internal efficiency. The inefficiency may be attributed to various factors including institutional-based factors, human factor, technology and infrastructure among others (Maiyo & Wasike, 2021; Wakoli et al., 2019; Nyerere, 2018).

This study identified a concern regarding the nature of prevalent internal efficiency and leadership practices, and the need to understand the extent to which they influence the competitiveness of TVET institutions. The TVET institutions in Nyeri County, like those found in other counties, operate under similar ACT, circumstances, authority and legal framework, but their competitiveness is still in question. This study acknowledge that leadership plays a vital role in providing a competitive strategic direction and in achieving internal efficiency of an organization. This indicates a need to ascertain the extent to which leadership practices moderate the correlation between internal efficiency and the competitiveness of TVET institutions in Nyeri County. The government of Kenya's significant investment in this sector is rendered ineffective by the failure to comprehend and pursue the competitiveness of TVET institutions. It curtails the government's intention to produce competent graduates for the changing labor market. It also inhibits the achievements of TVET objectives in Kenya.

There are several empirical studies which have explored various aspects of TVETs; for example, the role of TVET institutions in achieving economic development, attaining vision 2030; quality issue, unemployment, resource mobilization and curriculum matters (Nyerere, 2019; Obare et al., 2020; Mbogo, 2018; Musyimi, 2021; Sankale et al., 2017; Sankale 2019; Gachunga et al., 2020). However, the interplay of internal efficiency mechanisms such as institutional capacity, financial management practices, internal systems and leadership practices had not been adequately investigated from the context of the competitiveness of TVET institutions; hence, the current study is necessary to address this need.

1.3 Purpose of the Study

In order to recommend actions for boosting TVET institutions' competitiveness, this study sought to ascertain the relationship between internal efficiency, leadership styles, and competitiveness of TVET institutions in Nyeri County.

1.4 Objectives of the Study

The following research goals were pursued in order to fulfill the study's purpose:

Examine the influence of institutional capacity on the competitiveness of TVET institutions in Nyeri County

- i. Assess the influence of monitoring of curriculum implementation on the competitiveness of TVET institutions in Nyeri County
- ii. Examine the influence of financial management practices on the competitiveness of TVET institutions in Nyeri County
- iii. Determine the influence of internal systems on the competitiveness of TVET institutions in Nyeri County.

- iv. Determine the moderating influence of leadership practices on the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County.

1.5 Research Hypotheses

The study utilized the following null hypothesis.

- H₀₁ Institutional capacity does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County.
- H₀₂ Monitoring of curriculum implementation does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County.
- H₀₃ Financial management practices do not have a significant relationship with the competitiveness of TVET institutions in Nyeri County.
- H₀₄ Internal systems do not have a significant relationship with the competitiveness of TVET institutions in Nyeri County.
- H₀₅ Leadership practices do not moderate the relationship between the internal efficiency and competitiveness of TVET institutions in Nyeri County.

1.6 Significance of the Study

This study provides a deeper understanding of internal efficiency and the competitiveness of technical and vocational educational training institutions. It contribute to the broadening and adding of existing knowledge on internal efficiency for enhancing competitiveness of TVET institutions. The study's insights are of great significance to the TVET Institutions in numerous ways. For instance, TVET institutions will identify and build distinctive competencies in the education industry. The TVET institution administrators will be better

positioned to improve their leadership practices by strengthening competitive capabilities and embracing mentorship, creating good working culture, providing strategic direction and unity of purpose, and also excel in TVET training and educational entrepreneurship. The staff will benefit due to improved internal efficiency, which is envisaged to result in smooth operations and processes hence increased productivity and commitment.

The results of this research will also hold significant implications for the educational and curriculum planners of TVET institutions. It has pointed out the areas of improvement in the monitoring of the implementation of the TVET curriculum. Additional improvement ideas have been reported regarding institutional infrastructure development and learning facilities such as the laboratories, classrooms, libraries, workshops, ICT hardware and software to make TVET competitive.

Learners and trainees in TVET will also benefit from this study. This is because the internal efficiency in a TVET institute is expected to foster improved accountability, transparency, availability of learning facilities, infrastructural development, improved instructional and curriculum delivery, and organizational responsiveness. Ultimately, the trainees will have opportunities to get exposed and gain employable skills needed in the market.

The Ministry of Education and TVETA will also find value in the current study. This is because the facets and aspects covered in this study cut across the critical areas, which enrich the mandate of the TVETA. The insights from the study will benefit the TVET authority, especially in policy improvement and standardization. It will further lead to the rejuvenation of institutional policies on curriculum implementation, leadership, financial management and internal systems. It will also inform TVETA strategies geared

towards improving TVET institutional competitiveness. The study also impact the practices in the monitoring of curriculum implementation, leadership, management of resources, and the creation of market orientation approaches in TVET institutions in Nyeri County and beyond. The findings specifically underscore the necessity for improved financial planning, risk management, and the establishment of sustainable revenue streams to address financial challenges. Continuous monitoring and adaptation in curriculum development and implementation practices are emphasized, focusing on aligning programs with industry needs. Strengthening internal systems practices is crucial, addressing gaps in quality management, technology adoption, and institutional culture. Leadership practices should prioritize staff development, streamline administrative processes, and foster an environment conducive to innovation.

The study's conclusions have important ramifications for beliefs, guidelines, and procedures pertaining to TVET (Technical and Vocational Education and Training) facilities in Nyeri County. Regarding theories, the study highlights the need for TVET institutions to adopt a dynamic approach to curriculum development, emphasizing ongoing evaluation and adaptation in alignment with the Wheeler Model. The balanced scorecard model underscores the importance of comprehensive financial practices for institutional competitiveness, suggesting a focus on risk management and revenue diversification. The theory of dynamic capability emphasizes the cultivation of continuous adaptation and innovation across various aspects of TVET institutions, ensuring relevance and competitiveness. The contingency theory of leadership advocates for tailored leadership approaches based on the unique context of each institution, aligning with the study's identification of areas for improvement in leadership practices.

On policy implications, the study emphasizes the need for reassessing funding models to address financial inadequacy, strengthening quality assurance policies, promoting industry partnerships, and implementing transparent governance practices. Infrastructure development policies should prioritize state-of-the-art facilities, while community engagement policies should counter negative societal perceptions through awareness campaigns.

1.7 Scope of the Study

This study aimed to determine the relationship between internal efficiency, leadership practices and competitiveness of TVET institutions in Nyeri County. The results can be generalized in other counties, considering that TVET institutions have a similar operational framework in Kenya. This study specifically focused on institutional capacity, monitoring of curriculum implementation, financial management practices, internal system, leadership practices and competitiveness of TVET institutions. The study did not cover other aspects that are likely to impact internal efficiencies, such as socioeconomic factors and the organization culture of TVET institutions. Since the study focused on internal efficiency and competitiveness, it collected information from TVETs principals, heads of departments, and students' leaders to inform on measures for enhancing internal efficiency to build competitive TVET institutions in Nyeri County. The study did not gather opinions from employers of TVET graduates and other external stakeholders.

1.8 Limitations of the Study

The study entirely relied on data provided by the targeted respondents, where past experiences and views on internal efficiency, leadership practices and competitiveness of

technical and vocational training institutions in Nyeri County were ascertained. For that reliance, responses were subjective to the respondents' opinions. This gap was bridged by requesting the targeted respondents to be honest, truthful and open when responding to the survey questions.

The current study was subject to methodological limitations considering that it was cross-sectional in nature. Notably, configuring internal efficiency and building competitive capabilities in a TVET institution can be studied in longitudinal research in order to record lessons learnt and identify best practices. However as expected the current study provided broad cross-sectional insights which was useful in informing short-term and long-term strategies of TVET institutions in Nyeri County.

1.9 Assumptions of the Study

This research assumes that:

- i. TVET institutions in Nyeri County are endeavoring to be competitive and had embarked on institutional improvement strategies such as institutional capacity and sustainability, curriculum implementation, financial management practices, internal systems and leadership practices.
- ii. Leadership practices possess some degree of influence on the facets of internal efficiency and competitiveness of TVET institutions in Nyeri County.
- iii. The study further assumed that the students' had sufficient familiarity with internal systems, internal efficiency and the nature of leadership practices prevalent at their institutions.

1.10 Operational Definition of Terms

Vocational Education and Training (VET)	Describes tertiary educational institutions which aim to equip people with knowledge, attitudes, skills and competencies required in particular occupations and labor market
Technical and vocational education and training (TVET)	Refers to an institution that equips learners with technical/practical skills and education, attitudes, understanding and knowledge relating to occupation in various sectors of the economy.
Competitiveness of TVET institutions	Refers to the ability of TVET institutions to stand out distinctively in the market through offering preferably better, quality, and satisfactory services in comparison to peers with the same operational capacities (Dyllick & Muff, 2016).
The internal efficiency of TVET institutions	This is an internal status that helps ascertain the organizational ability to achieve the desired goals in a timely and cost-effective manner. It entails configuring internal structures, systems, and processes to build the competitive capabilities of a TVET institute.
Leadership practices	This refers to strategies and mechanisms that are adopted by TVET institute leaders in managing it effectively, and in mobilizing efforts and resources towards achieving the desired educational and training goals.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails an examination and analysis of literature relevant to the research. The literature reviewed has been organized according to themes derived from the main variable of the study. The main variables of the study are derived from the objectives of the study. The chapter starts by presenting a critical discussion of empirical literature followed by a description of theories that have been found appropriate in anchoring this study. The last section is a description conceptual framework which helps to operationalize the study.

2.2 Competitiveness of Technical, Vocational Education and Training Institutions

Competitiveness is critical to all technical, vocational, education and training institutions hence the activities carried out towards its achievement cannot be overemphasized. The competitiveness of TVET institutions is significant in achieving education quality, growth of accredited courses, learner's performance, infrastructure development and is helpful towards realizing the vision 2030 goals and economic development of a country (Kenya Institute for Public Policy Research and Analysis [KIPPRA], 2019; Sorolla, 2017). Most nations heavily rely on TVET sector for production of skilled labor (Tan & Seet, 2020). The TVET trainees are expected to be equipped with requisite skills that enable them to employ themselves or attract diverse employability avenues which help to reduce the levels of dependency and unemployment (Okon, 2019; Oviawe & Anetekhai, 2019). Investing in TVET institutions is therefore by virtue an agenda which the Ministry of Education cannot choose to overlook, henceforth, the exploration of mechanisms that amplify the realizing of TVET competitiveness needful.

Competitiveness among TVET institutions is about the ability of the colleges to gain more market penetration over other players who offer similar services. It is usually characterized by exponential growth, development, unique image characteristics, efficiency, expansion and self-sustainability (UNESCO, 2017; Nawi et al., 2020). It outlines to the ability of the premises to stand tall among their peers in the most fluctuating and volatile market through offering preferably, better, quality, and satisfactory services in comparison to other players with the same internal capacities (Dyllick & Muff, 2016; KIPPRA, 2019). In the context of this study, competitiveness among TVET institutes is about the ability of the tertiary learning institutions such as TVETs, to grow, develop, and attract numerous trainees, timely graduation of trainees, heightened demands for market-driven academic programs.

The competitiveness of TVET is highly significant for trainees, trainers, and other stakeholders within the education and training sector. It leads to improvement in institutional productivity, globalization, increase opportunities for internal and international labor opportunities, improved education quality, increase access to education, reduce the unemployment rates, stimulate innovativeness, enhance teacher training and development, and contribute to overall economic growth (Aring, 2015; Ismail, 2018). To a college principal, a competitive TVET compels one to uphold professionalism and hard work amongst themselves. It also acts as an effective strategy to reduce trainer turnover amongst TVET institutions (Ismail, 2018).

Successful competitiveness of TVET institutes requires a strong management and leadership support, workable policies and measures; access and diversification of learning resources, empowerment of employees, sustainable funding mechanisms, local,

international partnership and establishment of accountability and transparency systems (Marope et al., 2015; Euler, 2018; Adesuwa, 2021). Revamping of the TVET sector for attractiveness also calls for intense investment on the human resources (Helbing, 2019; Peters, 2021). Therefore, investing in internal efficiency mechanisms in TVET institutes is a plausible directive that is geared towards empowering the human resources for better institutional management and efficiency, without which, institutional competitiveness will be very difficult.

Reviewed literature show established criteria for determining TVET competitiveness. This constitutes tangible and intangible evidences of physical institutional innovation, infrastructure development, growth rate of institutions' accredited courses, low rate of staff turnover, heightened student enrolment and internal organizational capacities (TVETA, 2018; Lewis, 2020; KIPPRA, 2019; Yuliastuti et al., 2017). The Inter-Agency Working Group on TVET Indicators (2012) attributes TVET competitiveness to quality financial management, easy access to inclusive education, curriculum relevance, organizational responsiveness and regular trainee graduation intervals. The studies by Sankale et al. (2017) and Sankale (2019) described the level of preference by employers to TVET skilled graduates, suitability and applicability of technical and vocational acquired skills as ways of determining the institutional effectiveness. Another highly rated indicator of competitiveness is creation of awareness and marketing of the organizational capabilities to attract more potential prospective trainees (Gachunga et al., 2020; Gachunga, 2022).

Worldwide, many nations have reaped numerous benefits which are traced to TVET institutions hence their competitiveness is indispensable. Consequently, deliberate investment decisions are continuously made to maintain the quality of education (Hilbig,

2019; Gyimah, 2020; Peters, 2021). Other efforts are witnessed in improvement of service delivery and establishment of measures to enhance institutional efficiency with emphasis on human, policy, fiscal, material and immaterial resources (Nägele & Bestvater, 2016; Renold & Caves, 2017; Renold et al., 2018).

In the United States of America, Malcom (2021) illustrated how higher educational institutions responded towards ensuring internal efficiencies amongst their institutions. Malcom reiterated that repackaging of higher educational services, courses and learning modes through technology, enabled those institutions to maintain a level of prestige for customers who would study anytime and anywhere. It was further made clear that investment in information technology among tertiary learning institutions proved potential in seeking new markets, maintaining quality of service and in responsiveness; eliminating physical infrastructure costs; factors that earned the institutions competitive advantage over the others (Malcom, 2021). Moreover, strategic planning under the guidance of institutional strategic framework were among the competitive strategies in use in the US. Investing in technology further enabled tertiary institutions to achieve effective and convenient service delivery, reach potential market and also achieve the geographical focus. The current study discusses internal efficiency strategies for attaining competitive advantage among TVET institutions.

Mazzarol and Soutar (1999) focused on how competitive advantage may be sustained among tertiary learning institutions in Australia by providing an action plan model. Based on their assertion, educational services were intangible, heterogeneous and inseparable from the bearers, hence, efficiency in service delivery was required to retain

satisfaction among learners. Mzzarol and Soutar alluded that long-lasting competitiveness among the learning institutions required their aggressiveness in attracting the industry position structure, marketing strategies, and maintaining quality organizational knowledge, automating its internal services, creating an attractive organizational culture and investing in human competencies. These aspects were necessary for bridging skill gaps, and in addressing resources and time inefficiencies. The current study appreciated how well the above researchers exposed the internal efficiency mechanisms that are necessary in retaining competitiveness.

The role of marketing orientation is also deemed an effective internal efficiency mechanism for attaining service quality among Hungary, Croatia and Slovenia universities. A comparative study conducted by Šimić and Štimac (2012) reported that fulfilling customer's needs, conducting marketing segregation and positioning were the main strategies for attaining competitiveness. The study appreciated that learners were impressed by continuous service improvement in the academic programs, reputability and credibility of the human resources as well as adequacy of physical and non-physical resources. These aspects are also relevant in increasing competitiveness of TVET institutions.

Another key facet for competitiveness is academic entrepreneurship which is characterized by human capital development, ability to attract international students and scientific innovations. Lombardi et al. (2017) and Kireeva et al. (2018) emphasized the ability for academic entrepreneurship to lead to a rise in the student population joining schools, expand opportunities to attract variety of financial resources and achieve global competitive advantages.

In Africa, a number of strategies are utilized by tertiary learning institutions to gain competitiveness despite the limited resources facing the TVET sector. To achieve competitiveness, most African countries are making efforts to embrace digitization, private-public partnerships, investing in employees' skills, competencies, and improving institutional resource (Ngaruko et al., 2014; Odoom et al., 2016). Ngaruko et al. (2014) assessed how competitive edge could be attained among open and distance learning higher institutions in Tanzania. They identified determinants for attaining competitiveness in universities that included economic, learner's enrollment, investment in technology and students' academic trends. The findings informed a great need to invest in ICT infrastructure, uphold institutional publicity and enhance customer services in order to remain be competitive. Specific ways of achieving publicity were discussed some of which included the development of a user friendly website and publicity of the quality of the university through all forms of media. Despite the elaborate internal efficiency mechanisms covered, the study was carried out in university setting with a scope of open and distance learning modes. The current study differed in that, internal efficiency strategies towards attaining competitive advantage was carried out among TVET institutions in Nyeri County.

Nigerians as well acknowledge the power of investing in internal efficiency mechanisms for TVET institutions in order to produce the best trainee graduates. Oviawe (2018) and Moses (2016) illustrate this by detailing how trainee skills may be impacted among their institution's enrollers through investing in public-private partnership mechanism. Specific aspects and items addressing public-private partnership identified by Oviawe and Moses were sharing of tools, equipment, and students exchange programs, staff collaboration in curriculum development and implementation and other resources

among TVET colleges so that learners have equal opportunities to gain skills and competencies. The strategies for embracing and solidifying partnerships were identified and recommended. However, the study relied on previously done researches as compared to the current study which utilized primary data collected from targeted TVET institutions in Nyeri County.

Institutional repositioning was reported as effective competitive strategy for acquiring competitive advantages in Ghana and Nigeria as discussed by Osidipe (2017) and Odoom et al. (2016). The two researchers echoed the need for TVETs to embark on employability skills among trained graduates. They argued that employability skills should be a training outcome and underscored its value in uplifting college image, educational quality and in meeting the employers' needs. The findings from Osidipe and Odoom et al. were from the previous literature. It was clear that both Ghanaian and Nigerian governments envisaged to invest in the sector by equipping the institutions with learning resources, investing in training and development and institutional funding. The current study was different from the two in that, the findings and conclusions were drawn from collected data using questionnaires, interview guides and focused groups.

There has been exponential growth of TVET institutions in Kenya. This is probably because of the need to enhance self-employment opportunities and the call to produce manpower that have the skills needed in the industry. Locally, some descriptive studies carried out such as Muigai (2021), Rabah (2015) and Masale (2018) have explored the concept of competitiveness in universities. They revealed some competitive strategies embraced by private universities which included differentiation, customer focus and cost leadership internal mechanisms. The choice of specific competitive strategies employed

was informed by the need to embrace e-learning, deployment of ICT and need to focus on targeted customers. These studies however indicated that competitiveness was somehow complicated by policy, regulatory frame work, financial and stiff competition from other private universities. The findings inferred the existence of a relationship between the embraced competitive strategies and competitiveness of private universities. They recommended the strengthening of cost leadership and differentiation strategies. Apart from these studies concentrating on universities, they also covered on strategies that are more external. The emphasis on internal capacities took a back stage. The current study believed that internal efficiency and leadership practices plays a key role in determining the competitiveness of TVET institutions in Nyeri County.

Ogwe et al. (2019), Muigai (2017) and Njoro (2017) illuminated how universities crafted competitive strategies. This was case study which relied on interview responses from the university faculty. The teaching staff identified differential strategy as the most influential in impacting competitive advantage and also performance of Strathmore University. The findings informed the strengthening of differentiation strategy by adopting and coming up with new programs that other universities do not offer to attract more students while remaining competitive over other universities (Ogwe et al., 2019; Muigai, 2017; Njoro, 2017). Other strategies recommended by the study were the need for university to invest in leadership development, online marketing, curriculum reviews, private-public partnerships and offering a variety of learning modes for students. The current study utilized a survey design to assess the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County. Other distinct differences are the adoption of alternative data collection tools to achieve data triangulation.

Sankale (2019), Musymi (2021) and Sankale et al. (2017) addressed the influence of well-equipped TVET institutions on skills development and competency for industrial growth. The cross-sectional survey relied on questionnaires to collect data on the standard of teaching and learning within TVET establishments. Modern equipment deployed to the TVET institutes were found to contribute to quality employable skills of graduates. The study suggested that the government, specifically through the Ministry of Education, should make investments more equipment in TVET institutes. Consistent with the current study, aspects for internal efficiency including institutional capacity, financial management practices, internal systems and curriculum implementation practices were investigated to ascertain their impact on the competitiveness of TVET institutions.

The college branding and marketing program is also a key competitive strategy towards achieving competitiveness among TVET institutions. Kenda et al. (2020) and Alando (2016) explored this in relation to the performance of TVET institutions. The research employed a descriptive survey research design to evaluate college branding among privately owned institutions. Results implied the existence of notable correlation between college branding and the marketing effectiveness of privately owned TVET institutes. The study stressed the need for rebranding of the middle level TVET institutes and utilize the modern media to reach out to prospective clients, hence remain competitive.

Kipogei (2018) and Kipkirui (2018) featured the aspect of partnership among vocational institutions in helping to establish adequate and diverse employability skills. These were descriptive research design studies which achieved data triangulation by incorporating a variety of data collection tools. The tools were focus groups, questionnaires and document analysis. They noted that partnerships among institutions was key to

enabling the supply of learning materials as grants or donations which assisted in the construction of laboratories, workshops and libraries among partnering institutions. However, the partnering institutions experienced communication, organizational and conflicting objective barriers. Recommendations directed towards the policy makers required them to address partnership policies as an endeavor of strengthening the practice. This underscore the need to assess how partnership is conceptualized in TVET institutions.

In Nyeri County, both the national and the county governments appreciate the role TVET institutions play in impacting the county economic growth. Irrespective of this endeavor, competitiveness is still low and many TVETs continue to experience low trainees' enrollment in the institutions, there is still negative perception among employers in Kenya, most employers prefer to hire graduates from universities rather than TVET institutions. This results in a lack of employment opportunities for TVET graduates, making them less competitive. To solve this, they are trying to create partnerships with some industries to create employment opportunities for TVET graduates (Kariuki, 2018; Murithi, 2013). These studies featured aspects of competitiveness such as cost leadership, partnerships, differentiation and customer focus. Other internal efficiency mechanisms such as institutional capacity, financial management practices, internal systems and curriculum implementation practices have not been investigated from the context of competitiveness of TVET institutions; hence the value for the current study.

2.3 Institutional capacity and competitiveness of TVET institutions

The competitiveness of TVET institutions is a concern of all stakeholders. Its discussions have been dominant in various forums in many countries. TVET competitiveness is of great importance because it contributes promptly to the community

well-being and national development. TVET institutions are meant to offer people innovative skills needed to work in the competitive world (Ahmed, 2019). The main concerns of TVET institutions revolves around offering quality education and training. Their effectiveness and competitiveness are determined by various factors chief of which is the institutional capacity. In this study institutional capacity refers to the facilities offered in an institution that are meant to help learners as they study. It comprises of learning facilities: the workshops, libraries, classrooms, trained teaching staff, well equipped ICT rooms, laboratories and also the teaching facilities: research books, teaching materials and the latest technology. Due to the changing labor market, the national educational reforms have dwelt on empowering TVET to develop quality learning, competencies. They have over emphasized the strategic value of TVET. With an intention of developing quality TVET, the government thought of introducing diverse types of TVET alternatives like the apprenticeships programmed, competency-based training. But still TVET objectives were not completely met (Ahmed, 2019).

In order for TVET institutions to meet its objectives completely of preparing competent people for the labor market, they must not only provide their students with theoretical orientations but also practical lessons. TVET institutions focus on both social and economic development which can only be accomplished by effective funding. If there is effective funding, the institution will be fully capacitated (Chunda, 2015). They will manage to hire enough qualified staff, put up facilities to support quality teaching and learning, equipped laboratories, libraries and workshops for practical lessons, and link graduates with the industry.

Institutional incapacity has been a significant hindrance to TVET competitiveness. This is because teaching and learning materials are inadequate, and the few that exist are of poor quality (Osidiye, 2019). The issue of TVET institutions not being fully capacitated is attributed to the lack of adequate funding in TVET. Funding of TVET institutions varies in different countries but in most countries, the government is usually the main sponsor. A study done in Nigeria identified lack of funding as the main factor hindering delivery of services in TVET institutions. How adequate an institutional is funded not only affects the quantity of facilities offered but also the quality of training; hence, the availability of equipment and facilities is of great importance in the achievement of the objectives (Osidiye, 2019)

Research has proved that some countries are still in the middle-income level of development due to many reasons, one of them being undeveloped TVET institutions (Doner and Ross Schneider 2016). In order for an institution to stay relevant and maintain the right level of competitiveness, a country's human capital must try to keep up with the often changes in globalization and advancement in technologies and implement the necessary changes in those various institutions (Osidiye, 2019). Most of the TVETs are not updated to the latest technology hence they offer skills that do not match the kind of jobs offered in the market (Peña-López, 2016; David, 2013).

Mismatch between the demand for and the supply of skills in a nation is brought about by the ineffectual TVET systems. In USA for example, the percentage of underqualified workers is 34%, which is 13% more than the qualified (OECD, 2013). This led the policy makers in USA to acknowledge the relevance of having perfectly-functioning skills formation systems. A study was done in 2011 by the Harvard Graduate

School of Education, which reported that the system of education in USA was failing to produce highly knowledgeable and skilled graduates that would be needed to take the upcoming jobs. The report led to the development of other models of education in order to increase students' preparedness for current and future careers. The idea was that high school students would be exposed to work to enable them to get real work exposure through work-based learning to match the ones offered in TVET institutions. The policy makers in USA thought of practicing the Germany apprenticeship hand in hand with the dual TVET system which was also practiced in Switzerland (Holzer, 2015). The apprenticeship program was of great help because it was able to serve the economic purpose together with the social roles. Qualified workers who survived very well in technologically generated world were a product of this program; these workers met all the demands needed. This led to many institutions showing interest to this program as they worked in upgrading training to match the labor market. (Stern, 2015).

The dual TVET system is broadly defined by competencies which enable one to acquire regarding careers and social esteems. In USA the main issue has been implementation of the system due to lack of enough funding. This led to the presidential administrators putting more effort in improving the vocational training to meet the challenge of global competition. With an intention to improve TVET competitiveness, the government aimed on solving the challenge of institutional incapacity offering high-technology and also quality workshops where skills would be sharpened (Holzer, 2015).

China had a traditional education system which was based on children attending regular schools with a perspective of becoming officials from the government in the future. However, the country's goal of industrialization was not achieved due to lack of enough

workforce to make their goals a reality. The country saw the need to provide skilled manpower. Hence, the Chinese government began to encourage the students to embrace the TVET system. Afterward they found that running a TVET framework was more costly than the ordinary scholastic educate confront challenges since of the costs related with securing and keeping up preparing gear. The government of China guaranteed that the execution of professional and specialized instruction, benefits nearby endeavors due to the adaptable TVET framework which demonstrated to be exceptionally competitive. This required satisfactory financing to guarantee that TVET teach are adequately prepared to preserve their competitiveness. The issue of subsidizing TVET in China rests basically on the nearby government which can either be by the district government or township. The central government moreover made beyond any doubt of other suitable subsidizing from locally created income. Execution of effective funding empowers China to preserve their educate as being completely capacitated. This can be how subsidizing is done: the government takes care of almost 71% of the complete use on specialized and professional instruction through yearly budgetary allotments. Other educational funds offer about 3%, Income from research is 24%, donation 0.19%, Fund from private school is 0.95%, Government finances 71%. This process of involvement made sure that the TVET institutions remained competitive in China.

A survey was carried out in several TVET institutions in South East Asia and Indonesia and the biggest challenge identified was the mismatch between the trainees from TVET and industries requirement. This led to many youths becoming unemployed (Tancibok, 2020). The skill gap became a hindrance for economic growth. Ineffective TVET management brought about the skill shortage and skills mismatch (Remington,

2018). The issue of skills mismatch continued detreating. This indeed led to most TVETs in South East Asia to reduce their competitiveness (Holzer, 2015). They tried establishing their TVET but they faced various challenges. In order to beat the issue of skills shortage they had to upgrade the skills of TVET lecturers and trainers which was a big challenge. Another big challenge was maintaining their institutions fully capacitated since the equipment needed were very expensive. The facilities such as the workshop and laboratories as well as the teaching materials needed to upgrade the skills were very costly. This challenge needed to be tackled due to the fact that any practice done to acquire hand experience with unqualified equipment and tools will automatically produce inapplicable skills acquisition thereby reducing TVET competitiveness. To deal with these problem TVET institutions in South East Asia and Indonesia established partnership with related industries to allow the industries to take part in developing and managing TVET to tackle the issue of mismatch. This helped them to improve the quality of training. The partnership was merited as being good and efficient since it helped boost TVET competitiveness. The institutions started to provide qualified training with the help of the qualified tools they had received from the partnership with the industries.

Malaysia, was also faced by the same issue of their TVETs not being very competitive, since employers still prefer university graduates. It identified that the biggest challenge it had was the development of technology, infrastructure and human resource and management. Technology was the biggest challenge especially after the pandemic, Covid 19, TVET institutions struggled to adapt in the new norm. However, TVET struggle in Malaysia did not start after the pandemic. In some previous research done the findings found stated that more than 50% of vocational and technical graduates are unemployed in

Malaysia. TVET main agenda is providing technical knowledge and skill to meet the standards of the jobs in market. However, this target is not met in Malaysia due lack of enough competent and skilled vocational teachers (Ismail et al, 2018). Despite this challenge of unqualified teaching personnel, another issue was the lack of established workshops fully equipped with the right tools, machines and facilities (Bakri & Zakaria, 2018); (Nasir et al., 2021). The issues and challenges in TVETs in Malaysia are brought about by the poor governance of TVET. This made the Malaysian government to focus on the eleventh Malaysian plan which was established from 2016 – 2020 with an aim to increase the employability rate to within 6months after graduation. It majored on increasing the competencies of graduates by harmonizing TVET delivery to the industry requirement towards economic growth. They invested in buying good teaching and learning facilities, they stocked the workshop with quality machines and tools and engaged the lecturers in training programs to boost their credibility. They also improved in their technology; trained ICT personnel were brought to guide and train the students. They also introduced online learning. Their efforts in ensuring that the institution is fully capacitated have contributed promptly in making Malaysia is in the lead in Asia (Ismail et al, 2018).

Jamaica had an issue for quite some time with TVET graduates not being completely ready to work in the industries (Parkin et al., 2010). A conference held in 2012 identified that TVET graduates are not competent enough to work efficiently and effectively in the 21st century jobs. They urged on the need for advancing the technology used in teaching in boosting the effectiveness of TVET institutions. They urged lecturers in TVET to aim to improve their teaching skills in order to help boost the competitiveness of their graduates (Sterm, 2015). They established an institution known as Vocational

Training Development Institute (VTDI) that was to strive to train and assert teachers in TVET in order to ensure that they are innovative and to ensure they offer the best training to students who attend their institutions. They also studied the methodologies utilized in carrying out the teaching and learning process (Parkin et al., 2010). The research showed that the trainers engaged students in technical training and offer employability requisite skills (Stern, 2015). Jamaican government chose to take the tourism industry to consider the competency of TVET graduates. Over the years Jamaica has been known for its good service in tourism industry which has promptly helped in maintaining economic stability in Japan. The success of tourism industry is greatly attributed to the well trained and motivated workforce. In 2014, the industry recorded about \$20 billion worth of invested during the year (McIntosh, 2014). The country did not only receive tourist from USA, Canada, Japan and UK but also, they started receiving tourist from Russia, Poland and Ukraine. Jamaica was also crowned as the (Caribbean's leading tourist board" (McIntosh, 2014). Due to the large number of tourist and a remarkable reputation to uphold, those who service the industry need to be personnel who are well trained with competencies and remarkable skills to ensure that the success of the tourism industry is not wavered.

However, industries stakeholders complained that the TVET graduates are not properly prepared with competencies required for the industry. They complained that they lacked social skills; they were so unprofessional, very uncooperative and also lacked entrepreneurial skills (McIntosh, 2014). These was a very great challenge to the industry that had created various opportunities for the Jamaican workforce but the workers offered were inadequately trained to either get or maintain these developmental opportunities. The Jamaican government saw that if they don't tackle the problem, the industry will reduce its

competitiveness and so it resulted to them researching what was making TVET graduates not to be competent. Research was carried out and they came up with a conclusion that the TVET institutions were not fully capacitated, they lacked fully equipped workshop for offering good training. They decided to invest in those institutions to ensure that effective training would take place (McIntosh, 2014). This goes without saying the tourism industry started receiving qualified workforce and it boosted the competitiveness of the tourism industry over the world. This encouraged and empowered the as well as increasing their competitiveness promptly.

In Singapore the TVET institutions are trusted to produce skilled full labor force. There are 5 major polytechnics which are trusted to supply skilled workers (Stern, 2015). The ministry of education in Singapore ensures that they supply those TVET institutions with adequate facilities to ensure smooth and quality learning takes place. This transformation of their TVET took place in the year 2000 to 2002 when the government there saw the need to improve their institutions since they were not producing competent graduates. In 2015 they decided to improve the system they utilized in the TVET for better results by making the lessons there 70% practical and 30% theory. This forced TVETs to equip the workshops and laboratories with good and quality machines, the lecturers were also taken for training programs to ensure that they have the right skills to instill to students. ITE was also introduced later to match the job market requirement (Stern, 2015). The government support has contributed promptly into the success of TVET in Singapore. Students from there portray a very high level of competitiveness even outside the country.

In Thailand things are not as good as in Singapore, TVET there are administered by the office of Vocational Education Commission (OVEC). The total number of colleges

in Thailand is 426 but they are all facing the same challenges; lack of enough TVET teachers (Paryono, 2017). This largely affected economic growth in Thailand raising an alarm to the government that they need to look for a solution. OVEC resulted to hiring 14,000 teachers; they also encouraged the TVET to adapt the apprenticeship programme and the dual system as in the case of Germany. They also lured more women to join the TVET. With intention to boost the competitiveness of the graduates, OVEC introduced new and quality technology in the TVET and also introduced other programs. New teaching and learning strategies were also brought up. OVEC ensured that nothing was lacking in those institutions. Effective funding took place, the workshops were well equipped. This automatically led to the economic growth improving. (Paryono, 2017).

TVET is overseen in Vietnam by the Ministry of Labor, Invalids and Social Affairs (MoLISA), in collaboration with other relevant agencies, the National Institute for Vocational Training (NIVT), and the Vietnamese Vocational Training Accreditation Agency (VVTAA). TVET here are very prosperous as in the case of Singapore, VVTAA majors on developing and establishing TVET. All transformations in TVET have taken place due to the help of VVTAA. After 12 months they increased the staffs in the TVET. For quite some time student in their TVET studying engineering after graduating were having troubles to fit in the jobs market since most were lacking the skills needed by the employers (Terhune, 2016). This made the government to note a problem in the TVET learning system of the engineering students, the administrators of the TVET opted to hire researchers to investigate what was making engineering graduates to be incompetent. Research results revealed that the TVET institutions workshops were lacking quality facilities to effectively train the students. After investing in upgrading the workshop, the

results were breath taking. The candidates from TVET that were most in demand by employers were the accounting and marketing and the engineering students (Terhune, 2016).

South Korea analyzed the sector of creative industry which was noted as quite significant in the fast-growing economies. UK government defined creative industry as the department of sports, media and culture industry. Creative industry involves skills, creativity and talent which if looked into properly brings a lot of development in a country since its job opportunities are created by exploitation of intellectual property. It's one of the most dynamic sectors in the world of economy. The South Korea government looked at the changing technologies and its implications. They came to a conclusion that in future the jobs will be different than those right now (UNCTAD, 2010). This led them to develop IT in their institutions. They made sure that all TVET institutions were fully equipped with IT infrastructures so as to ensure that their students will still be competent for the future jobs also. This innovation has made South Korea very prosperous. Their TVET graduates were very competitive even in jobs outside the continent. South Korea became a role model to many up growing countries (UNCTAD, 2010).

In Africa cases have not been different TVET institutions have been trying to sustain themselves by equipping their institutions with quality equipment and trained personnel to facilitate effective learning and boost the competitiveness of their TVET graduates. Countries in Africa are fighting to reach to the standards of other continents. Hence, they are working on improving major sectors like the education sector to ensure that they will not stagnate when it comes to development. Most of the countries in Africa have introduced technical and vocational education and training institutes to help students who did not

qualify to join Universities to develop themselves and also to help bring development to their specific countries. Research was done and it attributed TVET's ineffectiveness to lack of contents that would bring about the acquisition of technical skills without forgetting the entrepreneurial skills (Okafor, 2011).

In Nigeria, the education sector has been found to be among the worst sector, all education indicators have been heading into a bridge (Idoko, 2021). The TVET institutions in Nigeria lack adequate attention and this has contributed to their failure (Idahosa, 2017). Nigeria's standards of education are remarkable but still they are not able to move forward due to the fact they are not able to meet the set standard (Okwelle, 2015). The state of TVET in Nigeria has contributed to the increase in the rate of unemployed TVET graduates since the skills that are offered there aren't requisite enough to enable them acquire job opportunities (Okoye, 2013). In previous research conducted, it was noted that a very large percentage of youths in Nigeria are unemployed and the very small percent that is employed are those with liberal certificates and rather not those with technical and vocational skills certificate (Inter Parliamentary Union-IPU/Oji, April 2, 2013). The researchers attributed this failure to the poor state of workshop where TVET education is offered; qualified technical instructors were not enough, the equipment used to administer training were found to be obsolete and archaic (Audu et al., 2013; Oseni, 2012; Lily 2011; Okoye & Okolie, 2013a). The poor state of the workshops and lack of enough qualified technical trainers led to the TVET institute curriculum to be liberal orientated rather than practical biased, this eventually led to TVET graduates to be deficient in practical and employability skills meaning that they could neither start their own business nor secure an opportunity of employment at any given organization (Ayonmike, 2016). The research was

very alarming to the Nigerian government that they decided to establish industrial training fund (ITF), ITF ended up establishing skills training centers at major cities in the country. These training programs were found to make little impact to the economy of the people due to the fact that the technology and artefacts they utilized were not updated. Technology was changing now and then and therefore keeping up with the changing technology was an issue (Osidiye, 2019). This led to the government thinking of another solution and that was linking TVET and industries to improve employability skills. Technical institutions were required to have close linkages with the world of work, the industries. This strategy of linking TVETs and industries was to help the institution access facilities that were not in their institutions so that the learners would acquire relevant skills to their industries. The linkage was actually going to help TVETs reach their standards of providing quality training to produce very competent graduates. However, this strategy was faced with many challenges few of them being TVET institutions failed to take the initiative and the industries felt overburdened and as a result, they gave poor responses (Osidiye, 2019).

The Nigerian government did not end up finding the right solution to their problem; TVET graduates still lacked requisite skills. The research carried out pointed at the poor state of their workshop which made graduates not to receive proper training. The findings of the research proved that the state of their institution being incapacitated made TVET graduates lack their competitiveness in the job market world but still the government did not major on improving the institutions and this is what contributed to the TVET graduates still not being competitive (Osidiye, 2019).

In Ghana, TVET state is not something to talk home about. TVET has been neglected so much; the government did not show interest in developing TVET. The rate at

which Ghana was developing was too slow; this led to the government hiring some researchers to figure out what was the problem. The findings of the research showed that one of the factors hindering development in Ghana was the fact that TVET had been neglected hence producing non worthy graduates. This led to the government considering the adoption of a new education and training policy. The government saw the need to invest on TVET, the government ended up developing a strategic plan for TVETs. Expending the TVET subsector in order to tackle the middle-level manpower demand of the industry which would be of great help in bringing development to the whole country. The strategic plan was to establish the TVET institution to mold them into being a legit institution whereby technical competence graduates who will not only be equipped with liberal knowledge but also practical knowledge that can enable them to set up businesses for themselves rather than depending on seeking jobs from others. The government checked that the strategy is implemented and the objectives are met, which is to create innovative workforce who can work in the new technology-based world. Offering competence-based training was part of their strategic plan, this led the government into improving the workshops in the TVET institutions and purchasing quality training tools. The teaching personnel in those institutions were taken for training classes in order to make sure that they offered the best training to students who joined their institutions. In addition to this, the government encouraged that TVET students be placed in internship programs after finishing their course before graduating to ensure that their practical delivery system is close to being perfect (Dasmani, 2011).

After implementation of the new strategy, TVET in Ghana have been recognized for producing graduates who are well equipped with knowledge and remarkable skills for

their job markets. These findings made researchers in Ghana to conclude that TVET graduates were not competitive enough while looking for jobs due to the fact that the training offered there wasn't good enough due to the poor infrastructure but after improving the infrastructure thereby offering quality training the TVET graduates were able to acquire and also start their own jobs. This made them see that institutional capacity has a great impact on the competitiveness of TVET graduates. The government of Ghana was made aware of this fact and since then they have not ceased to improve infrastructures in TVET institutions making sure they meet the new technology. This has contributed promptly to the success of TVETs in Ghana.

In South Africa, poverty, inequality and unemployment have been a great threat to the national development. Previous researchers in South Africa suggested that one of the solutions to tackle the issue of poverty and unemployment is the introduction of TVET in South Africa. The researchers revealed that technical and vocational education and training would provide skills and knowledge needed for socio-economic development. The South African government through the help of these researchers were able to recognize the critical role of TVET in bringing economic development. Due to this, the government decided to start TVET in South Africa. Unfortunately, the rate of poverty and unemployment did not decrease (Bangalu, 2015). TVET graduates were neither competent enough to start their own jobs nor to acquire job opportunities. This led to the government ordering research to be conducted to investigate why TVETs in South Africa were failing to produce competent graduates. The findings of the research revealed that the lecturers who were handling TVET students were not properly trained, they lacked professional qualification. The government decided to come up with a policy which was to be used to hire lecturers in the

TVET (Bangalu, 2015). The policy serves as a guide and contributes to the training and development of knowledgeable and competent lecturers. The lecturers who were already working in TVET were required to go for further training before continuing to lecture in their institutions. This eventually helped in the success of TVET institutions in South Africa (Bangalu, 2015).

In Ethiopia, the government has been aiming to make all TVETs to be competency based. This has not been very easy due to the inadequate expertise and experience in crafting curricula at the local level hinder the decentralized task of curriculum development at TVET institutions (Huisman & Mauro, 2012). In addition to decentralization, another concerning issue is the ongoing alterations made to the necessary occupational standards. TVET institutions in Ethiopia lack professional and methodological capabilities. Findings from one of the research projects identified that so as to get competencies derived from occupational standards, TVET institutions should not only major on offering theoretical content but also practical lessons but the major issues facing practical lessons was the availability of machines to offer practical lessons. Shortage of resources used to teach was a very major issue in the past years, one computer was being shared by many students at the same particular time. This issue was really getting out of hand such that in September 2017 about 28 students were compelled to travel long distances during the summer to gain practical experience in what they had learned in their TVET programs. TVET incapacity in Ethiopia is a major challenge, this has contributed to the ineffectiveness of TVET. Learning would be effective only when theoretical instruction is promptly succeeded by practical application this would only be made possible if TVET institutions in Ethiopia would build workshops and updated training facilities (Tollesa, 2011).

In Zambia the case is not that different. The Zambian population mainly constitutes of youths. The youths being the most populated is considered to be very economical to the country because many economic developments are likely to take place, but unfortunately this is not the case in Zambia because most youths are unemployed (UNESCO, 2016). This led to the government introducing Vocational Education and Training Institutions to try and curb the unemployment rate amongst the youths (Chileshe et al., 2020). Despite their relentless efforts, the rate of unemployment amongst youths did not decrease in fact they noted that graduates from TVET institutions remain unemployed (TEVETA, 2015). This led to many different researches to be carried out to identify why TVET institutions in Zambia are not producing competent students who can fit in the job markets. One of the scholars carried out research investigating the adequacy and appropriateness of institutions' the quality of teaching and learning resources provided to students during their training, as well as the organization of industrial attachments by TVET institutions, were being assessed. (Chileshe, 2020). It was noted with a lot of concern that industrial attachment in Zambia was not being given the attention it deserved (UNESCO, 2016). Industrial attachment is a core activity in preparing competent and very skillful graduates. The fact that Zambia did not appreciate this culture this led to them producing unskillful graduates who could not fit in the job markets. Apart from that the TVET institutions were termed to be incapacitated; educational materials and resources including workshop equipment, facilities, curriculum, textbooks, and other technical literature, were extremely limited (Kigwiru, 2020 and Mwila, 2016).

In a study carried out by Chileshe in 2020 whereby he involved principals of various TVET institutions in Zambia, the issue of archaic equipment was pinpointed to a

large extent. The principals revealed that the reason why there are not producing competent students to fit in the job markets is because of the poor state of their TVET institutions. They stated that the lecture rooms are too small to accommodate all the students, in addition to that the seats are not comfortable to sit for an hour, the machines in their workshops are very old and some of them do not function. The principals also stated that the machines they had in the workshops were not in line with the current technology so this led them to show their students the modern equipment using online videos but the students cannot train using the equipment. The principals attributed these obsolete machines to the fact that their institutions were built over 30 years ago and the government did not pay attention in improving the states of the workshops as time passed. The government agreed that most TVET institutions use obsolete equipment because the modern equipment is very expensive (TEVETA, 2020). The industries in Zambia especially plumbing industry complain that graduates from TVET institutions in Zambia are very poor in skills. They complained that after employing them they spend almost a year training them for this reason they prefer not hiring them (Chileshe, 2020). This in turns proves that institutional capacitation has a major influence on the competitive nature of TVETs' graduates.

TVETs' in Uganda are not very competent. These institutions face similar issues as other developing countries. The industrial world of work developed a negative attitude towards TVET institutions due to their weak linkage in their service providers. Most of the organizations in Uganda resulted to not employing TVET graduates due to their unskillful nature (Kirya, 2018). This has in turn contributed to the decline of quality of education in the TVET institutions. This led to the Uganda government to carry out some survey on why their TVET graduates were not competent enough to fit in the jobs available

nowadays. In their research they were able to identify the major challenges facing their TVET institutions, they were unable to provide their students with training that met the standards required for employment in industries or similar organizations (Kirya, 2018). The system of learning in TVET institutions unlike other countries majored very much on the theory than the practical lessons. Passing exams has been prioritized rather than gaining knowledge and skills. Inadequate funding has also been a major challenge to TVET institutions in Uganda; which has in turn led to inadequate, archaic and obsolete facilities. The institutions are not set up to offer quality training since there are no support materials. Some TVETS are reported to not having workshops leave alone the modern equipment; they don't have places to put the equipment and to train students in. This has majorly contributed to the uncompetitive nature of their graduates; they are unskilled to fit in the job markets (Kirya, 2018).

This is not similar in Tanzania; Tanzania has a very good reputation in their strong linkage between VET schools and the industries. The Manufacturing and tourism industries prefer hiring VET graduates to university graduates, they claim that VET graduates perform twice better than the university graduates. (Kirya, 2018). Tanzanian TVET owe their success to the government for the funding they provide which has helped them to re-equip their workshops with modern equipment and also the Tanzanian government links the TVET with various institutions where their students attend industrial attachment. (Kirya, 2018). This report conquers with this current study that institutional capacity influences the level of competitiveness of TVET graduates. The fact that TVET institutions in Tanzania are fully equipped with learning materials and teaching resources it makes it

easier for their graduates to earn employment opportunities in various areas without struggle.

In Kenya, the TVETs aren't as successful as in Tanzania, lack of equipped workshops, laboratories and studios in TVET institutions is a major challenge. This makes it difficult for students to receive training and remarkable skills to earn them jobs in industries or related organizations (Kigwilu & Akala, 2017). For instance, TVETs in Nairobi level of institutional preparedness isn't something to talk home about (Adhiambo, 2016). The availability and quantity of physical resources inside the organization serve as indicators of its readiness (Earthman, 2002). Disregarding the several established advantages of specialized training, the government continues to fight to provide basic teaching and learning resources, especially for practical instruction. TVETs in Nairobi are not that successful due to the poor state of the equipment. This influences the performance of learners. They struggle to fit in the job markets (Adhiambo, 2016).

In Bungoma the TVET institutions are not only faced with the issue of having few teaching and learning materials and very obsolete equipment but also lack of enough teaching staff (Maiyo et al., 2019). This explains the large percentage of unemployed youths in Bungoma. Youths in Bungoma are privileged to have TVET institutions but after going to these institutions they come out of there still not ready to fit in the job markets. They meet teachers that are not qualified who offer them poor skills. This prompted them to contemplate working in tandem with other establishments both domestically and internationally to standardize staff exchange initiatives that may be crucial in enhancing staff competencies. In order to boost employee productivity, they also believed that employees should be fairly compensated (Maiyo et al., 2019).

In Kajiado county TVET courses are very much appreciated, most industries around there consider the skills quite relevant than knowledge. Skills are perceived as easy to apply. Despite the great attention that is given to these skills, the suitability of TVET skills is challenged by inadequate training facilities and tools in some of the polytechnics in Kajiado county. The workshops in some polytechnics are in a very poor state the equipment is obsolete, the lecture rooms are small and cannot accommodate many students. The changing technology has been a major issue because the facilities in the workshops do not meet the new technology. This makes it difficult for graduates to be employed after graduating (Sankale, 2017).

In Nyeri county the TVETs' vision to have an impact in national development has been hard. Nyeri National polytechnic for instance has been struggling to produce quality and holistic graduates. Nyeri National polytechnic face challenges such as having few quality trainers. The facilities in the polytechnic are not updated, the infrastructures are very old. IT students complained that the computers are not enough they have to share computers during lessons hence it becomes difficult to get the skills being taught. The library is not capacitated with enough books to get the knowledge needed. The youths after completing their studies in these TVETS find it difficult to fit in job places others end up getting fired after a short while due to poor services. This goes without saying that if Nyeri national polytechnic is to produce competent graduates they will have to make sure that they purchase modern equipment, improve their physical infrastructure and try to equip their institution with the required facilities and resources to train their students (The Nyeri National Polytechnic order, 2020).

2.4 Monitoring of Curriculum Implementation and Competitiveness of TVETs

It is undisputable that active labor force drives a country's economy and the efficient use of labor contributes to the overall growth of the country. However, according to UNESCO-UNEVOC (2013), potential workers have difficulty finding work in the labor market due to a deficiency of knowledge. TVET programs are therefore implemented to address knowledge and skill shortages. The programs equip a learner with non-cognitive or cognitive skills, as well as technical skills needed by companies for entry-level positions (Pavlova, 2014; Hugo & Grollmann, 2021). In many nations globally, education and training are recognized as a crucial aspect that contributes to labor development, hence, the recent mushrooming of TVET institutions. Many developed and developing countries view TVET institutions as significant contributors to social economic development and success in country's national development. This explains why many nations have been putting a lot of emphasis on growth and success of TVET institutions. It is expedient to note that the success of TVET institutions depends not only on precise planning, but also on nature of curriculum and the manner in which it is implemented.

Curriculum monitoring is a means of collecting data to assess the performance of a curriculum and verify that the intended, implemented, and accomplished curricula are all in sync. Meyer (2019) said that monitoring is a continuous process of systematic data collection that focuses on specific indicators to provide information that program management and stakeholders can use to assess the extent to which expected outcomes have been realized in relation to the financial, time, and human resources invested. Relevance, consistency, practicability, efficacy, scaling-up, and sustainability, as well as whether learners are obtaining the anticipated learning outcomes, are often addressed

during this process. It assesses how well the curriculum meets the unique requirements of all students. Lamichhane and Bhattarai (2020) stated that the major goal of classroom supervision and monitoring is to evaluate teachers' performance in comparison to pre-defined teaching standards, resulting in better session delivery. By doing so, TVET institutions identify strengths and shortcomings in the delivery, compare the performance to that of other TVET institutions, identify areas for improvement, define goals and targets, and prioritize the measures necessary to meet them. Monitoring and supervision also ensure that each session's learning objectives are met and that students develop competences in accordance with national competency requirements.

Monitoring allows programmed management to collect data that may be used to improve service quality, support planning and resource allocation, and demonstrate results as part of accountability to stakeholders. According to Kaaya (2012), the program-monitoring process offers information on progress toward the fulfillment of intended objectives, results, and outputs, such as productivity and other efficiency targets, which can be used to make proactive decisions. TVET institutions are under pressure to be not only cost-effective, but also to produce high-quality outcomes hence the great need to monitor and evaluate how various curriculum are implemented. Key tool for evaluating TVET delivery performance on several levels of education and training. For example, the quality of the instructor, the school's climate, its culture and philosophy, instructional oversight, and assessment mechanisms.

Implementation of the curriculum happens when the learner acquires the desired experiences, knowledge, abilities, concepts, and mindsets that are intended to make one be

able to successfully operate in the labor market. Thus, a curriculum implementer is needed to put the curriculum into practice. According to Komba (2015), the teacher is the one responsible for putting the curriculum into reality. Komba further says that the process involves choosing and combining the numerous knowledge strands found in a curriculum document or syllabus.

Firstly, a curriculum consists of more than just a list of topics or a syllabus. It includes a thorough analysis of other components, such as goals and objectives, learning experiences, and evaluation, as well as suggestions on how to best connect them for good results. Secondly, curriculum includes planned or intended learning, highlighting unforeseen circumstances that may inevitably arise in the course of daily classroom activities. Thirdly, instruction and curriculum are inseparable. Chu (2022) supports this notion that curriculum is a component of instruction, not a stand-alone activity.

A well-designed curriculum offers educators, learners, school administrators, and community stakeholders a clear and measurable strategy and structure for delivering top-notch instruction. A curriculum that is grounded in empirical evidence provides educators and students with a well-defined route to success inside the classroom. A robust curriculum offers stakeholders in the community—teachers, students, educational leaders, and others—a clear strategy and structure for delivering the best education. The curriculum delineates the criteria, educational goals, and essential competencies that students need to achieve before advancing to the subsequent stage (Kaaya, 2012; Komba, 2015). To a learner, the curriculum expects before advancing to the next level, students must demonstrate particular learning objectives, standards, and essential skills outlined in the curriculum. Ideally, learners assume a central role in the curriculum implementation

process by receiving support in the process of acquiring knowledge as part of the implementation of the curriculum. Learners are reassured by a curriculum that they are progressing toward their objectives and developing desired abilities.

Teachers also play a crucial role in developing, implementing, assessing, and revising the curriculum. They taking charge of the curriculum by implementing its ideals like timely syllabus coverage hence making it a reality. They assist learners in meeting state and federal academic performance goals. With a curriculum in place, it ensures that teachers are instructing learners in pertinent topics and keeping track of the development and mastering of skills. Komba (2015) notes that teachers can better match their individual curriculum's learning objectives with the prescribed curriculum by having a broad perspective.

Globally, there has been a paradigm shift in training and vocational education with an emphasis on practical knowledge in addition to academic knowledge. The same has been characterized by changes in policies and practices in the way curriculums are implemented in TVETs across many nations. For example, Indonesia revitalized her TVETs to focus on skill development and purposed to increase the quality of TVET through public-private partnership. It also enhanced digital literacy among TVET graduates and promoted collaborations between TVET institutions and commercial partners in addition to enhancing instructors' knowhow. Moreover, Indonesia encourages the development of entrepreneurial skills among TVET graduates through continuous training and certification (Remington, 2018; United Nations, 2015).

TVET in Malaysia seeks to build skilled human capital by providing top-notch instruction that is responsive to labor market demands and supply of human resources. The main driving force behind Malaysia's TVET plan, as described in the 11th Malaysian Development Plan 2016–2020 calls for increasing labor productivity, and strengthening of market to hasten economic growth. The Malaysian government decided to change TVET to satisfy industry requirements by enhancing abilities through lifelong learning, and revising curriculum. TVET is cited in this regard as a game-changer in the way Malaysia develops skilled talent (Bassah, 2022). The TVET institutions therefore embarked on curriculum alignment, articulation, funding, and employability of graduates. To succeed, the government established the assemblage plans for the Malaysian Technical University Network (MTUN), Community Colleges, Polytechnics, and Vocational Colleges. The curriculum implementation embraced by TVETs in Malaysia entail industry engagement and strategic cooperation among TVET providers, and attempts to increase the proportion of skilled workers by 2020.

In Nigeria, Okorafor (2017) described how technical, vocational education and training have long been recognized as being essential to the country's growth. A desire to openly acknowledge a new role for TVET in achieving national transformation through technical breakthroughs, motivated by the development of technology and globalization is evident. In South Africa, both vocational and occupational training is offered by TVET colleges. Ochieng' (2016) noted that the national evaluation framework was adopted, and a participatory approach was employed in implementing the TVET curriculum. To ensure the TVET curriculum's effective implementation, the South African government established an evaluation steering committee. The committee was instrumental in all

phases of the evaluation process and provided feedback on the deliverables (National Evaluation Plan Report, 2018). The measures did not only reform TVET institutions but also revamp them to a great extent. To further ensure relevance of the curriculum, TVET colleges are required to pursue collaborations with higher education institutions, develop establishing productive partnerships with employers to provide students with opportunities for gaining practical experience alongside their studies. This has also been very significant in assisting graduates to obtain work placements after graduation (Kraak et al., 2016).

In Botswana, Rudhumbu (2021) found no discernible differences between the way the curriculum is taught in public and private TVET campuses. Rudhumbu indicated that elements in the microsystem, mesosystem, and exosystemic have a major impact on how TVET lecturers execute the curriculum, with lecturer-centered teaching strategies being the primary method of implementation. The issue of trainers and curriculum was also noted in Tanzania. The Kanyonga and Mtana's (2019) research revealed that even though most of Tanzania's trainers were undergoing in-service training, over fifty percent of them possessed only a basic comprehension of the significance and objectives of the competency-based education and training (CBET) curriculum. The study additionally reported that trainers displayed limited expertise in using CBET teaching and learning techniques or in performing student assessments and evaluations. The technical colleges in Arusha city were also found lacking the essential personnel and material resources for the proper execution of the CBET curriculum. The results indicate that CBET was implemented without proper planning.

Kenya emphasizes the value of TVET in preparing students for the workforce by boosting their productivity and competitiveness (Kigwilu & Akala, 2017). Study done by Hooker et al. (2011) demonstrates how inadequate facilities, infrastructure, and equipment impact how Kenyan TVET institutions deliver their curricula. As part of Kenya's Vision 2030, the Technical and Vocational Education and Training (TVET) initiative was created to provide the human resources needed to educate a technical workforce that would propel rapid industrialization and national growth. As a result, to supervise, keep an eye on, and assess TVET institutions' operations, the Technical, Vocational Education and Training Authority (TVETA) was established.

Furthermore, the TVET policy was formulated with the aim of enhancing equitable access to technical education and training for all students, irrespective of gender. This involved establishing policy directives aligned with national TVET and/or Ministry of Education policies, all TVET institutions are expected to contribute to the achievement of the goal, and make it easier for students to integrate theory and practical work by enhancing monitoring and evaluation systems within the institutions. Paryono (2017) stated that opportunities for skill development and interchange between industry and colleges as well as Kenyan government initiatives to promote synergy between TVET institutions and industry have been recognized as potential improvements to the TVET curriculum's implementation.

2.5 Financial Management Practices and the Competitiveness of TVET Institutions

Academic institutions' success calls for effective and expressive management. Indeed, financial management is one of the supportive internal mechanisms that could ensure the success and enhance the effectiveness of education and training institutions.

Technical Vocational Education and Training institutions play a significant role in enhancing technical education in the society (Okolie et al., 2020). Significant resources, both private and public are channeled towards TVET. While some countries spend heavily on TVET, the returns of these efforts are always lacking. However, countries that have demonstrated effective financial management, have also witnessed a significant revolution in TVET institutions, which indicate significant effectiveness in their performance. Indeed, effective financial management practices make TVET institutions succeed and meet their operational objectives (Nundkumar & Subban, 2020). However, poor financial management practices lead to heavy spending on these institutions with minimal returns. This situation is characterized by teaching quality, excessive rigidity, low external efficiency, and isolation from the industry. These characteristics are experienced in many developing countries, mainly in Eastern and Southern Africa. Recently, the condition of failing TVET institutions has been aggravated by initiatives and the impacts of changing policies. Reducing government budgets leads to the deterioration of the training system. Also, the scarcity of financial resources and low market demand make TVET to be perceived as over expanded and too costly.

Financial management denotes the making of a business plan and ensuring all organizational departments stick to it. Therefore, financial management practices are the initiatives an organization makes pertaining to its financials (Al Breiki & Nobanee, 2019). At its core, financial management practices seek to maximize organizational profits, track liquidity and cash flow, ensure compliance, develop financial scenarios, and manage prevailing relationships. The scope of financial management involves planning, budgeting, risk management and assessment and procedures (Al Breiki & Nobanee, 2019). Sound

financial management practices enables financial heads in organizations to provide data supporting the creation of long-term vision, decide on investment areas, and plan on how to invest on those areas. They also help organizations manage investments, profitability, liquidity and cash flow.

In developed nations, TVET is given significant consideration in budgetary allocations and policies that favor the sector. Paryono (2017) says that in the recent past, TVET has gained steady popularity on the global front, and governments recognize it as a priority for education and development agendas. TVET has also been considered a strategic and operational priority for organizations like the G20, International Labor Organization (ILO), and Association of Southeast Asian Nations (ASEAN). Nevertheless, TVET systems need steady transformation and revitalization to realize their development potentials (Paryono, 2017). This factor calls for expressive management practices, including sound financial management practices. Paryono (2017) claims that the Shanghai Consensus reflected upon this need in 2012. Among the South East Asian nations, ASEAN and the Southeast Asian Ministers of Education Organization (SEAMEO) have prioritized TVET in their educational endeavors. For instance, ASEAN supports TVET institutions' development through several initiatives, including maximizing access to TVET institutions, solidifying regional harmonization and developing TVET personnel, establishing quality assurance, and reducing the skilled labor supply and demand gap. According to Paryono (2017), these are initiatives that require significant finances and effective management; something which led to the success of TVET in Southeast Asian countries.

In the context of Asian countries like China and Japan, Mustapha (2015) presents a case for green and sustainable development for TVET institutions. Mustapha (2015) recognizes that the green paradigm is emerging rapidly in Asia, and for institutions to achieve sustainability, they must embrace green technology. The growing importance of sustainability has a significant impact on the industry, business, and society. Therefore, preparing the workforce in Asia for the impending green economy is a significant challenge for many Asian countries, mainly in TVET. In an article published in 2015, Mustapha said that transforming TVET institutions as groundwork to meet the changes of the green economy for sustainability had to begin in 2015. Mustapha presented the study to map the sustainable development of a green mindset, economy, training, employability, sustainability, and education in several Asian countries. In his study, Mustapha (2015) argued that besides technical training to prepare TVET for a green economy, there is a significant need to facilitate entrepreneurship training, access to finance, and business incubation services. Indeed, these are factors that call for significant financial resource's commitments and investments. Therefore, only with effective financial management practices could these Asian countries realize their goal of preparing the TVET institutions for a green paradigm in the region.

The Asian Development Bank (ADB) (2009) presented a case for TVET in the People's Republic of China. This bank argues that the skills and knowledge people bring to the working place are essential factors in social and economic growth. Therefore, governments across the globe implement guidelines to enable people to access education and training. However, TVET institutions are constantly burdened with many performance issues. Many of these issues tend toward the problems that countries, including China,

experience in allocating the required fiscal resources and spending these resources effectively (Asian Development Bank, 2009). China's TVET system has several strengths, including many excellent schools that adjust to industrial demands. Also, teachers and trainers in China have consistently demonstrated the capacity to prepare the growing number of students in the country to achieve and maintain economic growth in China (Asian Development Bank, 2009). However, the country's TVET system has several challenges that question its ability to produce competent students every year. The Asian Development Bank (2009) claims that the three most significant factors for probing the performance of a TVET system include its socioeconomic relevance, efficient delivery of plans and promises, and effective use of resources. This calls for these institutions to have internal efficiency, where they can convert inputs into outputs. This can be attributed to managing, organizing, and financing the TVET system with measures such as effective oversight.

Germany also recognizes the significance of TVET institution. Hamdard (2019) presents a significant case of TVET financing in Germany, showing how developing nations like Afghanistan can learn from its many years of academic development and growth. In Germany, financing TVET institutions is the responsibility of the government and private employers. These two entities carry the cost of training in the country's TVET system. Immediately after a probable trainee enters a training agreement with an employer in Germany, the employer starts bearing the training cost. As the apprentice continues, the employers usually pay them a monthly allowance lower than what full-time employees receive from their companies. This situation demonstrates two learning modes in TVET institutions in Germany (Hamdard, 2019). The government supports the first one for full-

time or school-based components. It supports students who have enrolled for various courses in TVET institutions in Germany on a school-based approach. The second is employees who need additional technical skills in their industry and enroll for programs as they continue working for their companies. Nevertheless, Hamdard (2019) notes that not all companies in Germany train their apprentices.

Developing countries have also realized the contribution of TVET in their progress towards becoming developed nations and the economic contribution of these institutions, among other significant benefits. In Vietnam, Tuan and Cuong (2019) presents a study that investigates and presents a significant case of TVET in the nation. Tuan and Cuong (2019) says that Vietnam has shown a profound performance in poverty reduction and economic growth in the last three decades. However, the country's employment formation for the increasing labor force continues to be a significant challenge for the Vietnamese government. Moreover, rapid development, internal shifts, and the need for the country to solidify its situation on the global front and increase its economic knowledge call for a new workforce outline, where, it must be technically updated, innovative, adaptable, highly qualified, and flexible. Combining these requirements in the modern competitive industry, mainly on the global front, poses a significant challenge to Vietnam's TVET (Tuan & Cuong, 2019). Vietnam, therefore, is modernizing and refining its TVET's quality to change its quality and efficacy to meet the human resource demands in the Asian region and economic sectors. The country wants to meet international standards of high-quality human resources to contribute to labor productivity, economic competitiveness, and growth quality. Therefore, the Vietnamese government has channeled significant resources into revitalization of its TVET in competent policy development and supporting the private

sector to make it competitive. Also, it channels resources towards TVET training facilities, equipment acquisition, and practical financial management practices in these institutions. The country's goal is to meet the Japanese standards in some of its TVET institutions.

Bangladesh is also another country that emphasizes on TVET Institutions. Raihan (2014) presents a study on the partnership between TVET and Industries in the country as a way to enhance employability skills. Raihan argues that effective collaboration between TVET institutions and relevant industries would provide the necessary skills for industrialization. He noted that the gap between knowledge generated through TVET training systems and the skills that employers demand continues to widen in Bangladesh. As a result, TVET institutions in Bangladesh produce employees who don't fit in the industry for lacking the necessary industry skills. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) has a division for improving technical education and vocational training systems that recommend forging closer collaborations between the labor market and training (Raihan, 2014). However, in Bangladesh, TVET institutions lack the initiatives towards this endeavor, while the industry portrays a significantly poor response. Raihan claimed that many governments could not single-handedly provide an effective and comprehensive TVET system through government financing. For instance, in many developed nations, approximately 80% of skills development is done by industries for their workers. Also, in countries with valuable links between TVET and industry, 20-40% of TVET revenue is generated by the economic activities of the individual institutions. This situation indicates that TVET institutions in many countries lack the necessary finances to fulfill their purpose. Therefore, Raihan (2014) recommends that governments, including the Bangladesh government, should

provide financial incentives and reward programs to motivate enterprises from various industries to partner with TVET institutions.

When comparing TVET between Afghanistan and Germany, Hamdard (2019) presented significant insights on how TVETs are financed in Afghanistan and how the country's TVET system could learn from Germany, a developed European nation. Hamdard (2019) says that financing TVET in Afghanistan is an undertaking of development partners, the apprentice, and the government. In Afghanistan, progress associates make the most extensive TVET financing through external funding. This situation remains because Afghanistan experiences political instability, making it suffer significant budgetary challenges. Development partners fund TVET in Afghanistan directly or indirectly, with some direct funding from NGOs and industry and indirect funding from government structures. This can be done through budgetary allocations or technical assistance. For instance, the German government has innovative initiatives on international TVET collaboration to aid and establish TVET guidelines in developing nation states, a program that benefits the Afghanistan TVET system through technical assistance. Although the Afghanistan government receives this support, it manages the governance of its TVET institutions and their finance. The Afghanistan government governs its formal TVET sector entirely through MoE and the MoLSAMD. It channels its financial resources and the support it receives from the German government to build schools, design the TVET curriculum, recognition, accreditation, and issue certificates to TVET graduates.

The quest to improve the workforce to fit into the modern competitive industry is an initiative that has been adopted by many countries globally. LaRocque (2020) presents

such a situation in Pakistan, where the Pakistani government had the initiative to ensure workforce readiness in the Punjab project. This process was estimated to consume a budget of \$110 million, with the ADB financing \$100 million from ordinary capital resources. The Government of Punjab would contribute \$10 million to the project. Due to the significance of TVET institutions in supporting economic growth and contributing a competent workforce to the labor economy, this project channeled resources to strengthen the TVET sector's capacity to support economic growth and employment creation in various economic sectors, such as the export sector (LaRocque, 2020). The project sought to revitalize the TVET framework, solidify TVET-industry collaborations, address gender disparity in TVET institutions which was characterized by male dominance, expand TVET entrepreneurial programs, and introduce private management to public TVET institutions. Indeed, these submissions are consistent with Raihan's (2014) submission in a Bangladesh context, mainly on the collaborations between the industry and TVET institutions. Also, they support the assertions of Mwale et al. (2021) on ideal financial management practices to attract investors for more financial resources in educational institutions. The current study borrowed significantly from LaRocque's (2020) submissions on the contribution of the government and development associations in supporting TVET institutions. It also used this submission to show how the involvement of several stakeholders in funding TVET institutions can support ideal financial management practices.

Africa harbors many developing countries with increasingly growing economies. Part of contributions to the nations' growth is their initiatives to invest in education and training. Indeed, TVET institutions are one of the educational institutions advancing education in Africa. In Cameroon, Zouliatou (2017) presented a study on TVET and

economic development, focusing on what Cameroon can learn from China. In the study, Zouliatou (2017) observes that many researchers have presented studies that have demonstrated the significance of TVET institutions on a country's economic development. He also posits that the success of many economies, including the Chinese economy, is attributed to linking TVET institutions with national economic development initiatives. Like many developing countries, Cameroon has high unemployment rates for its youth, representing 60% of its population. The country is also confronted with low productivity, because of inadequate training and low educational levels among its citizens. According to Zouliatou (2017), research by several scholars has indicated that Cameroon lacks the financial wherewithal to finance TVETs. Cameroon spends 3% of its budget on TVETs, which is significantly low compared to the average expenditure of 15% among developed countries (Zouliatou, 2017).

In Cameroon, TVET is financed by the government, private donors, the development assistance community, and slightly from students' fees. Beside this, the economic crisis in the country has drastically reduced educational funding over the years. This situation makes TVET institutes in Cameroon to receive a significantly small portion of government funding. Consequently, these institutions fail to deliver their objectives. Furthermore, they cannot demonstrate effectiveness because they lack many resources due to a lack of adequate funds. The current study learnt from this article on the differences between financial management practices of TVET institutions in developed and developing nations. Indeed, this will show where developing states have failed and make improvements in necessary areas.

Some scholars in South Africa, have also investigated TVET institutions in the country. Mwale et al. (2021) analyzed the relationship between virtuous business administration and organizational performance in TVET colleges in South Africa. They argue that people must not downplay the value of sound corporate governance because it has a significant relationship with institutional performance. In their study, Mwale et al. (2021) recognized that ideal corporate governance exists in TVET institutions covering areas such as management, guidance, accountability, and moral practices. Corporate governance in educational institutions like TVET institutions relates to compliance issues of ensuring service delivery to all stakeholders is done ethically, not to violate human and business principles (Mwale et al., 2021).

One of the business principles is effective financial resources management, which becomes part of good corporate governance. Mwale et al. (2021) claim that good corporate governance signifies a vast system of controls, factoring financial control and otherwise, that directs and controls an organization. They further claim that an institution applying sound corporate governance core principles of fairness, responsibility, accountability, and transparency outperforms other companies, enabling it to attract investors who finance its further growth. Therefore, Mwale et al. (2021) argue that TVET institutions in South Africa must have good corporate governance, including adequate financial management and control for their success and sustainability. Their study shows that good corporate governance can attract investors who will bring an institution additional financial resource even with minimal financial resources. The current study borrowed the elements of ideal corporate governance that can support sound financial management practices in TVET institutions in Nyeri County.

The role of responsible managers' financial accountability also matters in financial management practices of TVET institutions. Madondo (2021) presented a South Africa study targeting Mnambithi TVET College on the subject. In this study, Madondo (2021) says that the South African government has recognized the importance of TVET colleges in the country's economic development because of the sector's emphasis on offering skills for the labor market. In South Africa, TVET education and training is addressed by several conventions and legal framework, including the Department of Education's Further Education and Training Act, the FET Act, and the White Paper for Post Education Training. The FET Act requires that educational institutions in the TVET sector be independent and have financial control. However, Madondo (2021) recognized that many TVET institutions, including Mnambithi TVET College, suffer from inadequate resources. Nevertheless, Madondo asserts that proper financial accountability by the management of these institutions can ensure ideal governance in the TVET sector. The study also observed that the lack of accountable financial responsibility and control leads to wasteful expenditure, fraud, corruption, and theft. The study argues that the role of obligation managers in TVET institutions is guaranteeing the transparent processes and procedures to provide financial accountability and afford financial control, scheduling, and oversight measuring. Since monetary accountability is a lawful requirement for institution establishments in South Africa, Madondo (2021) says they must have processes and guidelines to make them responsible for their performance and comply with internal and external financial control standards. The current study borrowed from this submission to demonstrate the role of managers in ensuring sound financial management practices in their institutions.

Zambia is also among the African nations with active TVET institutions. Mubanga et al. (2019) presented a study on financing TVET institutes and entrepreneurial education to enhance knowledge development in Lusaka, Zambia. Like Madondo (2021) and Mwale et al. (2021), Mubanga et al. (2019) recognize the implication of TVT institutions in the economic development of a nation. However, Mubanga et al. (2019) argue that TVET and educational training institutes can only be influential if they have sustainable financing methods. These researchers obtained empirical quantitative and qualitative data from government offices in charge of funding TVET and educational institutions in Lusaka. The corrected data helped to compute statistics on the appropriate funding approaches in the said educational sectors. They administered questionnaires in the eight districts in Lusaka province to selected sixteen institutional heads.

The study used a mixed research method with a concurrent triangulation design, analyzing data thematically and statistically using SPSS. The study sought to evaluate the most appropriate TVET financing method to improve skills development to solve underdevelopment challenges that have led to unemployment and poverty in Lusaka, Zambia. The study established several financing methods in Lusaka province Mubanga et al. (2019). It also identified that lack of funding and low funding is some of the causes of under-resourced TVET and entrepreneurial education institutions. These challenges lead to inadequate tools, lack of teaching materials, minimal equipment, and little drive among TVET non-teaching and teaching staff.

In Kenya, TVET institutions also carry a significant role in economic development and preparing the Kenyan workforce for modern industrial requirements. Amukhuma (2018) presents a study on implementing integrated financial management information

systems (IFMIS) in TVET institutions in Nairobi, Kenya. Amukhuma (2018) says that the Kenyan government adopted IFMIS because of its benefits, including proper governance, adequate fiscal transparency, deterrent of fraud and corruption, and public funds accountability. However, even though the government implemented the system, it has not fully provided the envisaged benefits, mainly in public institutions (Amukhuma, 2018). When conducting this study, Amukhuma (2018) understood the significance of good governance and effective financial practices, later articulated by Mwale et al. in 2021. Indeed, a public institution, like TVET institutions in Nairobi, Kenya, cannot succeed or meet its goals if funds are misappropriated. Therefore, Amukhuma (2018) investigated how change management, human capital development, technical infrastructure, and the commitment of top organizational management affect the effective implementation of IFMIS in TVET institutions in Nairobi, Kenya.

The change management process affected the implementation of IFIS in Nairobi TVET institutions greatly because the changes in the financial management process, technology, processes, procedures, and the benefits associated with using the system were not outlined to the users. The technical infrastructure within an institution affects the system's implementation because institutions have inadequate ICT infrastructure (Amukhuma, 2018). On the issue of human capital, many staff members lack adequate skills to run the system effectively. Also, Amukhuma (2018) established that top management commitment affected IFMIS implementation because they allocated minimal resources to the system's implementation.

Another relevant study was by Mutai and Kimani (2019) on the impacts of financial managing practices on the liquidity of TVET institutions in the Kenyan Rift valley region.

Like Amukhuma (2018), Mutai and Kimani (2019) recognize the significance of TVET institutions in Kenya in providing competent craftsmen, artisans, technologists, and technicians to boost Kenya's economic growth. Mutai and Kimani (2019) also recognize that TVET institutions in Kenya must have adequate liquidity capacity to run well. This submission conforms to Mubanga et al.'s (2019) study, which argues that TVET institutions can only function if they have sustainable financial management practices. However, Mutai and Kimani (2019) observe that in many TVET institutions in Kenya, there exists a challenge of liquidity problems, leading to delayed payment of suppliers, practical materials shortage, food shortage for boarding students, delayed salaries for lecturers and trainers, nonpayment for salaries of the support staff and hence, the early closure of TVET institutions every term (Mutai & Kimani, 2019). The public expects that TVET institutions run smoothly and deliver their expected objectives, including producing competent students. However, mismanagement of the available financial resources in TVET institutions in the Rift Valley region of Kenya impedes the functionality of these institutions. According to Mutai and Kimani (2019), liquidity problems imply that an institution will be incapable of settling its obligation timely. This challenge is caused by poor accounts management. Consequently, if an institution will not minimize its spending, it will not settle its current liabilities, and it will incur additional charges.

The association between fiscal resource mobilization and the efficacy of public TVET institutes is also a relevant matter in Kenya. Wakoli and Kitainge (2019) conducted a study based in Bungoma, Kenya. These researchers claim that TVET education is indispensable in a nation's technological, socioeconomic, and political development. They used a mixed methods approach in their study. The study collected data using

questionnaires and interviews, which were analyzed using descriptive and inferential statistics. Wakoli and Kitainge (2019) found that TVET principals ensured they maintained financial resource mobilization through proper procurement. While some principals reported that this was on average, others said they used budgetary controls and established institutional financial accounting systems. Also, Wakoli and Kitainge (2019) established that technical training institutes in Bungoma, Kenya, did not have a standard procedure for resource allocation. Besides, they lacked a scientific way to assess departmental needs for inclusion in the annual budget. The study also established that the lack of financial resources mobilization in technical training institutes in Bungoma affected their efficiency negatively, lowering it to a significantly lower degree. Therefore, Wakoli and Kitainge (2019) recommended that these institutions improve their financial resource mobilization by automating financial management practices. Also, they recommended that all management staff undergo training on integrity and accountability for effective financial management practices that will lead to the efficacy of TVET institutes in Bungoma County, Kenya.

Bundotich and Maina (2020) also explored financial management in TVET institutions by focusing on the impacts of portfolio diversification on cash flow supervision in TVET institutions in Uasin Gishu County, Kenya. In this study, Bundotich and Maina (2020) claim that cash flow management is vital because it ensures that TVET institutions meet their financial obligations timely and remain with cash to support their functions and operations. However, in Kenya, mainly in Uasin Gishu County, TVET institutions have been experiencing challenges with receivables collection, leading to poor cash flow. This situation leads to poor cash flow management in these institutions, causing them to lose

their students, higher employee turnover rates, and eventual closure of institutional operations (Bundotich & Maina, 2020), hence, need to develop a transparent and accountable financial system. Therefore, Bundotich and Maina (2020) sought to investigate how portfolio diversification could affect the cash flow management of TVET institutions in Uasin Gishu, Kenya. The study used a descriptive survey research design and adopted the current portfolio, cash management, and cognitive evaluation theories. The study established that portfolio diversification significantly correlates with cash flow management in TVET institutions. It concluded that savings deposits assist institutions in analyzing their position when factoring their cash component. Hence, portfolio diversification becomes a principal factor in an institution's success. Some successful institutions in Uasin Gishu have invested in portfolios such as opening driving schools, buying fixed assets, and opening more branches.

2.6 Internal Systems and the Competitiveness of TVET Institutions

Effective functioning of an organization largely depends on the effectiveness of its internal systems. Internal systems usually permeate all departments and sections of an organization. They consist of elements that emanate from within an organization. Internal systems are characterized by activities, personnel, procedures, facilities, infrastructure, intellectual capacity, material resources, and quality assurance among others (Dugarova et al., 2016; Supe et al., 2016). When configured well, internal systems create flexibility, responsiveness to change, continuity and consistency that help an organization to attain and retain competitive advantages (Butt et al., 2020; Siregar & Sihombing, 2021; Supe et al., 2018; Osidipe, 2019; Gachunga et al., 2020). In a TVET institution, internal systems constitute organization and coordination of internal activities, quality assurance

mechanisms, procedures, service outlay, institutional competence, policies and other internal mechanisms (Gachunga et al., 2020; Koobonye, 2020).

Several studies have been conducted globally regarding different aspects of internal systems of technical and vocational training centres. A few related ones have been discussed below. For example, a study conducted in Indonesia, north Sumatera focused on performance improvement and competitiveness of private universities through building institutional competence (Siregar & Sihombing, 2021). The study examined aspects such as organisational learning, internal environment and competence of the organisation to determine how they affected organizational performance. The study population was stratified into leadership, school administrators, suppliers and students. The study reported that organizational learning affects competitiveness of the organisation although the same did not apply to internal systems. The study by Siregar and Sihombing (2021) was only limited to private universities while the present study concentrated on TVET establishments situated within Nyeri County.

It is undisputable that the competitiveness of an organisation is influenced by proper allocation of resources and one of them is the human resources. Butt et al. (2020) noted that staff retention was affecting competitiveness in higher education sector in Punjab province, Pakistan. Their study used a resource-based theory to explore whether utilisation of resources gave organization competitive advantage. The findings were affirmative although psychological contract was found having no effect on competitiveness of an organization. The study used quantitative approach and utilized survey questionnaire to collect primary information from respondents. The current study utilized mixed method

approach which utilized focused group interview, questionnaire and interview schedules to collect data from TVET institutions in Nyeri County.

Another important component of internal systems that affects the competitiveness of any institution is quality assurance mechanisms and systems. It was found to have increased competitiveness of higher education institutions in Russia as noted by Dugarova et al. (2016). The data for the study was collected from review and analysis of past research studies done on quality assurance. Since the study was based on the context of international integration, the aspect of internationalization of higher education was unavoidable. According to Dugarova et al. (2016), ensuring consistency in methods of regulating and standardizing the higher education results in international harmonization which in turn increases competitiveness of higher education. The study concludes that quality management systems affect the competitiveness of higher education. The study by Dugarova et al. (2016) did not have a theoretical framework supporting it and this gave this study a chance to come up with theoretical framework that explained the topic further rather than just stating it.

A closely related study was conducted in France by Chaparro et al. (2020) to investigate on the implications of competitiveness on quality assurance of higher education. The study aimed at looking at engineering universities and 163 institutions' websites formed the participants of the study. The purpose of the study was to look at the ranking of the institutions, whether private or public and the communication strategy employed in influencing their competitiveness. The type of communication strategy adopted was competitive communication. The study indicates that quality assurance strategies play a significant role in organizational learning and facilitates the

competitiveness of higher education. The findings were consistent with the study by Dugarova et al. (2015) which was based in university context at the trans-border of China and Mongolia, Transbaikal State University. According to Dugarova et al. (2015), quality education affects the competitiveness of higher education.

The internal administration of a university significantly impacts the competitiveness of higher education. Another research endeavor was undertaken to explore the effect of management on the competitiveness of universities by Bileviciute et al. (2019). The type of management under study was innovation management and its effect on the competitiveness of Lithuania universities. There was an observation of varying number of students in the universities of Lithuania and specifically the largest university in the region, Mykolas Romeris University (MRU) was investigated alongside other universities. According to Bileviciute et al. (2019), any university wishing to increase its competitiveness, innovation management strategy is important. The advantage of innovation management is that when appropriately utilised, it helps in the management of finances and proper allocation of resources in an organisation, hence, increasing its competitiveness. The institution under study was universities in Lithuania. This gave this study a chance to investigate on management effect on competitiveness of TVET in Nyeri County.

Competitiveness of higher education is a topic that cannot be neglected entirely. This is demonstrated in a study conducted by Supe et al. (2018) that aimed to examine the factors influencing the competitiveness of higher education institutions using a systematic literature review approach. A total of 20 articles were chosen for the literature review. The study classified the factors into two categories: internal factors, which are influenced by

the institution's internal environment, while external factors are those emanating from outside the organisation, that is, micro or macro environment. The internal environment works under the principle of internal processes which defines how resources in an organization are to be distributed appropriately to enhance competitiveness of higher education. The external environment is defined by the local, regional and national policies put in place that enhance competitiveness. The local policies are influenced by the students and the community, whereas, the national policies can be attributed to political, social or economic factors. The current study differed from the discussed study where primary data was collected from respondents at TVET institutions in Nyeri County to investigate the effect of internal systems on competitiveness.

Technical Vocational and Educational Training institutions contribute largely to the working industry. At Botswana, the study by Koobonye (2020) investigated the capacity of TVET programs to cultivate skills that are in demand and based on competence for the labour market. Despite their contribution to Botswana's economy, TVET institutions experience a lot of challenges in meeting their objectives. Among the challenges experienced are low enrollment of students and shortage of human resources. Due to the low intake of students, the available resources in the institution were poorly utilized and among them was infrastructure. This will in turn lead to low competitiveness of TVET in the country. According to Koobonye (2020), the aforementioned challenges are contributed greatly by political decisions on TVET institutions. Therefore, the study recommends that TVET be involved in decision making as this will enable it to market itself and the society will appreciate its existence and value.

A closely related study was conducted by Arfo (2015) on policies of TVET in African countries. The countries selected in this study were South Africa, Ghana and Nigeria. All the 3 countries had a similar goal which was to deliver in accordance to the needs of the labour market. The findings indicated poor implementation of institutional policies in all the three countries which in turn led to producing students who do not meet the needs of the labor market. According to Arfo (2015), TVET in these countries experience similar challenges which included lack of adequate teaching and learning facilities, underfunding and poor governance among others. Poor governance as an aspect of internal system was also linked to poor maintenance of the available resources and lack of recognition of the institution by the society. This causes low competitive advantage of the institution. In the current study, the issues of internal policy on internal mechanisms were investigated and unravel their influence on the competitiveness of TVET institution.

In Kenya, public vocational training centres are characterized by low internal efficiency which in turn lead to high dropout rate and low intake in the institutions. These are attributed to poor utilisation and allocation of resources and low flow of students (Okinyi et al., 2021). A closely related study was conducted to investigate the issue of resource mobilization on competitiveness of TVET institutions in Kenya (Gachunga, 2021). The study distributed questionnaires to 272 respondents who were drawn from 68 TVET institutions in Kenya. The main resources addressed in this study were infrastructure, finances and human resources. Among those resources, finances and infrastructure carried a lot of weight as compared to human resources. According to Gachunga (2021), resource mobilization has great influence on competitiveness of TVET institutions. However, the inadequacy of these resources leads to the decline in competitive

advantages of the institutions. This in turn calls for strategic leadership in the institution so that the scarce resources can be allocated appropriately. The study by Gachunga (2021) was conducted across all the institutions in Kenya. This current study focused on TVET institutions that are in Nyeri County.

Another aspect of internal systems is strategic innovation management which was covered by Gachunga (2021). In this light, a study on strategic innovation management was conducted to specifically investigate the extent to which it influenced the performance of TVET institutions in Kenya. Some of the aspects of strategic innovation that were addressed include service improvement, research and development and processes that are new. According to Gachunga et al. (2020), strategic innovation management proved to have significant effect on competitiveness of TVET institutions. The study expounded and demonstrated how innovation enhances students' satisfaction which in turn enhances competitiveness. It also revealed that strategic innovation management was poorly implemented in the institutions resulting into low competitiveness.

A systematic review by Momanyi (2020), analysed the sustainable strategic management practices and the performance of TVET institutions based. The systematic analysis focused on the components of strategic management and their influence on performance of the organization. Those components included strategic planning, formulation, implementation, monitoring and evaluation which formed the objectives for the study. Momanyi (2020) argues that strategic management practices have both significant and positive effect on the performance of TVET institutions. Momanyi also argues that by firm increasing performance, it also enhances its competitiveness, and that strategic management practices do not only help in structural improvement, but also ensure

the institutions meet the competition. The study by Momanyi (2020) was based on secondary data from past research studies while the current study was informed by primary information which was gathered from the field.

The other aspect of internal control mechanisms is dynamic capabilities in business. This is achieved by revisiting internal organizational skills. In a study whose constructs were dynamic capabilities and competitiveness of TVET, Doya (2016) sampled 14 institutions from the western part of Kenya, where, 10 persons from managerial positions from each institution were sampled. The study was guided by four objectives and of interest was one that sought to look at how infrastructure affects the competitiveness of the institutions. On the infrastructure construct, among the aspects addressed was one that stated that there was need for the infrastructure to have adequate space for future expansion (this had the highest score). This indicates that for the institution to be at competitive advantage, the infrastructure needs to be adaptable to change in the near future. According to Doya (2016), the infrastructure in the institutions need to be modern and adequate in order to accommodate new students and this will in turn increase the competitiveness of TVET.

The strategies adopted in the management of an institution has great effects on its survival (Rabah, 2015). The aspects of strategies and organizations were investigated by Ochola and Kavinda (2019). Their study focused on private TVETs in Nairobi County. Questionnaires were administered to a sample of 71 employees which aimed to assess the state of facilities and pricing strategies and how they influenced the rate of enrolment in the institution. On the one hand, it was noted that the fee of an institution influenced both its performance and enrolment with those charging less fee being more competitive. On

the other hand, institutions with modern infrastructure proved to have better performance and high enrolment and hence, increasing their competitiveness. The study by Ochola and Kavinda (2019) was based on private TVET institutions while, the current study focused on public TVET institutions in Nyeri County.

2.7 Leadership Practices and Competitiveness of TVET Institutions

Leadership is critical in providing direction and in influencing people towards achieving goals of organization. It refers to the act of directing efforts of a group of people towards realizing a common goal (Odoom et al., 2016; Bello & Muhammad, 2021). According to Gachunga et al. (2020), leadership in TVETs can be studied in aspects such as commitment of leaders, their competency, styles of leadership and the leadership practices. This study aimed to investigate the leadership practices and styles on their influence to the competitiveness of TVET institutions. The various types of leadership adopted in TVET institutions was also studied and its influence on competitiveness of the institutions (Osman & Kamis, 2019; Dardiri et al., 2017; Wangmo, 2021; Albashiry, 2019; Badenhorst & Radile, 2018).

The competitiveness of TVET institutions can be improved by employing effective leadership tactics which include effective communication, tactical decision making, appreciating the ability of members, negotiation tactics, pressure control tactics, motivation, responsibility and rational persuasion tactics. The types of decision making for effective leadership include analytical style, command style, behavior style and conceptual style (Mohamad & Omar, 2014).

The type of leadership style practiced has an influence on the competitiveness of institutions. A study was conducted in Malaysia by Osman and Kamis (2019) in this light

relating to sustainable organizational climate and innovation leadership in institution of Technical Vocational Education and Training (TVET). Data for the study was gathered from systematic review of existing past literature, proceedings of seminars, reference books and conference papers. The study revealed that innovation leadership played a significant role in influencing sustainable organizational climate by creating innovative organizational climate. However, innovative organizational climate was influenced by some factors such as consideration, emphasis on production and retreat. According to Osman and Kamis (2019), the innovative leadership positively influenced the organization performance by enhancing innovative thinking among the team members which, in turn encouraged competitiveness of the organization. The findings of the study were consistent with Abdullah et al. (2021) who sought to investigate TVET leadership models in Malaysia. They identified 13 elements of leadership models that affected the performance and competitiveness of TVET institutions. The study by Osman and Kamis (2019) differed with the current study in the mode of data collection where the previous gathered data from secondary sources and the latter from primary sources (primary respondents).

A closely related study was conducted in Indonesia by Dardiri et al. (2017) on the effect of entrepreneurial leadership on technology and vocational education (TVE) organizations. The study mainly aimed to investigate on the impact of entrepreneurial leadership on commitment and loyalty of stakeholders. The data for the study was gathered through interviews, documentation and observation from 60 respondents. The respondents included principals, vice principals, HoDs, teachers, parents and students. According to Dardiri et al. (2017), entrepreneurial leadership was implemented through two leadership functions, that is, leaders and managers. The study's findings indicated that the

performance of TVET was influenced by three aspects of entrepreneurs which entailed the courage to take risks, positive actions and proactive element. These aspects indeed play a role in enhancing the competitiveness of TVET institutions.

In South Asia, a study was conducted in Bhutan by Wangmo (2021) where, 122 respondents from the technical training institutes were sampled. The data for the study was conducted through questionnaires via Google form. The study aimed at identifying the most common used leadership style in technical training institutes. According to Wangmo (2021), the various types of leadership adopted included laissez-faire, democratic and autocratic leadership styles. The most dominantly used type of leadership was democratic followed by laissez-faire and the least used was autocratic leadership style. Wangmo (2021) argued that the type of leadership style adopted by leaders influenced the performance of learners. This in turn influenced the competitiveness of technical training institutes.

Peters (2021) carried out a comparative analysis of the market circumstances for vocational education and training in Australia, the United Kingdom, the United States of America, and Germany. The study primarily looked into how the four countries' vocational education and training institutes managed to deal with the competitive graduate market conditions. The results made it abundantly evident that Germany has two distinct systems for vocational education and training. The dual system is based upon the reoccurring tension between the labor market and educational institutions. According to Peters (2021), when training occurs in labor market, a similar training concurrently is undertaken in educational institutions in order to bridge skill gaps and enhance the competitive advantage of VET graduates. In United Kingdom, Australia and United States of America, the level

of training in educational institutions on service provision to the labor market is not as high as in Germany. This therefore calls for the school management and VET providers to incorporate dual system in VET which, in turn increases the competitiveness of VET graduates. These findings collaborate with Remington (2018) who conducted a study on adaptation of dual system in United States TVET through public-private partnership. The system enhanced the matching of skills of TVET graduates with those of the dynamically changing labor market. This in turn improved the competitiveness of TVETs in the United States

The study by Albashiry (2019) investigated the influence of curriculum leadership and competencies on the development of systematic and collaborative curriculum design in Yemen. Albashiry noted that the managers and teachers who were supported professionally, had a better chance at demonstrating improved leadership practices and curriculum designs that in turn led to the improvement of curriculum external and internal consistency. According to Albashiry (2019), the improved curriculum design was attributed to support that HoDs and teachers acquired professionally in relation to curriculum leadership. Additionally, the involvement of external stakeholders helped to enhance the external consistencies of institutions. This in turn led to improvement of the competitive advantages of TVET institutions in Yemen. The study by Albashiry (2019) was dependent on secondary sources for data which indicate a clear departure from the current study where data was gathered from primary respondents.

A second, closely similar study, conducted in Korea and published in 2018, by Joo, examined the quality of technical vocational education and training facilities. National Mechanical Technical High School in Busan was the site of the study. Questionnaires were

given to 107 teachers and 555 students as part of this survey research. An interview was scheduled for 10 specialty teachers, 10 students, one vice principal and the principal. The factors investigated for excellence were effective leadership, relevant curricula, school industry linkages and competent teachers and academic performance. According to Joo (2018), the Busan national mechanical technical high school recorded a relatively high percentage of graduates' employability rate (90.72%) into formal sectors. The study wanted to find out whether Busan possessed the four factors of excellence and further aimed to establish which among them was more effective. As per the study's results, every one of the previously described elements was evident in the school and had a noteworthy impact on the academic achievement of the kids. However, Joo (2018) argued that Busan achieved the high employability rate of graduates after transforming into a Meister high school which cultivates high level skills. This enhanced the reduction of stigma associated with TVET institutions and in turn increased the competitiveness of the Busan. The initiatives were attributed to effective leadership at Busan TVET institutions. These aspects were also ascertained in TVET institutions in Nyeri county Kenya.

In Ethiopia, the study on transformational leadership practices in TVET institutions in leading educational change was conducted by Kedir and Geleta (2017) in 7 government TVET institutions, where 122 teachers and leaders were sampled. The study was based on Kouzes and Posner's transformational leadership models under which five leadership practices were studied. The leadership practices examined encompassed challenging the status quo, empowering others to take action, fostering a shared vision, leading by example, and emphasizing action. The study's results indicated that leading by example and empowering others to take action received high ratings while fostering a shared vision,

challenging the status quo, and emphasizing action were rated lower by the participants. This indicated that TVET leaders did not practice transformational leadership, hence discouraging innovation and failing to secure and utilize resources. These were listed as the major hindrances to leading educational change. According to Kedir and Geleta (2017), this resulted in organization ineffectiveness and would outrightly result in poor competitiveness of TVET. These findings collaborate with Demissie (2017), who conducted a study in 22 TVET institutions in Ethiopia. Demissie (2017) noted that the transformational type of leadership was the most effective leadership style in Ethiopian TVET institutions. The study demonstrated a significant relationship between transformational leadership and the competitiveness of TVET institutions.

In South Africa, the leadership in TVET colleges faced some challenges such as poor leadership and management which was attributed to the lack of competency of the leaders (Badenhorst & Radile, 2018). The evidence of fragmented and ineffective leadership and management practices led to poor performance among the students. The study by Badenhorst and Radile (2018) sought to establish whether integrated leadership model resulted in better academic achievement among the students. The data was collected from TVET colleges in Free State and South Africa through open-ended questionnaires, document analysis and interviews. The study's findings indicated that the implementation of a distributed instructional approach played a significant role in influencing the performance of TVET students. The study reported that distributed instructional approach was the most effective leadership practice as it addresses each institution's unique characteristics which in turn enhances students' performance and improves the institutions competitiveness. The findings of the study were consistent with the findings reported by

Mvimbe (2019). Mvimbe investigated styles of leadership adopted by department heads at TVET College in Lejweleputswa district, Free State province in South Africa. The democratic leadership was the dominant style and this affected the effectiveness of TVET.

Diop (2020) collected data from both primary and secondary sources in Rwanda which comprised of actual respondents and past literature. The study was guided by research questions which sought to mainly investigate on the gaps in employment of Rwandan graduates. In Rwanda, a lot of graduates worked in the informal sector and this was attributed to poor curriculum, lack of competency of trainers, change in skill demands and poor responsiveness of TVETs to the change to the demands of employment sector (Diop, 2020). However, all the aforementioned factors were greatly influenced by poor leadership practices which in turn affected the competitiveness of TVETs in Rwanda. The study recommended a need to address poor leadership by establish clear leadership structures for improved employability of graduates and competitiveness of TVET institutions.

TVET leaders play a role in allocation of resources to drive internal processes. The allocated resources further affect internship programs and provisioning of guidance to TVET trainees. These are anticipated to contribute to employability of TVET graduates. The competitiveness of TVET in Ghana was influenced by factors such as trainees' guidance, trainees' practical needs and internship training, competency-based training and TVET trainers (Odoom et al., 2016). The study observed that the rate of employability among TVET graduates in Ghana was depended upon the competency of trainers which influenced the national and international competitiveness. The structural challenges were also reported in Nigeria against which, Bello and Muhammad (2021) which called for

repositioning strategies in the TVET sector. The structure of education in Nigeria is divided into 3 namely basic education, post basic education and tertiary education where TVETs formed part of tertiary education. Among the challenges that affect TVET education in Nigeria included poor governance and corruption which result to misappropriation of allocated funds and resources of TVET (Bello & Muhammad, 2021). This in turn led to reduced competitiveness of TVET institutions. These findings are consistent with Okorafor and Nnajiifo (2017) who focused on TVET policies and practices with an aim to identifying why there was a gap in skill and job attainments. The findings of the study revealed that TVET was greatly affected by corruption from the management hence the competitiveness of TVETs was affected. The correlation analysis indicated a significant relationship between leadership practices and the effectiveness and performance of TVET and this had a lot bearings on their competitiveness.

In Sudan, Ramadan and Xiaohui (2019) conducted a study on challenges and opportunities of TVET institutions. The study's data was gathered from 7 respondents and secondary data was collected through contextual analysis of past studies. The sampled group comprised of 2 experts in TVET ministry, 1 parent and 4 students where data was collected through interview schedule. The findings of the study revealed that most managers and principals in TVET institutions lacked good management skills and in-service training which further affected the leadership performance, teaching and learning performance and staff interactions among themselves and learners. According to Ramadan and Xiaohui (2019), the leaders in TVET institutions had a significant role in ensuring the reforms done in the institutions align with the changes in employment and economic sector hence boosting the competitiveness of graduates from the schools

In Kenya, a closely related study was conducted by Gachunga et al. (2020) investigating on leadership in technical vocational training institutions. The study mainly aimed to investigate on the leadership commitment and competitive advantage of TVET institutions. A total of 68 TVET institutions were sampled for this study, where, principals, heads of R&D and heads of ICT were the key informants of the study totaling to 272 respondents. The findings of the study revealed that leadership commitment through proper decision making, employee involvement and strategic direction greatly influenced the performance of TVET institutions in Kenya. The competitive advantage of TVET institutions was indicated by low turnover of staff, high completion rates, high students' population and increase in number of accredited programs. The study's findings signified that there was a substantial and positive link between leadership commitment and TVET sustainability.

A closely related study was conducted by Gachunga (2020) on institutional factors that influenced strategic plans implementation in TVET institutions in Nairobi County, where 3 TVET institutions formed the study's population. A total of 28 respondents were sampled. This comprised of 25 HoDs and three principals. The study mainly sought to investigate how resources' availability, institutional policies, organizational structure and management competency influenced strategic plans of TVET institutions. The aspects of implementation of strategic plans investigated included the number of programs, enrollment levels and presence of centers of excellence. The study's findings revealed that all the fore-mentioned factors positively influenced the implementation of strategic plans which in turn affected the competitiveness of TVET institutions. The study identified the involvement of employees in decision making and team leadership as aspects of management competency which played a significant role in influencing strategic plans

implementation in TVET institutions in Nairobi County. However, the findings contradict those of Rono (2021) who argued that leadership practices and employee involvement had weaker influence on implementation of strategic plan as compared to employees' perceptions in Rift Valley.

The style of leadership has been mentioned severally as a key determinant to the survival and sustainability of TVETs in Kenya. Undoubtedly, the type of leadership adopted plays a key role in influencing the development of competency among TVET graduates. This is clearly demonstrated by the study conducted by Chelimo et al. (2020) which investigated the moderating effect of organizational culture on two types of leadership and development of competency in TVET institutions in Kenya. The types of leadership investigated included transformational and transactional leadership styles. The study sampled a total of 262 respondents comprising of students, principals and academic registrars. The research findings indicated a noteworthy and favorable correlation between transformational and transactional leadership and the enhancement of competencies in TVET institutions. This relationship was moderated by organizational culture of TVET institutions in Kenya. According to Chelimo et al. (2020), the organizational culture affects competency development negatively but when incorporated in transformational and transactional leadership, it had positive impact on development of competency. This in turn affected the competitiveness of TVET institutions in Kenya.

In relation to quality and relevance in training and leadership practices, the study by Koech (2018) is very significant. The leadership practices investigated included policy implementation, benchmarking, staff motivation, strategic plan implementation and partnership. The study adopted mixed research design. The data was gathered from 5

principals, 38 heads of departments, 20 heads of sections, and 5 trainee representatives drawn from 5 technical vocational centers in Rift Valley. The findings of the study revealed that TVET institutions had poor leadership. This was characterized by poor policy implementation, poor staff motivation, and poor strategic plan implementation, low levels of benchmarking and poor partnership. The deficiency in these aspects influenced negatively the quality and relevance of training in TVET institutions. The study reported a substantial relationship between leadership practices and quality and relevance in training. Lack of relevance has an effect on employability of graduates, and this can impact on the competitiveness of TVET institutions.

The competitiveness of an organization may be evaluated through the overall performance of the organization. In line with this, a study was conducted in Nyamira County that sought to evaluate on the strategies that influence the technical vocational education and training institutions performances (Bogonko, 2018). The study adopted descriptive research design and collected its primary data from a sample group of 169 respondents by means of questionnaires. The respondents comprised of 30 management staff, 99 trainers and 40 heads of departments. The strategies evaluated in this study included knowledge management strategy among others and linked it to TVET institutions performances. The study's findings indicated that the management of TVETs in Nyamira County failed to provide clear strategic plans, uphold staff appraisal and motivates their staff. This in turn resulted to poor performance of TVET institutions. According to Bogonko (2018), the principals of TVET institutions were required to be flexible regarding the changes in the economic requirements of graduates and institute measures to motivate the staff towards improving the competitiveness of graduates and school.

A relevant study was conducted in Nkabune technical training institute in Meru County investigating on the influence of quality management system on internal performance of technical training institutions by Njenga in 2017. The respondents comprised of 21 top level managers, 30 middle level managers and 44 low level managers. In this study, the level of leadership was measured through indicators such as quality vision, delegation of duties, role modelling, bureaucracies and managerial enthusiasm. The study's results indicated that there exists a positive and substantial linkage between practices of leadership and internal performance of technical training institutes. According to Njenga (2017), visionary leadership, managerial enthusiasm and delegation of duties had greater influence on internal performance as compared to bureaucracies and encouraging team work, which had moderate influence on internal performance.

Another study conducted by Mureithi (2019) in Mount Kenya region correlated organizational factors and implementation of strategic plans. This study differed with the current study as it was conducted in Mount Kenya universities and not technical vocational education and training institutions. The study employed descriptive cross-sectional survey and a total of 170 respondents were sampled. The results indicated that organizational leadership played a crucial role in influencing the implementation of strategic plans. This, according to Mureithi (2019), in turn affected the competitive edge among universities in Mount Kenya region.

The performance of teachers and trainers may be related to leadership styles adopted in the institutions. In this regard, a study was conducted by Wachira et al. (2017) in Kieni West Sub County, Nyeri County correlated leadership styles of principals and performance of teachers on their job in government high schools. The sampled population

comprised of 8 principals and 74 teachers. The study's findings indicated that leadership styles affected the teachers' performance in public secondary schools. This in turn affected the general academic performance of students, hence, affecting the competitiveness of secondary schools. Wachira et al. (2017) argued that supportive leadership was more effective in improving teachers' job performance as compared to directive leadership, participative leadership and achievement-oriented leadership. However, the principals' leadership styles alone were ineffective in influencing teachers' performance and were intervened by government policies, school culture, infrastructure, community influence and attitude. The study by Wachira et al (2017) differed with the current study on the academic level of respondents where the former adopted respondents from high school and the latter adopted from TVET colleges.

2.8 Theoretical Framework

A theoretical framework describes theories that have been identified to guide in understanding and investigating the main phenomena of the study. They help to underpin each variable of a given study with a view to showing how broad constructs relate in informing a given perspective. A theoretical framework therefore, helps to demonstrate the relationship between the theory and the argument postulated by the current study. The theoretical framework is therefore critical in idealizing the research process by hinting on key constructs which will eventually inform the operationalization of variables, development of research instruments and data analysis process (Kivunja, 2018). This study was informed by four theories namely, the Wheeler model of curriculum development, balance score card model, theory of dynamic capability, and the contingency theory of leadership. The main tenets and relevance of each theory are described below.

2.8.1 The Wheeler Model of Curriculum Development

The foundational basis of the Wheeler model for curriculum development is attributed to Wheeler D. K. in 1967 (Adirika & Okolie, 2016). The Wheelers' idea was to deploy a cyclic model for curriculum development and evaluation to address the previous weaknesses which had been noted in the Tyler model of curriculum development. In addressing the cyclic way of undertaking curriculum development and evaluation, Wheeler developed five constructs which were iteratively identified as the five common phases for undertaking curriculum implementation and evaluation. These were: goals, objectives and curriculum aim; learning experiences by teachers, instructional deliverers and learners; selecting of learning content; organization and the integration of the learning contents and finally the aspect of continuous evaluation (Adirika & Okolie, 2016).

According to the Wheeler model, the evaluation of the curriculum is not a terminal exercise but a continuous one, hence, curriculum development and evaluation was expected to be proactive to the continuous changes in the education sector while accounting for appropriate decision-making and adjustments agreed upon in the curriculum.

In this current study, the Wheeler model opinions on curriculum development and evaluation are applicable in addressing the construct of monitoring of curriculum implementation. Given that the wheeler model is cyclic in nature, successful and competitive curriculum which addresses the educational needs of TVET Institutions ought to be regularly designed, monitored and evaluated in terms of their contents, the goals and objectives with a view to ascertain if they adequately meet the learning experiences of TVET trainees. The satisfactory outcome leads to the attainment of competitiveness of TVET Institutions in Nyeri County.

2.8.2 The Balance Score Card Model

The development of the balance score card model is taken back to 1990 when Robert Kaplan and David Norton came up with the idea of performance evaluation in strategic management (Muda et al., 2018). Robert Kaplan and David Norton contended that the performance of an organization may not only be equated to the financial performance of the organization, but also the ability of that business to attain its set goals, objectives, mission and strategic vision within the specific targeted time, while, also achieving continuous improvement in value over time in the market environment. Robert Kaplan and David Norton also articulated that a continuously improving business entity ought to depict improvement in its internal efficiency entities through improved professionalism of their human resources, effectiveness of the technology in place, organizational procedures and foresight mechanisms to enable the entity to stand out and survive volatility in the operating environment.

Kaplan and Norton further clarified that for the long-term survival and strategic direction of a business organization to be attained successfully, important mechanisms ranging from undertaking continuous evaluation and monitoring, organizational measurement, management and direction setting were needful. The theorists transposed that during these stages, four major dimensions ought to be measured and evaluated. These were; organizational financial resources, customer and organizational stakeholders' interests, internal efficiencies and continuous professional development for human resources (Muda et al., 2018).

In this study, the balanced score card model translates to how TVET institutions may gain competitive advantages in the market through ensuring monitoring and regular

development of their institutional capacities, internal efficiencies and financial management practices. The specific sentiments for achieving implies that, TVET institutions should boost their institutional capacities by ensuring the human resources working for them possess the required skills and competencies, manage the fiscal resources prudently and re-address their organizational internal systems. This may involve re-defining organizational direction, goals, objectives, mission and adopting technologies to facilitate quality learning. This, according to balance score card model, would increase customer satisfaction. Satisfaction of customers is associated with organizational survival and completeness.

The balance score card model underscores the crucial role of a strategic, visionary and transformational leader in spearheading the organizational strategic direction and mission. It also poses a lot of strengths in addressing the organizational internal efficiencies, institutional capacity and financial management practices which are associated with internal capabilities that drives the competitiveness of TVET institutions in Nyeri County.

2.8.3 The Theory of Dynamic Capability

Teece introduced the theory of dynamic capability in 1997, aiming to outline how organizations should respond when integrating their organizational capabilities in strengthening internal capabilities to effectively respond and adapt to the volatile environmental changes (Teece, 2007). This had direct implications on prudent use of organizational internal resources. Teece emphasized the importance of valuing and investing in knowledge management, as well as renewing and recreating human and physical resources. He also highlighted the need for upgrading, reconstructing,

reconfiguring, and reintegrating in response to evolving needs of organizational stakeholders to achieve competitive advantages. Teece further emphasized on the need for organizations to take prestige in embracing systematic problem-solving, and sharpen its ability to sense opportunities and threats; undertake market-oriented decisions and prioritize enhancement of organizational resources (Barreto, 2010).

Conceptually, the theory is very relevant to the current study. This is because the dynamic capability theory ideologies underpin the constructs of institutional capacity building and completeness of TVET institutions in Nyeri County. Basically, the competitiveness of TVET institutions require the boost of the institutional capacities by embarking on capacity building of employees' competencies, technological skills and financial management. This theory provides a framework for how TVET institutions can build resource capacity in terms of human, physical, and material resources, and how they can address identified threats that impact organizational success.

While the theory might be criticized for presuming the role of a project manager as pivotal in leading human resource capacity building and driving stakeholder engagement, this limitation does not undermine the theory's applicability in enhancing the capacity and competitiveness of TVET Institutions in Nyeri County.

2.8.4 Contingency theory of leadership

This theory is also referred to as the theory of leadership. It was developed by Woodward in 1958. However, since the conception of the contingency ideology, tremendous improvements and revisions have been undertaken including the change of the name of the theory to be known as the theory of leadership. The contingency theory is a leadership theory concerned with the management and behavior of top managers in organizations. The

specific focus of the theory is to elucidate how top management leaders are expected to behave and handle operational and strategic situations that require the input of leaders. The theorist contemplated that, leadership and behavior taken depended on the contest and the conditions of the organization. This meant that the leadership strategies and tactics dispensed by a leader were linked to the environmental situations and contexts at hand.

The size, type and the human resources in the organization as well the type of leadership style professed by the top leader are therefore very critical. This is based on the fact that different organizations utilize and deploy different technologies, experience internal and external business environment threats differently. Therefore, time and organization size and other situational factors were important determinants for underpinning the leadership style that would be in practice. In order for an organization to grow, perform better and attain recognition, the leadership theory argues that the leader ought to embrace different leadership styles based on the situation at hand.

In this study, the contingency theory of leadership underpins the moderator construct of leadership practices. Strategic leaders need to embrace a number of practices, characteristics and styles with regard to the changing business environments. Remaining static to some traditional leadership practices may not necessarily be helpful in addressing the current situations facing many TVETs today. This means that, visionary leaders ought to guide the organizational employees in adopting and accepting the changing technologies, involve members in decision-making, delegate where necessary, take care of the human resource competencies and professional capacities, and create an enabling and conducive working environment for successful achievement of the strategic direction taken by TVETs. This underscores the essence of leadership across all constructs and other

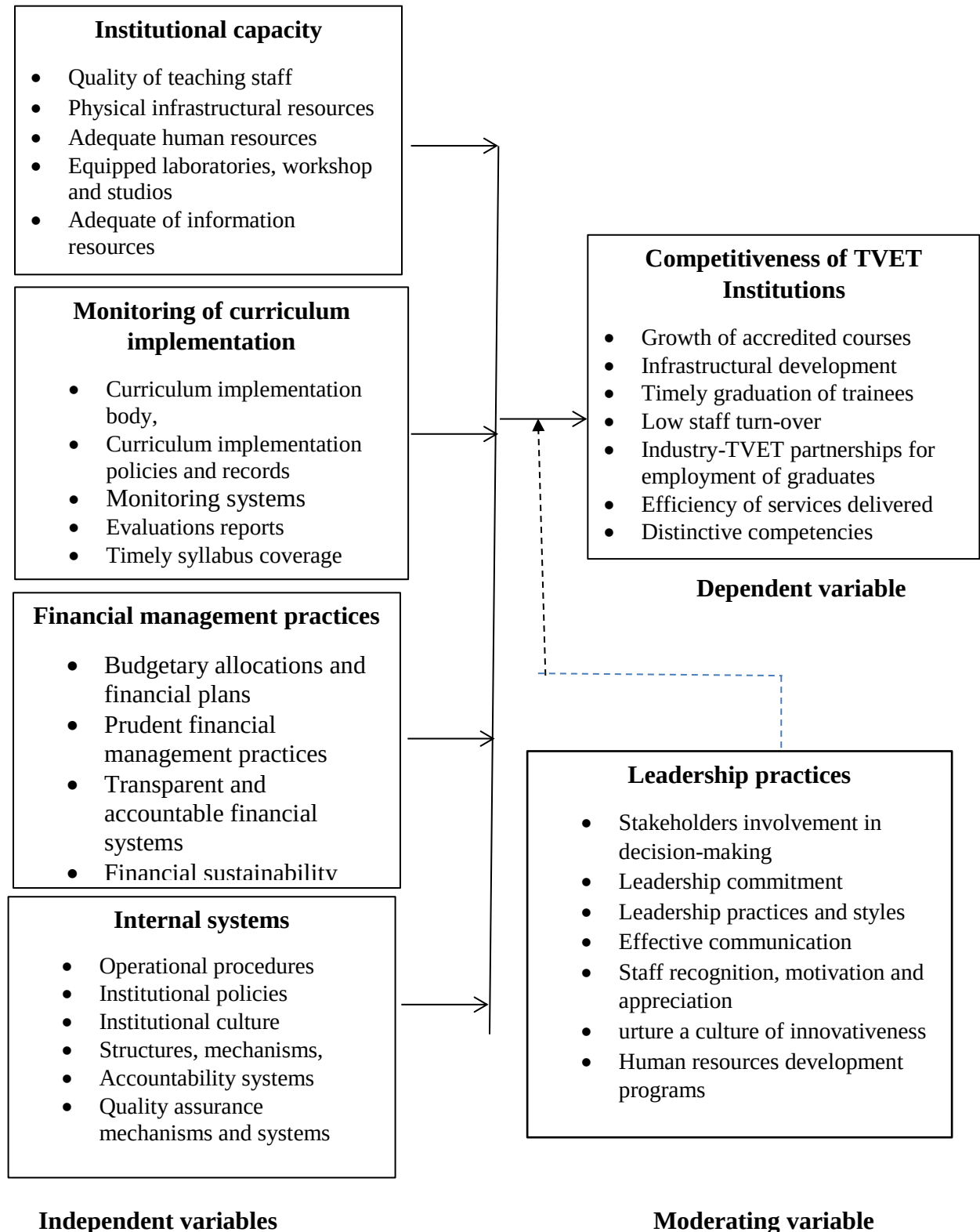
situational variables. This study therefore evaluated if the leadership practices in TVET institutions influence the relationship between the institutional-based strategies and the competitiveness of TVET Institutions in Nyeri County.

2.9 Conceptual Framework

This conceptual framework demonstrates the hypothesized relationship between institutional-based strategies and the competitiveness of TVET institutions in Nyeri County. It also shows the link between the independent and dependent variables which are purported to be influenced by the moderating variable; leadership practices. See Figure 2.1.

Figure 2. 1

Conceptual framework



2.9.1 Description of Variables in the Conceptual Framework

Figure 2.1 outlines a diagrammatic representation reinstating the relationship between institutional strategies (institutional capacity, monitoring of curriculum implementation, financial management practices and internal systems) and competitiveness of technical and vocational training institutions in Nyeri County purported to be moderated by leadership practices.

Institutional capacity is the first variable among the independent variables of the study and it was evidenced by the presence of trainers, principals among other managerial human resources who are fully equipped with required minimum academic qualifications, professional skills and competencies in instructional delivery and pedagogy and other intra and interpersonal skills like communication, technical, technological and human relation skills. Other indicators were the availability of workshops, laboratories, libraries equipped with necessary physical, technological, material infrastructure and a variety of teaching, learning and revision information resources. Presence of regular in-service trainings for trainers and the college marketing departments on rebranding the college also contributed to a good image of institutional capacity.

Monitoring of curriculum implementation fall under the second variable of the current study and its presence was depicted by frequent or regular revision, evaluations, design and development of the TVET curriculum for a variety of courses offered in order to keep up with the regular changing education environments of technologies and trends. The evidence of timely syllabus coverage for learners and been able to meet the course learning objectives and goals were as well mirror aspects of curriculum implementation.

The second last independent variable of the current study feature on the financial management practices in TVET Institutions in Nyeri County. Successful financial management practices were indicated by evidences of embraced financial management tools in the institutions such as budgets, financial reporting and control tools. Clear evidences of financial records and documentation for accountability also implied that the institution manages its finances well. It is also worth noting that an institution which would be adequately equipped with library materials, laboratory and workshop materials, facilities, equipment and good infrastructure is likely to be a good steward of the college financial resources.

Internal systems are also part and parcel of the TVET Institutions institutional-based strategies and this one was be depicted by the availability of adequate human resources, presence of operational procedures guiding the institutions and regulatory, policy and legislative framework guiding the day-to-day operations of the institute. The school culture also provided a hint to the internal efficiencies of the TVET Institution

The dependent variable of the study (competitiveness of TVET institutions) may or may not be influenced positively or negatively by the above said independent variables. Competitiveness of TVET Institutions was measured by aspects on institutional growth of the on offer accredited courses, institutional infrastructural development, timely graduation of trainees, low rates of staff turn-over and positive outcomes on graduates with modern problem-solving skills and competencies.

Leadership practices was the moderating variable which may or may not influence the relationship existing between the institutional-based strategies and the competitiveness of TVET Institutions in Nyeri County. This was represented by style of leadership executed

by the institution's top management and its influence in involving school stakeholders in decision-making giving strategic direction and managing the human resources needs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses important details regarding the area of the study and the research philosophy and approach. Also discussed is the research design and the target population. Further descriptions are on the sampling design, data collection tools and how they were administered. The chapter has also provided the data quality practices and procedures that were followed when analyzing the collected data. The concluding section covers the ethical considerations that was implemented within the course of carrying out the study.

3.2 Location of the Study

The study was done among TVET institutions situated in Nyeri County. This very county covers up to a distance of 3325 square kilometers and borders Kirinyaga County to the East, Nyandarua County to the West, Muranga to the South, Laikipia to the North and Meru to the North East. The County is composed of eight Sub-Counties namely: Kieni East, Kieni West, Mathira East, Mathira West, Nyeri Central, Mukurweini, Tetu and Othaya (County Government of Nyeri, 2021). It has a total of 35 TVET Institutions (County Government of Nyeri, 2021). Their details are shown in Table 3.1.

One key motivation for selecting Nyeri County is the low rate of competitiveness of TVETs in this County as characterized by a gap between enrolment and graduation and slow growth of infrastructures. This scenario is alike, despite the tremendous efforts channelled by the national government and the Ministry of Education like training and development, renovation of polytechnics, equipping the institutions and allocating the

TVETA body to implement TVET policies and frameworks. In light of this, the study seeks to explore the connection between internal efficiency, leadership practices, and the competitiveness of technical and vocational training institutions in Nyeri County. The specific aspects that were investigated included the internal efficiency practices on institutional capacity, monitoring of curriculum implementation, financial management practices, internal system, leadership practices and competitiveness of TVET institutions.

3.3 Research Philosophy

Research philosophy is about the specific paradigm and practice adopted to solicit facts, analyze, report findings and draw inferences regarding study objectives. It comprises the beliefs, perceptions, ideas generated and how new knowledge discovered through carrying out research may be understood, discovered and applied (Saunders, 2016).

Application of research philosophy in a research study enables the understanding, visualization and perceiving the reality of knowledge and underlying situation presented in research (Walliman, 2011). Proper application of research philosophy helps clarify the correlation, interrelatedness and relationships existing among various constructs of the study. This further, clarifies how objectives of the study are identified, which methodology of study is appropriate. It also informs the selection of the appropriate research design and provides clue on appropriate data collection tools, procedures, methods of analyzing collected data, interpretation and integration.

Among the existing research philosophies; that is, realism, post-modernism, positivism, pragmatism, and interpretivism (Bryman, 2012; Saunders, 2016), this study settles on the pragmatic research philosophy. The appropriateness of choosing pragmatic

philosophy in the current study was attributed to its flexibility identifying the most appropriate methodology, approaches and design to solve the identified research gaps and problems. The low level of competitiveness among TVET institutions is a common issue across polytechnics in Nyeri County and beyond. Therefore, adequate understanding of the current underlying situation on competitiveness, internal efficiency and leadership practices requires application of more than one methodology, approaches, designs and tools is indispensable; hence, the choice of pragmatic philosophy.

Lastly, pragmatism approach guided the integration of both qualitative and quantitative data collected through triangulation. That is, qualitative data collected through the few open-ended questions in the questionnaires, interview guides and from focus group discussions as well as the quantitative data from the questionnaires was analyzed separately and sequentially, and then integrated to enable drawing of conclusions. The presentation of analyzed data begun with quantitative facts and then brought in the qualitative ones through logic, thematic and detailed explanations to inform conclusions.

3.4 Research Approach

Research approach refers to the applied techniques by a scientific researcher that guide the structure of the study, data collection and analysis procedures (Cresswell, 2007). Given that the current study utilized a mixed methods approach to probe the current underlying situation, pragmatic approach was the appropriate philosophy for use in this study based on its flexibility to accommodate both quantitative and qualitative approaches in an investigation. Moreover, the four theories namely; the Wheeler model of curriculum development, balance score card model, theory of dynamic capability, and the contingency

theory of leadership guiding the current investigation were easily, verified, validated or refuted using both qualitative and the quantitative data.

Therefore, the validation, modification or rejection of both the theories and null hypotheses required justifying information collected using the questionnaires, interview guides and focused group discussions. This paved an opportunity for respondents to voice their experiences hence, provided rich evidence for answering the research questions in a deeper and comprehensive manner. The use of the different tools not only helped to realize data triangulation but was also instrumental in exploring the prevailing situation with a view to developing appropriate measures for addressing the research problem.

3.5 Research Design

Research design comprises of a logical guideline on how facts and opinions are gathered, measured, interpreted and presented (Babbie, 2014). This study is cross-sectional in nature and henceforth, a cross-sectional descriptive survey research design was adopted to determine the relationship between internal efficiency, leadership practices and competitiveness of technical and vocational training institutions in Nyeri County. The design was regarded suitable in determining the extent to which internal efficiency (institutional capacity, monitoring of curriculum implementation, financial management practices and internal system) affects the competitiveness of TVET institutions Nyeri County in Kenya.

In this survey, the researcher was in a position to obtain facts, opinions and perceptions from the target population regarding institutional capacity, monitoring of curriculum implementation, financial management practices and internal system and

competitiveness of TVET institutions. The information obtained enabled the researcher to describe the current scenario among the TVET institutions in Nyeri County. Furthermore, a descriptive survey research design created a good avenue for the study to obtain responses to the interrogative questions which require explanation as to when, why and what about the competitiveness and internal efficiency of TVET institutions. This enabled the study to provide a detailed description of the state of institutional capacity, monitoring of curriculum implementation, financial management practices and internal systems.

Moreover, the interaction and interrelatedness of the main constructs, that is, internal efficiency, leadership practices and competitiveness of TVET institutions was ascertained and was instrumental not only in predicting future scenarios but also in helping generalize the findings. Cross-sectional survey research design has also been employed in studies such as Sankale et al. (2017), Kipkogei (2018) and Musymi (2021) where parameters on strategic plan, instructional resources and competitiveness of TVET institutions were covered. The fact that previous related empirical studies have used cross-sectional survey research design provided confidence in its choice for this study.

3.6 Target Population

This study collected data from TVET institutions situated in Nyeri County. There are a total of 35 TVETs in the county. The units of observations were the TVETs principals, heads of departments (teaching and non-teaching departments), and students leadership. The TVET Heads of Department constituted the major respondents in this study because they interact with the college leadership and are usually at the center of running a TVET institution. They therefore had a lot to say regarding the internal efficiency practices with reference to institutional capacity, monitoring of curriculum implementation, financial

management practices and internal systems which were believed to be contributing to competitiveness of TVET institutions.

It is important to note that all academic programs, students and teaching staff are linked to a certain department, hence the heads of department were very knowledgeable and resourceful in informing the study. The same applied to all the non-teaching who were also linked to one of the administrative department; hence, the heads of department were very knowledgeable and resourceful in informing the study. There were 160 heads of academic departments and a total of 315 administrative departments among the 35 institutions in Nyeri County. The administrative departments included facility and maintenance, finance, student services department, human resources, admission and registration, procurement, IT department, library, examination.

The school principals were also better placed to give reasonable views pertaining leadership practices and the internal efficiency (institutional capacity, monitoring of curriculum implementation, financial management practices and internal systems). The TVET institutes have a total of 35 principals given that each institution is headed by one CEO. The principals are the CEOs; hence they were the key informants. They were contacted to provide critical information on all constructs of the study. Their views not only enhanced the understanding of scenarios was also significant in informing the probable solutions.

For the student leaders, the study targeted the students' presidents and the academic secretary. Their. Their ideas views and opinions were very critical in the study and

represented views of the entire students' population on aspects of institutional efficiency such as institutional capacity, monitoring of curriculum implementation and leadership practices, and helped to validate information gathered from other category of respondents. There were a total of 245 students' leaders in all the 35 TVET institutions in Nyeri County. Table 3.1 provides a summary of the target population.

Table 3. 1***Target Population***

No.	Name of TVET Institutions in Nyeri County	Principal	No. of Department	No. of students Leaders	Total
1)	Amboni	1	11	9	21
2)	Endarasha	1	11	9	21
3)	Gachuku	1	12	9	22
4)	Gathinga	1	13	9	23
5)	Gathungururu	1	11	9	21
6)	Gathuthi	1	13	9	23
7)	Giathugu	1	13	9	23
8)	Gichira	1	14	9	24
9)	Gitero	1	14	9	24
10)	Githiru	1	13	9	23
11)	Kabebero	1	12	9	22
12)	Kaheti	1	12	9	22
13)	Karatina	1	15	9	25
14)	Karundu	1	13	9	23
15)	Kiaguthu	1	13	9	23
16)	Kiamathaga	1	14	9	24
17)	Kianduiga	1	12	9	22
18)	Kihuyo	1	13	9	23
19)	Kinunga	1	11	9	21
20)	Mbaaini	1	13	9	23
21)	Mung'aria	1	12	9	22
22)	Nairutia	1	16	9	26
23)	Ngorano	1	13	9	23
24)	Othaya	1	16	9	26
25)	Rukira	1	16	9	26
26)	Stanley Mathenge	1	11	9	21
27)	Thangathi	1	14	9	24
28)	Watuka	1	12	9	22
29)	Karundas	1	13	9	23
30)	Nyeri National	1	20	9	30
31)	Mathenge Tti	1	19	9	29
32)	Tetu Tvc	1	15	9	25
33)	Mathira Tvc	1	15	9	25
34)	Kieni Tvc	1	14	9	24
35)	Mukurweini	1	16	9	26
	Total	35	475	315	825

3.7 Sample Size and Sampling Techniques

This section provides a description on the sampling designs and also elaborates how the sample size was arrived at and how the participating respondents were selected.

3.7.1 Sample Size

This is a small representation of the entire target population that a study utilizes to obtain facts, opinions and ideas on the objectives of the study. In order to obtain the number of participating TVET institutes, the study adopted the recommendation articulated by Mugenda and Mugenda (2003) that 10-30% of a study population is representative enough to participate in a study. With regard to this, 30% of the population was sufficient and reliable. Therefore, applying this formula, one gets 11 TVET institutions. The 11 TVET institutes have 11 principals, 11 students' presidents and 176 heads of departments who participated in the study. A summary of sample size is provided in Table 3.2.

Table 3. 2

Sample Matrix

No.	Name of TVET Institutions in Nyeri County	Principal	HoD	Student leaders
1)	Gichira	1	14	2
2)	Karatina	1	15	2
3)	Nairutia	1	16	2
4)	Othaya	1	16	2
5)	Rukira	1	16	2
6)	Nyeri National	1	20	2
7)	Mathenge TTI	1	19	2
8)	Tetu TVC	1	15	2
9)	Mathira TVC	1	15	2
10)	Kieni TVC	1	14	2
11)	Mukurweini	1	16	2
	Total	11	176	22

3.7.2 Sampling Techniques

Sampling techniques refers to the criteria utilized by a researcher to select number of individuals in a population which were representative enough of the targeted group (Bryman, 2012). A systematic sampling technique was utilized to select the number of participating TVETs from Nyeri County. The systematic sampling technique provided each TVET institute an equal chance of participating in the study. The principal from each TVET selected to participate in the study was also be sampled as a key informant. Likewise, the department heads from each TVET institute included in the sample were intentionally chosen to take part in the study. The student participants in the focused group discussions were the student union chairs from each selected TVET, purposefully selected as per the guidelines by Creswell (2014). Their views were considered sufficient and presented from an informed point of view because they usually interact with the TVET management, teachers and fellow students.

3.8 Data Collection Instruments

This study achieved data triangulation by making use of questionnaires, interview guides and focus group discussions to obtain data from the sampled respondents. Detailed description of each tool is provided as follows.

3.8.1 Questionnaires

Questionnaires tools were presented to the heads of departments in the sampled schools participating in the study. The choice for this tool is ultimately because questionnaires are economical when gathering ideas from many informants. Moreover, the exercise of collecting data using questionnaires is usually very quick and consumes less

money. The tools are also not complicated to develop, quantify, scrutinize and analyze in various data analysis software such as Strata and SPSS. The tools also enhance confidentiality and anonymity of respondents.

The heads of departments' questionnaires majorly constituted of close-ended questions on a Likert scale ranging from 1 to 5 with very few open-ended questions. The design and outline of the questions was sectioned in line with the manner in which the study's objectives are presented covering section A to G. Section A covered the demographic details of the respondents, while, sections B, C, D and E comprised questions measuring aspects based on the study's independent variables (institutional capacity, monitoring of curriculum implementation, financial management practices and internal system). The second last segment was section F which contained probing statements on the moderating variable, that is, leadership practices. The very last section, G, was on competitiveness of TVET institutions which is the dependent variable. All the statements and the open-ended questions covered in each section were derived from the reviewed literature in chapter two. The aspects covered are also reflected in the conceptual framework. The heads of department questionnaire is provided in appendix II.

3.8.2 The Interview Guide

This instrument was utilized to seek opinions, clarifications and insights from the TVET principals. Utilization of this particular tool on the said respondents enabled the researcher to obtain very detailed information on leadership practices, policies and internal efficiency mechanisms adopted by TVETs for competitiveness. Doing so also has other advantages including seeking clarity, notwithstanding the fact that the interactivity of the

participating individuals enabled the interviewee to gather non-verbal responses as presented by the respondent's reactions and facial expressions. The interview guiding tool took the shape of the questionnaire where all the questions were sectioned in accordance to the objectives of the study. The questions were mainly endeavoring to gather qualitative data. The questions were few, brief and to the point, requiring the principals to give brief descriptions orally. During the interview session, the researcher made a record of the verbally given ideas by writing in a note book or by using an electronic device with the interviewee's consent. The study came up with concise and relevant questions as guided by the empirical literature reviewed in chapter two. The interview schedule has been provided in appendix III.

3.8.3 Focus Group Discussion

A focus group discussion assimilates to a small, simple, objective and organized group of respondents of similar study characteristics. In this study, the focus group discussion involved the TVET students' leaders. The deliberations are usually moderated by a researcher who is expected to provide lead questions for discussion and also ensure that conversation is focused to the identified aspects of the study (Prasad & Garcia, 2017). The organization of the lead questions covered on the institutional capacity, monitoring of curriculum implementation, financial management practices, internal system, leadership practices and the competitiveness of TVET institutions in Nyeri County. Other eminent questions were probed depending on issues raised by student leaders during the discussion. A focused group interview tool is provided in appendix IV.

3.9 Piloting of Research Instruments

This refers to a testing mechanism with the aim of doing away with inconsistencies, shortcomings and contents of the research instruments by engaging a population not of a kind but one that exhibits similar characteristics to the sample population. Piloting is embraced specifically to enable the researcher rectify the tools so that at the end of it all, reliable, valid, accurate and appropriate information is gathered to inform credible findings (Bryman, 2012).

In this study, pre-testing was done in Kirinyaga County which is neighboring Nyeri County where a pilot population was sampled randomly from Kaitheri and Ndiriti polytechnics. The choice of Kirinyaga County rests in the fact that it possesses similar characteristics to Nyeri County. The County borders each other. The two polytechnics have adequate population which was representative enough for the piloting activity. Owing to the fact that TVET institutions operate under common umbrella body Technical and Vocational Education and Training Authority (TVETA), standards, policies and frameworks also justify the common practices undertaken in each county irrespective of the demarcation and boundary differences. During the piloting, the targeted population groups that are common to those who participated in the real data gathering activity included principals, heads of departments and students. These groups participated in the interviews, filling in of the questionnaires and contributing in the focus group discussions respectively as described in this study. Simple random sampling technique was utilized to select six heads of departments and six students. Since the principals were only two from Kaitheri and Ndiriti polytechnics, both of them were purposively included in the piloting.

3.10 Validity of Research Instruments

This is observed to make sure the data gathering tools are able to enlist sound opinions from responders. This study observed content, face, criterion and construct validity on the constructed tools. To achieve content validity, working close with the supervisors was sought. This is because they guided, critiqued, advised and evaluated the tools constructed with respect to the content ascribed therein. Moreover, existing published literature on institutional capacity, monitoring of curriculum implementation, financial management practices, internal system, leadership practices and competitiveness of TVET institutions were instrumental when coming up with the specific sentiments and open-ended questions in all the three tools.

For face validity, the researcher ensured clear sectioning in the design of the tools to ensure each question and or sentiments are presented in a manner that is legible and organized. Moreover, the researcher ensured that clear instructions are provided in each section to ensure clear understanding of what is expected of respondent. This assures good facial attractiveness and organization. The practice of piloting the research instruments at Kaitheri and Ndiriti polytechnics in Kirinyaga County in which pre-testing responders with similar characteristics, respond, provided good ground to address any challenges arising from the way questions are presented with respect to the objectives of the study. For construct validity, all the face validity mechanisms were informative enough to address the same. These include, sub-heading the tools into organized sections.

In addition, the researcher consulted subject experts and allocated supervisors for advice and direction regarding comprehensive coverage of all aspects endeavored to be measured in a given constructs. The researcher also interacted with previously conducted

research on institutional capacity, monitoring of curriculum implementation, financial management practices, internal system, leadership practices and competitiveness of TVET institutions objectives to get indicators of a constructs which ought to be measured. Criterion validity was also considered in this study by crosschecking and adopting some criteria employed by past empirical studies. Some of relevant studies are by Muigai (2021), Masale (2018), Peters, 2021 and Kipogei (2018).

3.11 Reliability of Research Instruments

Reliability of tools means that they are able to elucidate common outcomes even when replicated across different populations with common characteristics. This study achieved the reliability of research instruments by two major means; which is, the piloting exercises and the other is internal consistency which was realized through computation of a Cronbach alpha value. Procedurally, collected data from piloting was keyed in SPSS version 26 and thereafter compute a Cronbach alpha value. An alpha value of 0.7 and above was sufficient to satisfy the instrument reliability (Bryan, 2014).

3.12 Data Collection Procedures

The researcher obtained an introductory letter from the Directorate of Postgraduate Studies which was useful in the application of a research permit from NACOSTI. The permit was presented to TVET principals for authorization to involve the institution population to participate in the study. When consent is obtained on the same, the following procedures guided the administration of the questionnaires and conduction of the interviews and focus group discussions.

3.12.1 Procedure for Administering Questionnaires

After the TVET principal approves the researcher to engage the heads of departments in the data soliciting activity, arrangements and agreement on the day for filling the questionnaires was established. Preparations were started off where four research assistants were hired and trained appropriately pertaining the ethics of data collection, aim of the study, intent of the gathered data and expected professional demeanor at the field. On the actual day, respondents were briefed on confidentiality, privacy assurance and the need for their input in order to fulfill the aim of the research. The questionnaires were then issued to the heads of departments and collected after they finish attempting the questions. The respondents who were not available to fill the questionnaires immediately, were given one week and have the tool picked later. Completed questionnaires were collected and serialized chronologically before the sorting exercise.

3.12.2 Procedures for conducting the interview

Once the TVET principals agree with the researcher on a meeting venue, time and date for interview, the researcher reminded them a day earlier via phone call. When conducting the interview, no research assistant was involved. Before commencing the interview, permission was sought from every individual to allow noting down or recording the principals' responses to questions. The audio recording was done by the researcher using a smartphone. At the end of the interview, each principal was acknowledged and appreciated orally and also with thank you card.

3.12.3 Procedures for conducting focused group discussion

The selected students for participating in the focused group discussion were notified through a phone call. Contacts from the students' president students were sought from the concerned TVET institution. The said student leader was contacted via mobile and request each to give consent to participate in the focused group discussion and hence be added in a WhatsApp group where communication on hotel venue, time of meeting and the aim of the study were posted. The focus group discussions comprised of one group. The researcher motivated the willing students by facilitating them with fare and refreshments from the booked local hotel where the discussion was undertaken. When students turned up at the identified local hotel, the researcher called the meeting to order and moderate the discussion so as to stay on focus as guided by the variables of the study. It is at this stage that the researcher sought consent to do recording of the discussion by use of phone video recording facility and by taking down some notes through the aid of two research assistants.

Specifically, the researcher posed a question for each variable to the respondents who were required to contribute to the motion by providing ideas, perceptions, opinions and insights. To make the discussion flowing and uninterrupted, two research assistants assisted in the recording of the ongoing discussion. A vote of thanks was made to all participants at the end of the activity.

3.13 Data Processing and Analysis Procedures

Both quantitative and qualitative data collected were analyzed as provided in the following sections.

3.13.1 The Analysis of Quantitative Data

Quantitative data was obtained using questionnaires. The completed questionnaires were checked for completeness and the good ones were serialized chronologically. The data was hence entered into Statistical Package for Social Sciences (SPSS) version 26 after completing the data clean up exercise. Both the variables and indicators of the objectives guiding the study were coded and transformed accordingly to make composite latent values for use in the parametric analysis.

Descriptive statistics were computed accordingly. These comprised of mean, mode, standard deviation and percentages in order to establish the current status quo of the study variables. Also, inferential analysis such as regression and correlation were used to determine the extent of relationship and influence institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems pose on the competitiveness of TVET institutions. These also enabled the testing of research hypothesis. Multiple linear regression analysis was also ascertained in order to determine the moderating effect of leadership practices between institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems and competitiveness of TVET institutions in Nyeri County. The multiple regression model used is presented below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_j Z_j + \beta_{ij} X_i Z_j + \varepsilon$$

The above model is in three levels;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots (i)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_z Z_j + \varepsilon \dots\dots\dots (ii)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_j Z_j + \beta_{ij} X_i Z_j + \varepsilon \dots\dots\dots (iii)$$

Where:

Y is the competitiveness of TVET institutes

β_0 is the constant value,

β_1 , β_2 , β_3 and β_4 are the coefficients of institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

X_1 , X_2 , X_3 and X_4 are institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

Z_j is the leadership practices

B_j is the coefficient of the leadership practices

$X_i Z_j$ is the interaction term between variable X_i ($i = 1, 2, 3, \& 4$) and leadership practices

B_{ij} is the coefficient of the interaction term.

ε is the error term.

Before adopting inferential statistical analysis such as correlation and regression analysis, diagnostic tests were conducted to ensure the requisite assumptions are not violated. These include normality, linearity, autocorrelation, multicollinearity and heteroscedasticity problem. Analysed data was presented using figures and tables.

3.13.2 Procedures for Analyzing Qualitative Data

Qualitative data was obtained from the few open-ended questions in the heads of department's questionnaires, the principal's interview and student's focus group discussions. The information gathered was scrutinized to identify the themes. Then, the identified themes were categorized inductively into patterns. The identified patterns categorized them to enable ease of interpretation and integration with quantitative arguments. Thereafter, both deductive and inductive analysis techniques (Creswell, 2012)

were adopted accordingly right from themes identification to systematic categorization of themes along the study constructs. The findings were reported and presented in form of narrations, excerpts and descriptive statements alongside the quantitative data.

3.14 Ethical Considerations

The researcher sought an introduction letter from KeMU, which enabled for application of a research permit from NACOSTI. Before engaging and convincing any respondent from Nyeri County TVET institutes, the authority to involve the sampled individuals were obtained from the TVET principals. All respondents were asked for consent to participating in the study by signing the consent form (see Appendix I). The researcher briefed the respondents on the study intents by explaining the purpose of the study. Respondents' participation in the research activity was clarified and was on voluntarily exercise.

Both the collection process and the utilization of the data adhered to confidentiality and privacy parameters. Specifically, respondent answering the administered tools maintained a high level of anonymity. All sources consulted while writing this study were acknowledged through proper citing and referencing using the university preferred style which is APA 7th edition manual. Honesty, integrity and truthfulness was also partaken by avoiding data fabrication.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The preceding chapter described the methodology used in this study, which sought to identify the relationship between internal efficiency, leadership practices, and the competitiveness of TVET institutions in Nyeri County, aiming to propose ways to improve the quality of graduates produced. In this chapter, the findings based on the main variables are presented, interpreted and then discussed accordingly. The discussion part was enriched by relating it with past studies hence pointing of areas of departure or concurrence. The presentation of the results is done per the variable to enhance coherent interpretation and understanding. The quantitative results for each variable are presented first followed by the qualitative findings. The quantitative findings which entailed descriptive and inferential analysis were predominant, while, the qualitative findings were largely explanatory, hence integration of the two results was done during the interpretation of the findings. This enabled the researcher to not only obtain new insights on internal efficiency, leadership practices and competitiveness of TVET institutions, but to also explain rationale of phenomenon observed in the study.

After the presentation and discussion of results for each variable, the study provides results of a multivariate linear regression analysis to determine the relationship between internal efficiency, leadership practices and competitiveness of TVET institutions. This enabled the researcher to test the overall goal of this study; that is, the influence of internal efficiency on the competitiveness of TVET institutions, and to further determine whether leadership practices moderate the relationship between internal efficiency and the

competitiveness of TVET institutions in Nyeri County. In the first instance, the study has presented information about response rates. This is followed by results regarding background information of respondents. The reliability and diagnostic tests on internal efficiency, leadership practices and competitiveness of TVET institutions in Nyeri County are then presented to inform the analysis statistical techniques used in this study.

4.2 The Study's Response Rate

In this study, data was gathered from HODs, principals and students leaders from TVET institutions in Nyeri County. The questionnaire was the main tool for collecting data in this study and was filled by the HODs. The HODs recorded an overall response rate of 87% as provided in Table 4.1.

Table 4. 1

Response rate for HODs

No.	Name of TVET Institutions in Nyeri County	Sample size for HoDs	No. of returned questionnaires	Response rate
12)	Gichira	14	12	86%
13)	Karatina	15	14	93%
14)	Nairutia	16	15	94%
15)	Othaya	16	11	69%
16)	Rukira	16	15	94%
17)	Nyeri National	20	17	85%
18)	Mathenge Tti	19	17	89%
19)	Tetu Tvc	15	13	87%
20)	Mathira Tvc	15	14	93%
21)	Kieni Tvc	14	12	86%
22)	Mukurweini	16	13	81%
	Total	176	153	87%

The study involved eleven TVET institutions where a total of 176 HoDs were issued with questionnaires. Out of the 176 questionnaires, 153 valid ones were returned

and considered in the analysis. This represented an overall response rate of 87%. The response rate from each TVET institute is shown in Table 4.1. This concurs with Chepkoech (2021), who achieved a 90% response rate from TVET Heads of Departments in a study aimed at exploring the impact of TVET education on economic development in the western Kenya region. Additionally, Mugenda and Mugenda (2003) suggest that a response rate above 60% sufficiently allows a researcher to gain a thorough understanding of the phenomena under investigation. For principals of TVET institutes, the study had targeted 11 out of 35 and all of them were available Yaweh (2015) also recorded a high level of commitment and seriousness in research of TVET principals by registering a response rate of 100% in Siaya Sub-County. A hundred response rate was also recorded for students' leaders where, all the 22 turned up for focused group discussions. The prior arrangement made by the researcher with the CEO of each of the participating TVET informed the high response rate. In cases where the principals were not available, the deputy principals were interviewed accordingly. The same applied to students' leaders, where the targeted official was not available, another delegated official was contacted for focused group discussions.

4.3 Background Information of Respondents

The participants of this study were HODs, principals and students leaders from TVET institutions in Nyeri County. Particular background information of respondents was gathered to enhance the understanding of the findings of the study.

4.3.1 Demographic Characteristics of Heads of Department

The Heads of Department (HODs) were the main respondents in this study. The demographic information gathered from HODs was about gender, qualification, and work experience. The results are presented in Tables 4.2.

Table 4. 2

Demographic Characteristics of HODs

	Description	Frequency	Percent
Gender	Male	91	59.2
	Female	62	40.8
	Total	153	100.0
Education qualification	College Certificate	33	21.6
	Diploma	70	45.8
	Bachelor degree	47	30.7
	Postgraduate diploma	2	1.3
	Master's degree	1	.7
	Total	153	100.0
Years of work experience	Less than a year	19	12.4
	Between 1- 5 years	61	39.9
	Between 6 -10 years	27	17.6
	Between 11-15 years	38	24.8
	Over 21 years	8	5.2
	Total	153	100.0

The results in Table 4.2 shows that there were more male than female HODs at TVET institutions in Nyeri County. The male HODs were, 91(59.2%) while female were 62(40.8%). One of the reason for variation of gender in leadership positions at TVET institutions may be explained by the nature of courses offered. Similarly, Chepkoech (2021) noted that HODs at TVET institutions in Siaya Sub-County were dominated by the male gender. The existence of gender parity was however explained to be diminishing with the adoption of government policy on gender mainstreaming which required a minimum of 30% of female representation in leadership. Also, Mwashighadi et al. (2023) presented results of a kind concerning the dominance of male HODs at TVET institutions in the coastal region.

The study also investigated about the highest educational qualification of HOD. The results presented in Table 4.2 shows that most HODs, 70(45.8%) had Diploma qualification, 47(30.7) Had Bachelor degree, 33(21.6%) had college certificate 2(1.3%) postgraduate diploma, while 1 (0.7%) had Master's degree. This indicates that approximately one third, 50(32.7%) of HODs in TVET institution in Nyeri County had from Bachelor qualification and above. The HODs qualifications herein demonstrate their expertise and knowledge. Nevertheless, there is a slight weakness on the qualification of HODs considering that most TVETs offer Certificate and Diploma courses and a substantial number of HODs holds diploma. It would be ideal if all HODs are at least bachelor's degree holders to command academic leadership in their department. The same was acknowledged by Mwashighadi and Kitainge (2023) that bachelor's degree qualification for heads of department in TVET institution was adequate since most trainees are training for certificate, artisan and diploma courses. The results are contrary to the

findings presented by Aluoch (2021) that, 60% of HODs had bachelor degree educational qualifications in Nairobi and Rift Valley. Adequate educational qualifications were linked to demonstrate reliability of results by Aluoch (2021). Mwashinghadi and Kitainge (2023) conflicts the submitted findings in that, HODs among TVET institutions in the coastal region were dominated by degree and masters qualification in different fields of study.

Regarding the years of work experience, the findings shows that most HODs 61(39.9%) had worked between 1 and 5 years; 38(24.8%) had between 11 and 15 years. Only 8(5.2%) had over 21 years of work experience. From the results, it is clear that approximately half of HODs; that is, 73(47.6%) had work experience as from 6 years and above. The findings show that the HODs were adequately experienced. This study regarded HODs accumulated work experience as sufficient in addressing the internal efficiency, providing leadership, and enhancing competitiveness of the TVET institutions in Nyeri County. These results contradict what was found by Koech (2018) on the working experience of HODs in Rift Valley TVET institutions. Koech (2018) expressed that, 71.9% of HODs had worked in their current job positions between 0-5 years. The presented results further reaffirmed (2021) who asserted that, adequate working experience for TVET staff in leadership positions determine strategic planning and implementation of competitive objectives.

Regarding background information of principals of TVET institutions in Nyeri County, the study was only interested in understanding the number of years one had served as a principal of a TVET to which all principals indicated over 7 years work experience. Obviously, the principal of a tertiary college is expected to be experienced in order to

provide effective academic and administrative leadership. The seven years was sufficient for one to have mastered the art of effective leadership, and to have gained experience on mechanisms for improving internal efficiency to achieve the desired competitiveness of a TVET institute. Koech (2018) argued that, principals at TVET institutions in rift valley region had worked in the current position for over ten years. On the other hand, according to Kipkirui (2021) adequate working experience for TVET heads is critical in understanding organizational culture, reinforcing good leadership and sustained competitive advantage by the institution.

For students leaders' respondents from TVET institutes in Nyeri County, the researcher first asked them about their year of study and the course one was undertaking at their institution. Data collected from students' leaders indicated that most were 2nd year students and a few 3rd year. These results were in line with The Guidelines On Student Leadership And Governance At Technical Vocational Education And Training Colleges (1992) which elaborated the qualifications of students in university political leadership positions to at least having done one module of study which is equivalent to year one. The current study held that any student who is in the 2nd year of study was assumed to have gained sufficient familiarity with internal systems, internal efficiency and the nature of leadership practices prevalent at their institutions. The responses to these constructs was postulated to influence the competitiveness of TVETs.

Data collected during focused group discussion further indicated that the students leaders were undertaking various courses that included certificate in building and civil engineering, certificate in electrical and electronics technology, diploma in civil engineering, diploma in catering and accommodation, diploma in automotive engineering,

certificate in food processing, and plumbing grade 3. The results demonstrated that TVET institutions in Nyeri County were offering a variety of courses and that students leaders were well spread across various academic department. The responses from students' leaders on internal efficiency, leadership practices and competitiveness had a wider scope of representativeness. This boosted confidence in the generalization of results of this study. The same was also noted in Liberia (Zinnah and Jackollie, 2020) that, TVET institutions offer a variety of proficiency and diploma courses in agriculture, building technology, engineering among others.

4.4 Reliability of the Data

The reliability of the collected data was first confirmed before the same was used in the analysis. The concern of reliability was particularly on the main variables of the study, for which Cronbach's alpha values were calculated accordingly. The computed Cronbach's alpha value for each variable is presented in Table 4.3.

Table 4. 3

Reliability of the data

Variables	Reliability of questionnaires from Trainees
• Institutional capacity	.894
• Monitoring of curriculum implementation	.937
• Financial management practices	.965
• Internal systems	.936
• Leadership practices	.980
• Competitiveness of TVET institutions in Nyeri County	.902

Table 4.3 shows that the Cronbach alpha value was more than 0.7 for each variable. Institutional capacity (Cronbach's alpha = 0.894): The high reliability coefficient of 0.894

indicates that the items used to measure institutional capacity were consistent and reliable. This suggests that the questionnaire items effectively captured the different aspects of institutional capacity, such as human resources, physical infrastructure, and resources available at the TVET institutions.

Monitoring of curriculum implementation (Cronbach's $\alpha = 0.937$): With a reliability coefficient of 0.937, the items used to measure the monitoring of curriculum implementation were highly reliable and consistent. This means that the questionnaire items accurately assessed the processes and practices related to monitoring the implementation of the curriculum in TVET institutions.

Financial management practices (Cronbach's $\alpha = 0.965$): The reliability coefficient of 0.965 is exceptionally high, indicating that the items used to measure financial management practices were highly reliable and consistent. This suggests that the questionnaire items effectively captured various aspects of financial management practices, such as budgeting, accounting, and resource allocation.

Internal systems (Cronbach's $\alpha = 0.936$): With a reliability coefficient of 0.936, the items used to measure internal systems were highly reliable and consistent. This implies that the questionnaire items accurately assessed the internal systems and processes within the TVET institutions, such as administrative procedures, quality assurance mechanisms, and operational efficiency.

Leadership practices (Cronbach's $\alpha = 0.980$): The reliability coefficient of 0.980 is exceptionally high, indicating that the items used to measure leadership practices were highly reliable and consistent. This suggests that the questionnaire items effectively

captured various aspects of leadership practices, such as decision-making, communication, and strategic direction.

Competitiveness of TVET institutions in Nyeri County (Cronbach's alpha = 0.902):
With a reliability coefficient of 0.902, the items used to measure the competitiveness of TVET institutions were highly reliable and consistent. This implies that the questionnaire items accurately assessed the different aspects of competitiveness, such as market relevance, employability of graduates, and industry partnerships.

The results meant that the data collected for each variable had a high reliability value, and were therefore consistent in measuring the intended constructs, hence they were justified to be used in the analysis (Hagman, 2023). According to Kabir (2018), a data set that have an alpha value from 0.70 and above is adequate. Kabir further described alpha value of 0.80 is good, while 0.90 and above is termed as excellent.

4.5 Diagnostic Tests

The collected data on the study variables was diagnostically checked for non-violation of conditions required before carrying out linear regression and correlation analysis. In the first instance, data of the study were checked for normality condition using P-value, histogram and box plot. The study also checked for linearity of the dependent and independent variables; the auto-correlation and heteroscedasticity problem; and finally the multicollinearity assumptions of the study variables as pointed out by Waithima (2020). By testing for these assumptions before beginning the actual data analysis, researchers can ensure that the data meets the requirements of the statistical techniques they plan to use. Failure to address violations of these assumptions can lead to biased and unreliable results,

incorrect interpretations, and potentially invalid conclusions (Waithima, 2020). Testing for these assumptions also helps researchers identify potential issues with the data and guides them in choosing appropriate remedial measures, such as transformations, robust standard errors, or alternative statistical techniques. This ensures that the analyses are conducted correctly and that the results are valid and reliable.

Although diagnostic tests are not pre-requisite for calculating mean and standard deviation, it was also important to note that if the data violates the assumption of normality, the mean and standard deviation may not be the most appropriate measures of central tendency and variability, respectively. In such cases, alternative robust measures, such as the median and interquartile range (IQR), may be more appropriate.

The study variables were transformed where X_1 = institutional capacity; X_2 = monitoring of curriculum implementation; X_3 = financial management practices; X_4 = internal systems; M = leadership practices and Y is the dependent variable which is equals to competitiveness of TVET institutions in Nyeri County. The hypothesis for each independent variable was tested after presentation of descriptive statistics hence the need to test these assumption upfront.

4.5.1 The Normality Test

In this study, the Shapiro-Wilk statistic were used to confirm whether data was normally distributed. Both the Kolmogorov-Smirnov^a and Shapiro-Wilk test statistics values for each variable are shown in Table 4.4.

Table 4. 2

Shapiro-Wilk Test on internal efficiency, leadership practices and competitiveness of TVET institutions in Nyeri County based on data from HODs

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
X1	.072	153	.053	.988	153	.190
X2	.065	153	.200*	.990	153	.316
X3	.076	153	.062	.991	153	.414
X4	.061	153	.200*	.984	153	.083
M	.071	153	.057	.988	153	.187
Y	.044	153	.200*	.989	153	.308

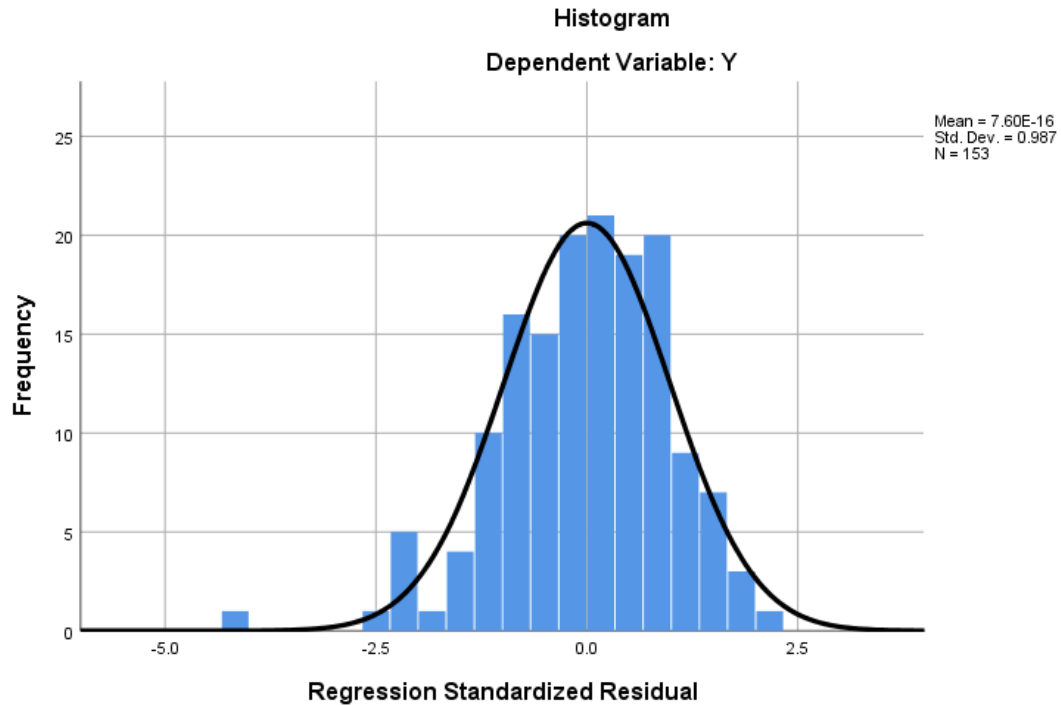
*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

According to the results presented in Table 4.4 both the Kolmogorov-Smirnov^a and Shapiro-Wilk are showing insignificant P-values for internal efficiency constructs (; X₁, X₂, X₃, and X₄), leadership practices (M) and competitiveness of TVET institutions (Y). The Shapiro-Wilk P-values are: X₁ = .190; X₂ = .316; X₃ = .414; X₄ = .083; M = .187 and Y = .308. The finding indicate that the data did not violate the normality condition (Waithima, 2020). To further confirm the normality status of the data, histogram chart was generated on the dependent variable (competitiveness of TVET institutions) and the results are shown Figures 4.1.

Figure 4. 1

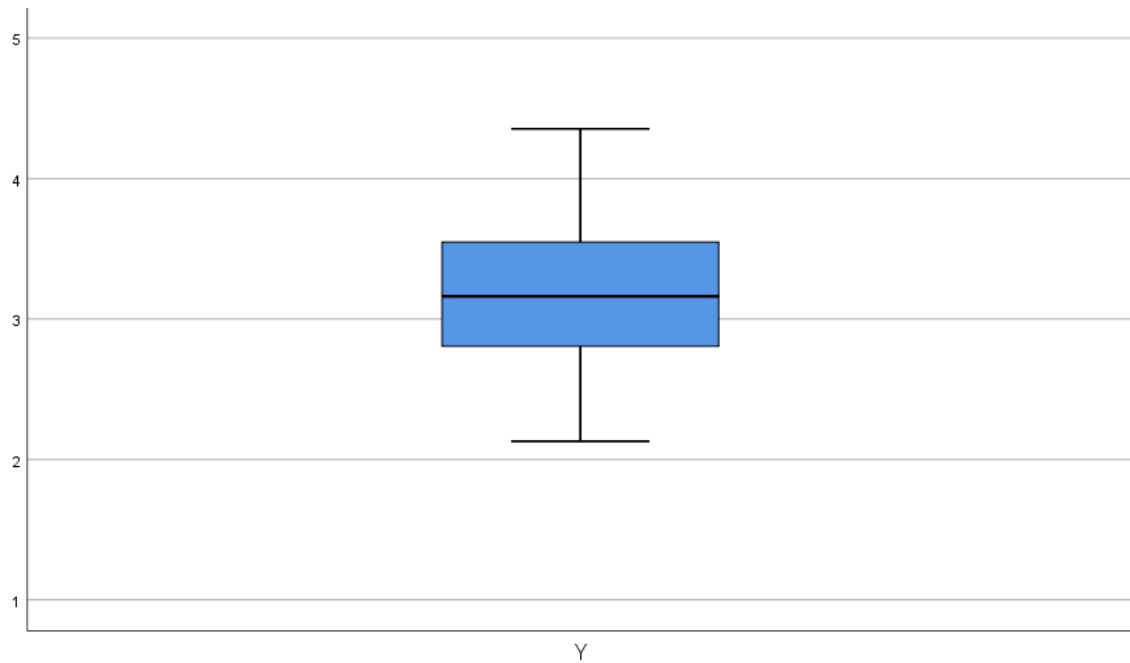
Histograms on competitiveness of TVET institutions in Nyeri County



The histogram in Figures 4.1 shows that a slight skewness of the data. However, the skewness is not weighty hence data was regarded as having normal distribution. The slight skewness noted in Figure 4.1 necessitated a box plot to be generated to counter-confirm the normality of the data. The results of box plot are presented in Figure 4.2.

Figure 4. 2

Box plot on competitiveness of TVET institutions in Nyeri County



The box plot in Figure 4.2 shows a fairly balanced whickers hence indicating no presence of outliers, hence the data do not significantly deviate from normality.

4.5.2 The Linearity Test

The next assumption checked on about linearity between the dependent and independent variables. Data drawn from a normally distributed target population assumes that the relationship between the independent variable and dependent variable is linear in nature. The findings in linearity was ascertained using P-value and through scatter plots along the line of best fit. The P-value of each independent variable is shown in Table 4.5.

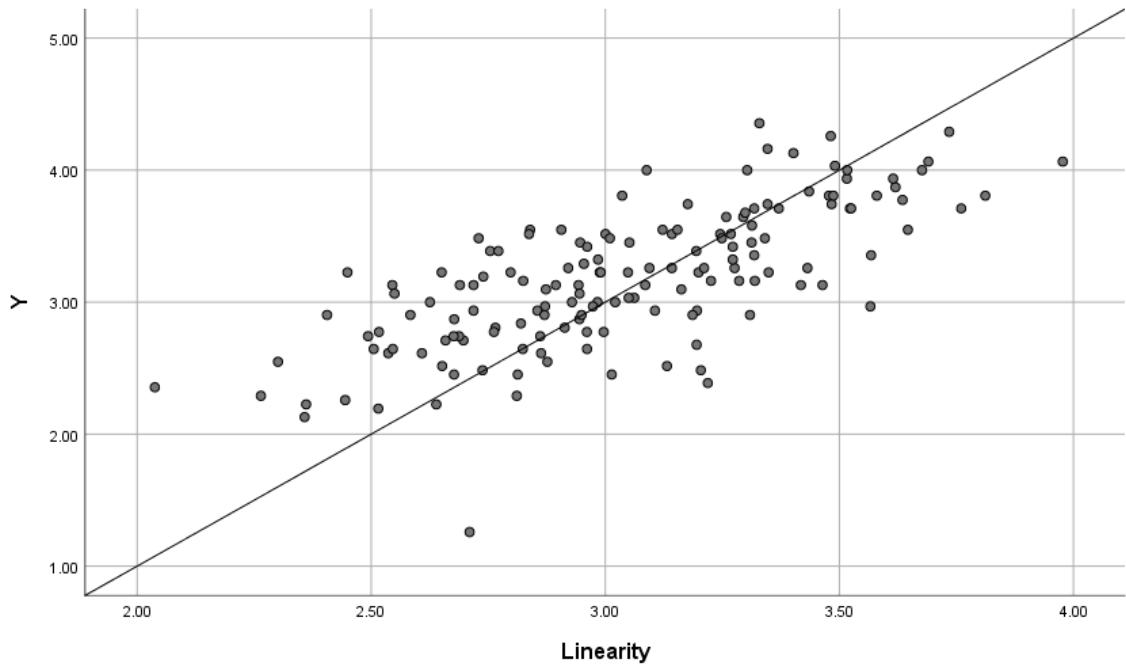
Table 4. 3***Linearity test on internal efficiency and competitiveness of TVET institutions***

		Sum of		Mean		
		Squares	df	Square	F	Sig.
Y * X1	Linearity	9.623	1	9.623	40.640	.000
Between	Deviation	3.849	31	.124	.524	.980
Groups	from					
	Linearity					
Y * X2	Linearity	16.327	1	16.327	89.745	.000
Between	Deviation	2.998	27	.111	.610	.931
Groups	from					
	Linearity					
Y * X3	Linearity	.240	1	.240	.827	.045
Between	Deviation	6.479	30	.216	.743	.825
Groups	from					
	Linearity					
Y * X4	Linearity	12.300	1	12.300	62.592	.000
Between	Deviation	9.737	50	.195	.991	.504
Groups	from					
	Linearity					

The findings in Table 4.5 shown that there is a significant linearity between each independent variable and dependent variable, where; $Y * X_1 = .000$; $Y * X_2 = .000$; $Y * X_3 = .045$; and $Y * X_4 = .000$. The results further show that the deviation from linearity is insignificant for each independent variable as indicated by an insignificant P-value for deviation from linearity ($Y * X_1 = .980$; $Y * X_2 = .931$; $Y * X_3 = .825$; and $Y * X_4 = .504$). The linearity condition was further ascertained graphically by generating scatter plots and drawing a line of best fit as shown in Figure 4.3.

Figure 4. 3

Scatter plots showing the linearity of internal efficiency and competitiveness of TVET institutions



According to the results in Figure 4.3, the scatter points are converging together even as one move from left to right along the line of best fit. This demonstrate a certain amount of linearity between internal efficiency constructs (X_1 , X_2 , X_3 , X_4) and competitiveness of TVET institutions. Therefore, the results in Table 4.5 and Figure 4.3 provide evidence that there is significant linearity between each independent variable and dependent variable.

4.5.3 The Autocorrelation Test

In this study, the auto-correlation problem of aspects of independent variables were checked using the Durbin-Watson statistics. The auto-correlation results are shown in Table 4.6.

Table 4. 4

The Autocorrelation test on internal efficiency and competitiveness of TVET institutions in Nyeri County

Variables	Durbin-Watson
X1	1.622
X2	1.779
X3	1.843
X4	2.416

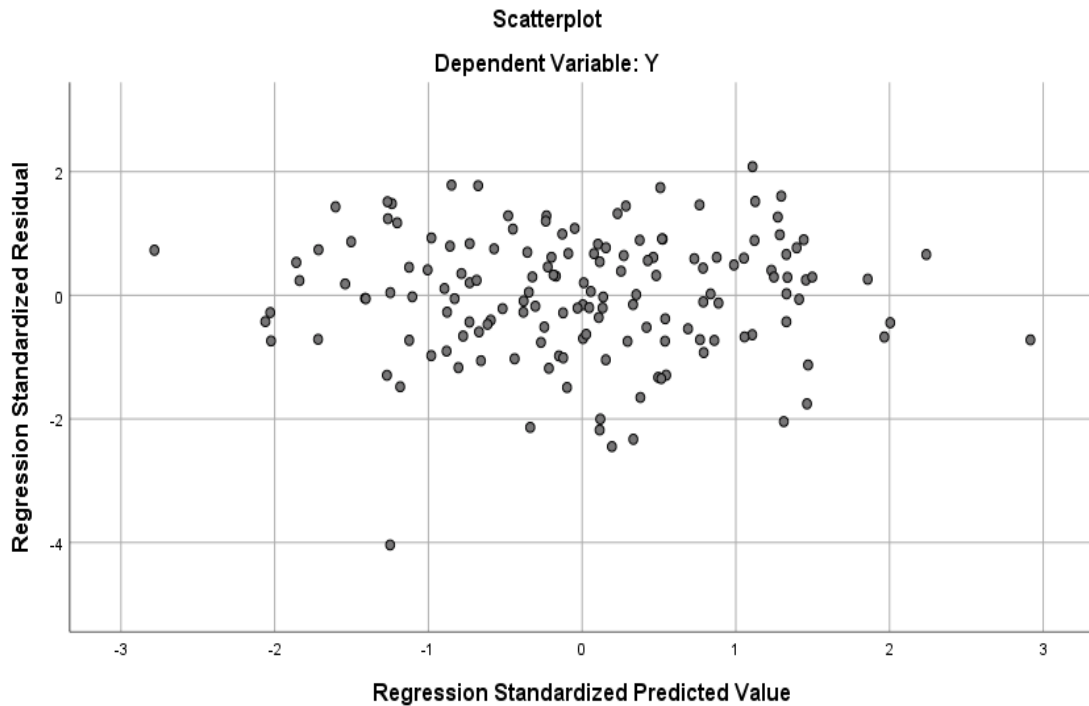
Table 4.6 shows the Durbin-Watson statistics values for each independent variable. In this case, the values are around 2 and above 0.8 for each predictor variable (Taylor, 2023), and therefore, the violation of the condition was not noticed.

4.5.4 The heteroscedasticity test

The heteroscedasticity problem is a problem that should not be present for data which regression analysis is expected to be used. Paraphrase these not to lose its original meaning The extent to which scatter points are dispersed was useful in determining heteroscedasticity problem in the data. The findings are presented in Figures 4.4.

Figure 4. 4

Heteroscedasticity test on internal efficiency and competitiveness of TVET institutions



The scatter graph shown in Figure 4.4 indicate scatter points that are largely defused, hence failing to form an established patter along the rectangular graph. The scatter points are largely dispersed and are not depicting any definite pattern; hence, there is no heteroscedasticity problem in the study data.

4.5.5 The multicollinearity test

The current study wanted to regress all the predictor variables on the dependent variable to assess the overall purpose of the study. In such multivariate linear regression analysis the predictor variables are expected to satisfy the multicollinearity condition. The

multicollinearity condition was checked by computing the Variance Inflation Factor (VIF) for each independent variable (X_1 , X_2 , X_3 , X_4). The findings are presented in Table 4.7.

Table 4. 5

Multicollinearity Test on internal efficiency and competitiveness of TVET institutions

Variable	VIF - Trainees data
X1	1.199
X2	1.422
X3	1.014
X4	1.219

According to the findings in Table 4.6, each construct of internal efficiency had a VIF that was below 5; that is, $X_1 = 1.199$; $X_2 = 1.4.22$; $X_3 = 1.014$; and $X_4 = 1.219$. Since the VIF is between 1 and 5 (Grande, 2015), the study concluded that the data had no multicollinearity problem.

From the foregoing diagnostic tests carried out on the five assumptions of linear regression, it was clear that all the conditions were satisfied and where there slight deviation then such deviation was not significant. Consequently, the non-violations of the five conditions provided evidence to adopt parametric tests, which included Pearson correlation analysis, moderated multiple linear regression to assess the interplay of internal efficiency, leadership practices and competitiveness of TVET institutions in Nyeri County.

4.6 Findings on the Main Variables of the Study

The presentation and discussion of quantitative and qualitative findings of each variable adopted a concurrent embedded research design of mixed methods approach. In this study, the information gathered from the HODs through questionnaires was largely descriptive, and was hence significant in forming the basis of the argument in this study.

The qualitative data from the open-ended questions in the questionnaires, and the responses from interview questions and focused group discussions were then integrated /embedded to expand the observations and enrich the discussion of each variable. In that connection, the findings from HODs are presented first then followed by results from principals and students leaders in an embedded manner. The presentation of the findings on the main variables commences with results based on the dependent variables followed by independent variables and then moderating variable in that order. In presenting results for each independent variable, the study first presents descriptive results, followed by inferential statistics and then qualitative analysis respectively. This facilitate the understanding of results of each variable.

During data analysis stage, data was transformed to aid better understanding of variables. The transforming of data enabled the researcher to come with latent variable whose summation further enabled computation of mean and standard deviation for each transformed variable which were utilized to aid interpretation of the findings. The summation of responses was also significant during the evaluation process of the results. The process of interpreting frequencies and percentages considered the responses on strongly agree and agree options to imply general agreement level; while, the frequencies and percentages for strongly disagree and disagree was taken to indicate disagreement. However, in some instances, the frequencies were reported as they are to enhance clarity of the findings.

4.7 Results on Competitiveness of TVET Institutions in Nyeri County

The competitiveness of TVET institutions in Nyeri County was the dependant variable in this study. Information about the competitiveness of TVET institutions was gathered from HoDs, principals and students leaders.

4.7.1 Descriptive results from HODs on competitiveness of TVET Institutions

The HoDs were asked to rate their responses where; (0) stood for “this has never happened in our institution”, (1) is to a very small extent (2) = to a small extent, (3) = to a moderate extent, (4) = to large extent, and (5) = to a very large extent. The Likert scale statements focused on financial management practices, monitoring of curriculum implementation, internal systems, leadership practices, timeliness and completion rates; employability of graduates, programs and their demand, infrastructure development, growth of accredited courses, industry liaison, aspects of students transferring colleges, staff retention, institution image and brand name; and students enrolment. The responses from HODs were summarized and presented in Table 4.8.

Table 4. 6***Descriptive results on competitiveness of TVET institutions in Nyeri County***

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
1. Our institution has adopted good financial management practices	2(1.3%)	16(10.5%)	8(5.2%)	52(34%)	67(43.8%)	8(5.2%)	3.24	1.088
2. The established mechanisms for implementing curriculum are yielding fruits	0	10(6.5%)	18(11.8%)	47(30.7%)	54(35.3%)	24(15.7%)	3.42	1.092
3. The established mechanisms for monitoring curriculum are yielding fruits	0	6(3.9%)	34(22.2%)	51(33.3%)	48(31.4%)	14(9.2%)	3.20	1.013
4. The efficiency of our internal systems has been yielding fruits	0	14(9.2)	4(2.6%)	39(25.5%)	70(45.8%)	26(17%)	3.59	1.091

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
5. There are good leadership practices in our institution	0	6(3.9%)	12(7.8%)	47(30.7%)	32(20.9%)	56(36.6%)	3.78	1.141
6. Trainees complete their courses on time in our institution	0	6(3.9%)	2(1.3%)	29(19%)	44(28.8%)	72(47.1%)	4.14	1.026
7. Students compete /scramble to get admitted to pursue courses at our institution	4(142.6	2(1.3%)	30(19.6%)	63(41.2%)	48(31.4%)	6(3.9%)	3.09	.976
8. Our courses are accredited	0	0	14(9.2%)	10(6.5%)	36(23.5%)	93(60.8%)	4.36	.957
9. The wide range of programs offered in our institution has attracted students from other counties	0	2(1.3%)	6(3.9%)	38(24.8%)	65(42.5%)	42(27.5%)	3.91	.891

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
10. The wide range of programs offered in our institution are regularly revised to match what is needed in the market	0	10(6.5%)	48(31.4%)	29(19%)	64(41.8%)	2(1.3%)	4.63	5.788
11. Institutional infrastructure development and equipment are maintained	0	8(5.2%)	47(30.7%)	39(25.5%)	35(22.9%)	24(15.7%)	3.13	1.168
12. The teaching and learning resources at our institution are adequate	6(3.9%)	23(15%)	10(6.5%)	66(43.1%)	40(26.1%)	8(5.2%)	2.88	1.219
13. There has been steady growth of accredited courses in our institution	0	29(14%)	10(3.7%)	29(12.8%)	55(30.5%)	30(39%)	3.31	1.373
14. There is a strong liaison between our institution and industries	0	27(17.6%)	12(7.8%)	54(35.3%)	50(32.5%)	10(6.5%)	3.03	1.175

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
15. There are reports of students transferring from other TVETs to our institution	0	25(16.3%)	16(10.5%)	68(44.4%)	42(27.5%)	2(1.3%)	2.87	1.037
16. The adoption of technology places our institution ahead of other TVETs	0	20(13.1%)	40(26.1%)	56(36.6%)	37(24.2%)	0	2.72	.976
17. The courses offered at our institution are on high demand	0	19(12.4%)	10(6.5%)	23(15%)	37(24.2%)	64(41.8%)	3.76	1.380
18. Other TVET institutes come to benchmark with our institution	4(2.6%)	23(15%)	30(19.6%)	19(12.4%)	57(37.3%)	20(13.1%)	3.06	1.392
19. Stakeholders have positive image of our institution	2(1.3%)	2(1.3%)	4(2.6%)	38(24.8%)	79(51.6%)	28(18.3%)	3.79	.908

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
20. The brand name of our institution is attributed to the our competitive programs	6(3.9%)	15(9.8%)	16(10.5%)	29(19%)	69(11.8%)	18(11.8%)	3.27	1.308
21. Students enrolment at our institution has been growing gradually	2(1.3%)	15(9.8%)	10(6.5%)	47(30.7%)	63(41.2%)	16(10.5%)	3.32	1.145
22. Employers are happy with the skills of our graduates	2(1.3%)	2(1.3%)	4(2.6%)	42(27.5%)	51(33.3%)	52(34%)	3.92	1.023
23. Employers seek to employ graduates from our institution	2(1.3%)	2(1.3%)	8(5.2%)	59(38.6%)	64(41.8%)	18(11.8%)	3.54	.911
24. Our linkages with industry is strong	2(1.3%)	4(2.6%)	14(9.2%)	57(37.3%)	54(35.3%)	22(14.4%)	3.46	1.019
25. Our training facilities are modern	8(5.2%)	10(6.5%)	41(26.8%)	50(32.7%)	26(17%)	18(11.8%)	2.85	1.276
26. Our training facilities are adequate	6(3.9%)	26(17%)	29(19%)	37(24.2%)	27(17.6%)	28(18.3%)	2.90	1.461

Statements on competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a very small extent (1)	To a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
27. Our institution attracts qualified teaching and non-teaching staff	32(20.9%)	23(15%)	8(5.2%)	26(17%)	34(22.2%)	30(19.6%)	2.63	1.852
28. Our institution retains qualified teaching and non-teaching staff	22(14.4%)	2(1.3%)	24(15.7%)	28(18.3%)	41(26.8%)	36(23.5%)	3.12	1.648
29. There is a low staff turnover in our institution	8(5.2%)	18(11.8%)	28(18.3%)	51(33.3%)	28(18.3%)	20(13.1%)	2.87	1.351
30. My institution has human resources development programs for staff	26(17%)	2(1.3%)	28(18.3%)	47(30.7%)	18(11.8%)	0	2.82	1.644
31. Our institution has numerous collaborations and partnerships with employers and other stakeholders	6(3.9%)	6(3.9%)	35(22.9%)	54(35.3%)	22(14.4%)	30(19.6%)	3.11	1.290
Average							3.34	1.343

The competitiveness of TVET institutions in Nyeri County was assessed as a composite variable using 31 statements whose summary results are shown in Table 4.8. The summation of the results indicates that the competitiveness of TVET institutions in Nyeri County was largely moderate as attested by a summation mean of 3.34 and a standard deviation of 1.343. The standard deviation was around one which indicated a small deviation of the responses from the mean score; meaning that the response scores for each variable did not deviate significantly from the mean of 3.34. The information about moderate competitiveness was further confirmed by asking the respondents to rate the competitiveness of TVET institutions in Nyeri County using a scale of one to five. A chart (see Figure 4.5) was generated to display the results.

Figure 4. 5

Rating on the level of competitiveness of TVET institutions in Nyeri County



The concurrence of the results in Figure 4.5 (moderate, 55.6%) and the computed summation mean (3.34) in Table 4.14 helped to validate the observation on competitiveness. With the ongoing structural changes, reforms, mobilization of resources, and eminent support from government on TVET institutes through the implementation of TVET Act of 2013, TVETA authority and Kenya National Qualifications Authority, one would expect the competitiveness of TVET institutions to very high (KIPPRA, 2019; TVET Act, 2013).

As such, the study examined the responses on all indicators presented in Table 4.8 with a view to identify aspects that characterize competitiveness of TVETs to a large extent. The most outstanding aspects pointed out in the results was the wide range of programs offered in TVET institution and the revision of the same to match the market requirements to a large extent 64(41.8%) and 2(1.3%) to a very large extent (mean = 4.63). The results also showed that most courses offered across many TVETs were accredited (mean = 4.36). The HODs also indicated that trainees complete their courses on time to a large extent, 44(28.8%) and 72(47.1%) to a very large extent (mean = 4.63). Another aspect associated with the competitiveness of TVETs was skills of graduates where, 51(33.3%) of HODs indicated to a large extent and 52(34%) to a very large extent (mean = 3.92); and ability of programs offered to attract students from other counties. Those who indicated to a large extent for this option were 65(42.5%) and 42(27.5%) said to a very large extent (mean = 3.91). Other keys aspects of competitiveness of TVETs that had a high mean rating included positive image of TVET institution (mean = 3.79); good leadership practices (mean = 3.78); high demand on courses offered (mean = 3.76); and the efficiency of internal systems (mean = 3.59). All the mentioned aspects had a standard deviation around one.

The above results have provided important aspects that characterize the competitiveness of TVETs in Nyeri County. The prevalent aspects of competitiveness included wide range of programs, and offering of courses that are accredited. These were regarded significant in increasing students' demand to a point of attracting students even from other counties. In addition, there was the issue of timely completion of courses, skills of graduates, positive image of a TVET institute, good leadership practices, and efficiency

of internal systems. The aforementioned aspects of competitiveness indicate distinctive competencies which every TVET institute should embrace. These findings agree with the stipulations pointed out by The Inter-Agency Working Group on TVET indicators (2012) which attributes TVET competitiveness to quality financial management, easy access to inclusive education, curriculum relevance, organizational responsiveness and regular trainee graduation intervals. In line also, TVETA was mandated by the Ministry of Education to maintain quality and competitiveness of TVET education by accrediting and inspect institutions and programs, promote access to TVET institutions by learners, develop admission criteria and a framework for equating qualifications awarded by TVETs (TVETA, 2018). This qualifies that, competitiveness in TVET institution is a policy as well as a leadership issue which require implementation and evaluation to ensure compliance.

The results in Table 4.8 also show reservation status of HoDs on various aspect of competitiveness as depicted by mean scores below 3.0. The aspects of competitiveness of TVETs that had low mean values included adequacy of training facilities (mean = 2.90; SD = 1.461); adequacy of learning resources (mean = 2.88 SD = 1.219); students transferring from other TVETs institutions (mean = 2.87 SD = 1.037); low staff turnover (mean = 2.87 SD = 1.351); modern training facilities (mean = 2.85 SD = 1.276); human resources development programs (mean = 2.82 SD = 1.644); adoption of technology (mean = 2.72 SD = .976); and attraction of qualified teaching and non-teaching staff (mean = 2.63 SD = 1.852).

The above findings helped to reveal the stated elements which are also regarded critical in defining the competitiveness of TVET institutions. From the results, clear gaps are noted on adequacy of training facilities and learning resources, as well as weaknesses

in human resources. The results indicate that modernization of the training facilities and low adoption of technology as areas with weaknesses. On human resources matter, the results indicate weaknesses in staff turnover, attraction of qualified teaching and non-teaching staff, and development programs for staff. With respect to the results, Sankale (2019), also noted the contributions of well-equipped TVET institutions on skills development and competency for industrial growth. Helbing (2019) results held that investment in proficiency, qualifications and competency development of human resources are key strategies to revamp TVETs in order to attain anticipated attractiveness. The results therefore put weight on the need not to neglect TVET infrastructure, facilities and resources, which implicate on financial planning for upgrading the same.

4.7.2 Findings and discussion on qualitative data on competitiveness of TVET institution

In this study, principals were regarded to be fully aware of the aspects of competitiveness of TVETs. The researcher therefore asked the principals during one-on-one interview to identify the main drawbacks to achieving the competitiveness of TVET institutions. A total of 55 challenges were received as responses. The study identified common phrases used by respondents in describing the drawbacks and out of the 55 challenges, twelve statements were developed. The study further scrutinized the identified themes and inductively re-grouped the twelve into nine distinct categories as shown in Table 4.9.

Table 4. 7***Drawbacks to achieving the competitiveness of TVET institutions***

Drawbacks to achieving the competitiveness of TVET institutions		Broad themes
i.	Insufficient modern equipment, and training tools and materials	a) Training facilities and equipment
ii.	Inadequate learning and training resources	b) Learning and training resources
iii.	Dilapidated infrastructure and outdated buildings	c) Funding
iv.	Limited financial resources for development and facility improvement.	
v.	Poor attitude and negative perception of TVETs as institutions for failures	d) Attitude and perception
vi.	Poor advocacy and lack of awareness in the community about the importance of technical education	e) Advocacy and awareness
vii.	Limited employment opportunities of graduates	f) Employability of graduates
viii.	Lack of political goodwill	g) Political support and goodwill
ix.	Outdated curriculum	h) Market-driven curriculum
x.	Poor remuneration of trainers/trainers	i) Human resources planning and development policy
xi.	Unclear career progression	
xii.	Shortage of qualified trainers	

The results from principals (see Table 4.9) reveal various drawbacks to the competitiveness of TVET institutions, which seemed to narrow down to nine broad themes, that is, training facilities and equipment, learning and training resources, funding, attitude and perception, advocacy and awareness, employability of graduates, political support and goodwill, market-driven curriculum, and human resources planning and development policy. The results show concurrence of principals' responses on issues curtailing the competitiveness of TVET institutions in Nyeri County with the responses received from the HoDs. Coincidentally, consistency in the results from students' leaders was noted. During the focused group discussion, members had a consensus on drawbacks that included

lack of equipment to facilitate the required training, drug abuse in the society, inability to raise the required fees to TVET institutions, students' preferences for national TVETs, poor accessibility of some TVETs due to poor road networks, outdated tools and equipment, inadequate reference materials, and insufficient learning rooms and workshops.

One conspicuous drawback arising from the information gathered from both the principals and student leaders was insufficient modern training equipment and training tools and inadequate learning/reference materials. The second focused group discussion noted that several workshops lack tools and equipment for use by trainers and trainees. This makes learning and training to be more theoretical. For a TVET student to acquire skills needed by the labor market, trainers and trainees require modern tools and equipment. Basically, learning facilities are essential to education and training and are therefore critical in defining the competitiveness of a TVET institute.

Osidiye (2019) also reported institutional incapacities in Nigerian TVET institutes which were comprised of: inadequate teaching and learning materials, poorly equipped laboratories and workshops and the few that exist were of poor quality. Moreover, Chunda (2015) related competitiveness of institutions to: employment of qualified staff, adequately put up facilities to support quality teaching and learning, equipped laboratories, libraries and workshops for practical lessons. Such capacitation require effective funding. The results of the study pose implications on increasing funding, financial management and financial leadership to TVETs institutions in Kenya in order to improve their capacities.

The results also pointed out that capitation (low funding) is a serious drawback to the competitiveness of a TVET institute. Insufficient funding is a threat to the provision of quality education and training and affects internal and capital budget allocation, hence influencing the effectiveness of all functions in a TVET institution. These results agree with those of a study done by Osipide (2019) in Nigeria which identified lack of funding as the main factor hindering delivery of services in TVET institutions. Similar case was also reported in Zambia, that, poor funding made TVET institutions suffer incapacitation on; teaching and learning resources, workshop equipment, facilities, the curriculum and text books (Kigwiru, 2020).

The results therefore, communicate agency in terms of developing remedies to address the trend. Since TVETs rely mostly in one major source of funding, the government, there is need for increased allocation share as well as developing and enhancing own source revenue streams. Another pointed out during focused group discussion was late disbursement of the funds from the government which was derailing the achievement of some of planned activities.

Modern buildings and purposely built facilities are critical competitive aspects. However, most infrastructures and buildings in most TVETs are outdated and dilapidated. The status of the buildings and facilities contribute immensely to the image of a TVET and the courses offered therein. The image that students have of an organization implies enrolment and largely affects the extent of attraction to prospective students. The results are presenting a situation similar to that presented by Chileshe (2020) in Zambia. Chileshe observed that, obsolete machines, lack of modern equipment and old workshops was due to the fact that TVET institutions in Zambia were built over 30 years ago and the

government did not pay attention in improving the states of the workshops as time passed. As a result, employers complained about the limited skills of their graduates which was a common reason for decreasing enrollment of students in TVETs. The results shade light that, attractiveness of TVET buildings and modern technological infrastructure are needed hence form catalysts for guiding selection decisions to join TVETS institutions, while for employers, employing graduates from particular institute.

Unfortunately, despite the significance of TVETs in contributing to social-economic development, they are still perceived as institutions for failure. These findings were consistent with the discussion from students' leaders who underscored the negative perception of the community on TVET institutes. The underlying negative attitude and perception negatively demean the competitiveness of TVET institutions. This situation is not similar in Tanzania, Kirya (2018) reported that TVETs institution are positively perceived, highly relied source of market labor and have earned reputation on skills and technical competencies development. Specifically, Kirya (2018) reports conquers that Tanzanian government has leveraged funds which has helped them to re-equip their workshops with modern equipment. Perceptions therefore poses a direct connotation on the attractiveness, enrollment and absorption of graduates in the job market.

The above findings on attitude and perception affect advocacy and awareness programs. This points out the need for key stakeholders to create a solid societal awareness of the value of TVETs. This means that the extent to which a TVET collaborate with local and non-local stakeholders in championing and maximizing awareness and advocacy is significant in heightening the competitiveness of a TVET institute. Indeed, Gachunga et al. (2020) conquer with the presented findings on the importance of creating awareness

through advocacy about TVET education and its needfulness. Gachunga et al. (2020) found that, creation of awareness and marketing of the organizational capabilities is a highly rated indicator of competitiveness because it attract more potential prospective trainees. The results henceforth indicates a great need to establish advocacy programs that can utilize different approaches, forums and platforms to champion positive perception and attitudes in the larger society.

The success and competitiveness of a TVET institution is also dependent on political support and goodwill. Basically, establishing a TVET institution in a given locality usually attracts the attention of the political fraternity because it is regarded as an icon for development, and hence, most political leaders would want to be associated with it. The vested interest may fail to secure the needed political support and cause less attention when allocating funds. The findings collaborate with the submissions of Chepkoech (2021) that political goodwill existing between government and TVET institutions ensures provision of necessary support to TVET institutions in form of budgetary allocation which ensures infrastructural development, thriving political relationships and linkages for TVET development. The above findings posits not only a need for TVET institutions to be aware of the political leaders within their jurisdiction but also, develop good relationships as a way of seeking their financial support.

The ultimate purpose of training in a TVET institute is for a trainee to acquire employable skills. The more an institute can produce graduates with employable skills, the more it will be competitive among peers. The results indicate gaps in the employability of TVET graduates. The weakness can be attributed to various factors, which may be insufficient modern equipment, training tools and materials and inadequate learning and

training resources. To be effective in producing employable graduates, TVET institutes are expected to liaise with the industry in conducting training. The results present similar stances as observed by Tancibok (2020) in Indonesia that, the biggest challenge identified was the mismatch between the trainees from TVET and industries requirements. As a result of job mismatch, many youths ended up becoming unemployed. Employability skills mismatch was attributed to lecturer's limited competencies, old equipment and unequipped workshop and laboratories as well as the limited teaching materials. The results of Remington (2018) expressed that in order to beat the problem of skills shortage, professional development for TVET trainers, funding to secure infrastructure and partnership with related industries to allow trainees to get industry required skills during attachment is necessary. The presented results therefore, implicate on the emphasis for industrial attachment practices as well as funding to secure physical and technological resources.

The kind of collaborations envisaged between TVET institutions and industries involve the development of market-driven curricula, among other initiatives. The lack of market-driven curricula was identified as a key drawback to the competitiveness of TVET institutions, which points out the need to address this gap. This drawback was not noted in South Africa as Kraak et al. (2016) clearly reported effective implementation of curriculum revision, curriculum review committee and employer's collaborations and partnerships which resulted in high demand for TVET graduates in the labor market. In agreement to the discussed results, repositioning and restructuring TVET curriculum was echoed by Bassah (2022) as an effective strategy for meeting industry requirements by enhancing trainee's abilities through lifelong learning, curriculum alignment, articulation and

funding. TVET is cited in this regard as a game-changer in the way Malaysia develops skilled talent (Bassah, 2022). This has implications of curricula development policy and processes.

Human resources are an asset to an organization and contribute immensely to the competitiveness of TVET institutions. In a TVET institute, a trainer plays a key in transferring knowledge and skills to the trainees on one hand. The non-teaching staff support the delivery of the desired strategy on the other hand. Information provided by principals pointed out gaps in the remuneration of trainers/teachers, ambiguity in their career progression, and a shortage of qualified trainers. This information corroborated with discussion recorded during focused group meeting indicated that some department lack trainers; hence, one train serves two classes at ago. These weaknesses point to gaps in the human resources planning and development policy. Hiring qualified staff is one thing, but retaining them requires clear career progression, training and development programs.

The presented findings collaborate with what was presented in a conference in Jamaica, which submitted that, lack of opportunities for trainers to improve their teaching skills and also technologies to enable them deliver instructions was the main attribute which led to development of unskilled labor (Sterm, 2015). Sterm pointed the need for career progression, staff retooling and submission of requirements teaching resources to enable them teach trainees. Apart from having support from government on human resources, this aspects requires good leadership practices to direct efforts of teaching and non-teaching staff. This infers on the need to stress out human resources planning and development practices including career progression and retooling professional development.

The study was also interested in soliciting solutions that would enhance the competitiveness of TVETs. Therefore, principals, HODs and student presidents were asked to suggest ways to improve the competitiveness of a TVET institution in Nyeri County. This question attracted over seventy statements from all respondents. The responses were studied to identify common themes based on interview responses from principals, focused group discussions from student leaders and open-ended questions from HODs. The thematic analysis resulted in thirteen thematic areas of improvement, these were:

- Curriculum development and review
- Teacher /instructor training
- Industry partnerships and collaborations
- State-of-the-art facilities and equipment
- Internships, industrial attachment and dual training & learning
- Student support services
- Technology integration
- Soft skills development
- Financial support and scholarships
- Funding model
- Quality assurance, monitoring and evaluation
- Marketing and outreach
- Internationalization

From the above themes and regarding the conversations held with principals of TVETs and student leaders, there was room for improving competitiveness. HOD 055 said, *“Management should involve industry experts and employers in curriculum*

development to ensure relevance in meeting market needs”. He also emphasized the need for TVETs to provide professional development opportunities for instructors to stay current with industry practices. The TVET management should also foster strong relationships with local industries, businesses, and employers for employment opportunities for graduates. In Bungoma County, Maiyo et al. (2019) also presented results which indicated complains in teaching staff inadequacy, teaching staff proficiencies, resources inadequacy, poor remuneration staff and job requirements mismatch. Some of the stated remedies were on: staff remuneration increments, staff benchmarking, training, staff inter-TVET exchange programs and industrial linkages to promote adequate preparation of learners with respect to current job requirements. In this study, the presented and discussed findings pose inferences on need to establish policies for implementing industrial linkages, staff retooling and curriculum alignment.

From the focused group discussion with student leaders, the TVET institutes should invest in modern facilities, laboratories, and equipment to facilitate practical training. On the same note, TVETs ensure they have incorporated modern teaching technologies and e-learning platforms to enhance learning outcomes. TVET institutes should also promote internships and apprenticeships and institute cooperative education programs to give students hands-on experience. The other aspect of the competitiveness of TVETs is strengthening students’ support services, such as comprehensive career services to help students find employment after graduation, job placement assistance, resume writing workshops, and interview preparation. The program may be expanded to include soft skills training such as communication, teamwork, and problem-solving. Some students may be unable to raise the required funds; hence, they would expect financial aid support and

scholarships. This makes TVET education accessible to a broader range of students. The same was also stressed in the findings of Sankale (2017) in Kajiado County that, deploying modern equipment, repair of physical infrastructure, erection of new buildings, purchasing of training facilities and information resources helped learners secure employment opportunities after graduation due to the improved perception of their ability to meet employer ability needs and requirements. The need for soft skills, technical skills communicate a need to revamp existing curricula to include common units on communication and leadership. Moreover, the results implicate on the need to for budgetary allocation to address infrastructure needs of TVET institutes.

Improvements were also noted in quality assurance, where robust mechanisms were needed to maintain high educational standards. As such, a strong system for monitoring and evaluating the performance of TVET institutions was indispensable. Also noted was the need to continuously improve strategies for soliciting and using feedback from students, employers, and graduates to enhance internal systems. In conjunction to the presented results, Dugarova et al. (2016) echoed that, quality assurance mechanisms and systems in TVET institutions enabled maintain competitiveness. According to Dugarova et al. (2016), ensuring consistency in methods of regulating and standardizing the higher education results in international harmonization which in turn increases competitiveness. The measures discussed herein requires adequate funding to support internal and functional activities, and employ and retain qualified instructors to deliver quality education and training. Moreover, the results infer the need for monitoring and evaluation guidelines to keep TVET abreast with new changes in internal systems.

The findings also emphasized a need for TVET institutions to strengthen their marketing and outreach programs by developing robust strategies to attract students and raise awareness of TVET programs. They should also promote and foster international partnerships and collaborations to expose students to global trends and practices. The presented findings agree with the presentation of Kirya (2016) on the enactment of advocacy programs to secure students to undertake studies through different modes of study including technological enabled. Kenda et al. (2020) also elaborated the contribution of college branding, local collaboration and partnerships, resource mobilization and public-private partnerships to ensure awareness creation and adequate exposure of trainees. These have implication on strengthening TVET institutions marketing and partnership policies.

Embarking on the measures in the abovementioned areas requires a coordinated effort involving educational institutions, industry stakeholders, government bodies, and the community. Adapting to changing market demands and technological advancements is crucial to ensuring TVET remains a valuable and competitive option for vocational education and training students. In consensus, Chepkoeach (2021) ascribed the competitiveness of TVET institutions to require collaborative efforts of stakeholders, implementation of policies, partnerships, trainer competencies, matching market requirements to teaching curriculum and developing teaching and learning resources. The results moreover support the theories underpinning the study. Specifically, they support the arguments of balance score card model and theory of dynamic capability. This is In this sense, the theories strongly address the organizational internal efficiencies, institutional capacity and financial management practices which are associated with internal capabilities that drives the competitiveness of TVET institutions. The results pose implications on the

need to implement best practices, TVET policies and human resource management practices and technological infrastructure so as to achieve competitiveness.

4.7.3 Integration of quantitative and qualitative findings on competitiveness of TVET institutions

The quantitative and qualitative findings on the competitiveness of TVET institutions largely converged on nine aspects which are highlighted in Tables 4.8 and 4.9. The same has been discussed in the above sections. The areas of convergence were: range of programs offered, accredited courses, timely completion of studies, good leadership practices, efficiency of internal systems, staff turnover, adoption of technology, training facilities and equipment, learning resources, funding; image, attitude and perceptions of TVET institutions; advocacy and awareness programs, employability of graduates, political support and goodwill; market-driven curriculum, and human resources planning and development policy.

Most of the aforementioned areas of convergence were noted to fit well into institutional capacity, monitoring of curriculum implementation, financial management practices, internal systems, and leadership practices. Notably, the said categories of aspects essentially narrowed down to the independent variables and moderating variables. This study collected a lot of data on the aforementioned aspects and the same is covered in details in the subsequent sections.

4.8 Influence of Institutional Capacity on Competitiveness of TVETs

This first objective of this study aimed to examine the influence of institutional capacity on the competitiveness of TVET institutions in Nyeri County. Data was obtained from HODs, principals and students leaders.

4.8.1 Descriptive results on adequacy of learning facilities in TVETs in Nyeri County

One aspect of institutional capacity is adequacy of learning facilities. In that connection, the HODs who participated in the study were provided with a list of essential learning facilities, and were asked to rate (using a rating scale of 0 to 5) the extent to which each stated facility was equipped to support training at their institution. The results are shown in Table 4.10.

Table 4. 8***Descriptive results from HODs on adequacy of learning facilities in TVETs in Nyeri County***

Extent to which learning facilities are equipped (N = 153)	We don't have this facility (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
Science laboratories	131(85.6%)	2(1.3%)	0	12(7.8%)	8(5.2%)	0	0.46	1.164
Computer laboratories	26(17%)	18(11.8%)	14(9.2%)	29(19%)	56(36.6%)	10(6.5%)	2.66	1.619
Workshops	4(2.6%)	16(10.5%)	28(18.3%)	41(26.8%)	18(11.6%)	46(30.1%)	3.25	1.452
Studio	104(68%)	14(8.2%)	4(2.6%)	23(15%)	0	8(5.2%)	0.86	1.462
Library	79(51.6%)	25(16.3%)	12(7.8%)	21(13.7%)	0	16(10.5%)	1.25	1.664
Classroom	18(11.8%)	6(3.9%)	9(5.9%)	70(45.8%)	12(7.8%)	38(24.8%)	3.08	1.534
Land for agriculture courses	31(20.3%)	24(15.7%)	6(3.9%)	46(30.1%)	29(19%)	17(11.1%)	2.45	1.686
Students centre	104(68%)	10(6.5%)	4(2.6%)	19(12.4%)	10(6.5%)	6(3.9%)	0.95	1.559

The study recognized that some learning facilities, such as science laboratories, studios, and land for agriculture courses were not available in some TVET institutions, probably because courses that require utilizing such facilities were not offered in a given institute. From the results, most (97.4%) TVET institutions in Nyeri County have workshops, out of which 18(11.6%) were equipped to a large extent and 46(30.1%) to a very large extent, while 41(26.8%) were to a moderate extent. The results also indicated that workshops at their institute were equipped to a very small extent, 16(10.5%) and 28(18.3%) to a small extent. The results show that workshops were fairly equipped (41.7%); however, 28.8% were not well equipped. Another facility that was fairly equipped was computer laboratories (43.1%). However, it was unfortunate that 17% of TVET institutions in Nyeri County don't have computer laboratories. Computer laboratories are expected to be available at each institute, considering that each course offered requires to expose students to IT. A graduate who has skills and no exposure to IT cannot be regarded as competitive.

The above finding points out gaps that the management of a TVET institute should address. Respectively, in Singapore, Stern (2015) illustrated the contributions that had been put in place to equip TVET institutes workshops and laboratories with modern machinery, quality resources, technology in good condition to ensure acquisition of 70% practical skills and 30% theory among trainees. This was in line with Osidiye (2019) results which indicated that, most of TVETs in Nigeria are not updated to the latest technology hence they offer skills that do not match the kind of jobs offered in the market. The findings put emphasis on the need to equip TVET institutions facilities with not only physical resources and facilities but also technological infrastructure. This has implications on funding,

resource allocation and supportive leadership. It was surprising also to note that approximately half (51.6%) of TVET institutes in Nyeri County had no library.

The library is very essential to any tertiary college. It is a learning information center that provides access to reference materials for trainers and trainees. This is a critical learning facility, and its absence from the TVET institute indicates serious gaps in the quality of education and training. The absence of a library further indicates a lack of reference resources. Principal 011 noted, *"Availability of adequate learning resources is essential for effective learning. Institutions without enough learning resources would definitely experience low competitiveness"*. The lack of reference resources is a serious drawback in the delivery of quality training and undermines the competitiveness of a TVET institute. The results are contrary to the recommendations aired out by Ahmed (2019) who expressed that learning facilities, well equipped workshops, libraries, classrooms, trained teaching staff, well equipped ICT rooms, laboratories and also the teaching facilities, research books, teaching materials and the latest technology are critical resources for facilitating teaching and learning in colleges. This points out weaknesses in the policy guiding the establishment of the TVET institute in Kenya. The results indicate a need to develop standard guidelines for TVET institutes in Kenya.

Another essential facility found missing in most (68%) TVET institutes in Nyeri County was the students' center; where available, it was inadequately equipped. A student's center is an attractive competitive element that provides a hub for various activities and services for students to socialize, relax, access resources, engage in extracurricular activities and receive academic support. The absence of a student center makes a TVET institute fail to be a first choice for a learner, and this makes it less competitive. These

results were in line with the findings submitted in a survey carried out in Ohio State University for post-graduate students which informed that: student involvement in student center matters such as co-curricular activities, work study, cultural activities, community service, student organization and leadership as having a positive relationship with cognitive development, mental wellness, multicultural awareness, student interaction and ultimately improved academic performance (Ohio State University Student Life Survey, 2021) . These findings therefore, point on the need for budgetary allocation to fund the development of student centers in TVET institutes to contribute to the desired competitiveness.

Although the learning facilities mentioned above are significant in enabling the provision of quality TVET education and training, the results reveal serious gaps in the adequacy of the same. The above findings largely validate the results reported in the preceding section on competitiveness. The results mean that there are gaps in the learning facilities in most TVET institutions in Nyeri County, and this was affecting their competitiveness. The results are in congruent, with studies carried out in Nairobi and Bungoma Counties by Kigwilu and Akala (2017) and Maiyo et al. (2019) that the major challenge facing TVET institutions include the lack of equipped workshops, laboratories and studios. Apart from the inadequacy, TVET institutes are confronted with issue of having few teaching and learning materials and very obsolete equipment. Indeed, these results when compared to research carried out in 2017 and 2019 is showing that actions are yet to be implemented to capacitate TVET institutes. Furthermore, when compared to the theory of dynamic capability developed by Teece, there is a level of agreement on the need for institutional capacities such as building of employees' competencies, technological

skills, infrastructure development, physical facilities equipment and financial management. Therefore, the adopted theory adequately underpinned the prepositions of the study. The results pose implications on the government, TVETA and TVET management to quickly respond to the call by allocating budget and procuring infrastructure.

4.8.2 Descriptive results from HODs on institutional capacity in TVETs

The HODs were further provided with statements regarding the institutional capacity of a TVET institution and asked to rate the sentiments provided in a table where 0 = Not at all, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. The Likert scale sentiments focused on various indicators and aspects of institutional capacity that included teaching staff, online e-resources, technology and ICT infrastructure, staff training, continuous professional staff, as well as adequate and equipping of physical facilities. The results are summarized in Table 4.11.

Table 4. 9***Descriptive Results on Institutional Capacity in TVETs in Nyeri County***

Statements on institutional capacity (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
The institution has adequate number of teaching staff	9(5.9%)	8(5.2%)	32(20.9%)	76(49.7%)	12(7.8%)	16(10.5%)	2.80	1.189
The institution has adequate number of non-teaching staff	11(7.2%)	35(22.9%)	60(39.2%)	19(12.4%)	20(13.1%)	8(5.2%)	2.17	1.271
The teaching staff possess the required academic and professional qualifications	2(1.3%)	2(1.3%)	4(2.6%)	30(19.6%)	77(50.3%)	38(24.8%)	3.91	.934
The non-teaching staff possess the required academic and professional qualifications	4(2.6%)	6(3.9%)	42(30.1%)	37(24.2%)	46(30.1%)	18(11.8%)	3.10	1.198
We have enough teaching and learning information materials like core text books, research materials and other reference books	10(6.5%)	32(20.9%)	33(21.6%)	39(25.5%)	11(7.2%)	28(18.3%)	2.61	1.518
Our institution has subscribed to online e-resources	46(30.1%)	36(23.5%)	6(3.9%)	31(20.3%)	10(6.5%)	24(15.7%)	1.97	1.826

Statements on institutional capacity (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	SD
We have up to date technology and ICT infrastructure for steering training, education and, administrative activities	32(20.9%)	20(13.1%)	24(15.7%)	32(20.9%)	21(13.7%)	24(15.7%)	2.41	1.730
There are regular trainings and continuous professional development programs for teaching staff	63(41.2%)	10(6.5%)	17(11.1%)	52(34%)	11(7.2%)	0	1.59	1.480
There are regular trainings and continuous professional development programs for non-teaching staff	67(43.8%)	59(38.6%)	8(5.2%)	10(6.5%)	9(5.9%)	0	.92	1.133
The institution has provided the required support to staff to enhance utilization of technologies in training and assessment	40(26.1%)	35(22.9%)	8(5.2%)	17(11.1%)	15(9.8%)	38(24.8%)	2.30	1.987
Our institution has adequate physical facilities	2(1.3%)	50(32.7%)	23(15%)	40(26.1%)	38(24.8%)	0	2.41	1.216
The physical facilities at our institution are equipped	4(2.6%)	48(31.4%)	33(21.6%)	26(17%)	34(22.2%)	8(5.2%)	2.41	1.340
Summation mean value							2.38	1.402

The results in Table 4.11 show a summation mean that is below average; that is, 2.38 with a standard deviation around one. This indicates severe gaps in institutional capacity in TVET institutions in Nyeri County. As noted in the preceding discussion, institutional capacity depicts preparedness and is a significant requisite to providing quality education and training in tertiary colleges and other institutions of higher learning. In this study, institutional capacity was determined by examining the quality and quantity of teaching staff, physical infrastructural resources that included learning facilities such as equipped laboratories, workshops and studios, as well as libraries and adequate information resources.

From the findings in Table 4.11, it is clear that most TVET institutes in Nyeri County do not experience challenges in getting competent trainers; the mean is 2.80 and SD = 1.189. The available trainers (75.1%) have the required academic and professional qualifications. The findings, however, show that there were inadequate number of non-teaching staff (mean = 2.17; SD = 1.271). Nevertheless, the few non-teaching staff possessed the required academic and professional qualifications (mean = 3.10; SD = 1.198). This means that only some non-teaching staff were moderately qualified. Both teaching and non-teaching staff play a critical role in the delivery of quality education and training, hence contributing significantly to the competitiveness of a TVET institute. Therefore, quality and quantity teaching and non-teaching staff ought to be given priority in the human resource planning strategy in all TVET institutions. The quality and quantity of non-teaching staff was also appreciated in the findings of Garaba (2022). Garaba reported that, non-teaching staff in Tanzania institutions were few and lacked avenues to develop their careers while on the job. Non-teaching staff undertook very important roles

which ensured smooth teaching, maximization of teacher's time in teaching and hence improving service delivery. The results are in support with the theory of dynamic capability which appreciates the quality, quantity and enhanced capacity building of employees' competencies. The review results in collaboration with the observed findings communicate a need to revise human resource management policies to include refreshers courses to enable have competent and quality human resources.

The results further show several elements for institutional capacity that recorded low ratings (mean was below 2.5). The elements included:

- Subscription to online e-resources.
- Having up-to-date technology and ICT infrastructure.
- Regular training and continuous professional development programs for teaching and non-teaching staff.
- Having adequate and equipped physical facilities.

These results further point out gaps in institutional capacity and corroborate well with the findings presented in Table 4.10, where physical facilities were described as less equipped or unavailable. The same was validated by the results reported in Table 4.9 on aspects of competitiveness. In Tanzania, staff in universities were also noted by Gabara (2022) to be few and inadequate. Apart from this, non-teaching staff specifically got no opportunities for professional development and retooling. Among the reasons which explained this, was the negative perceptions that, non-teaching staff specifically were not involved in teaching activities hence priority for staff retooling were given to the teaching staff. The above reported discrepancy implicated on the comprehensiveness of human

resource development policies. There is also need for enlightening top leadership on the contributory roles of all staff in institutions so as to ensure parity in professional development.

Various information resources and reference materials exist, both print and non-print. Nowadays, most information resources for supporting curriculum delivery are available online, hence the need TVET institutes to subscribe to online e-resources. However, over half (60.6%) of TVETs in Nyeri County had not subscribed to e-resources. E-resources are mostly subscribed through consortiums, and this means that most TVETs in Nyeri County had not joined consortiums that enable subscription to e-resources at affordable prices. This was contrary to information services offered at the Kenya School of TVET which enabled access to different kind of resources among its user community including: e-books, e-journals, reports and gray literature (Kenya School of TVET, 2023). The above results are indicating that the implementation of the TVETA Strategic Plan of 2023 which stipulates the introduction and utilization of e-resources by TVET institutes through a portal such as reports, journal articles and e-books is at very initial stage hence, is yet to take roots. The findings are pointing on the need to implement actionable plans to for accessing learning e-resources strategy among TVETs.

Moreover, if the technology and ICT infrastructure are not up to date, the skills gained by trainees may not be relevant to the modern market. The state of up-to-datedness of technology and ICT infrastructure in TVET institutes in Nyeri County had a mean of 2.41 and a standard deviation of 1.730. The standard deviation shows some notable variations from the mean, which indicates that the state's datedness of technology and ICT infrastructure varied among TVET institutions in Nyeri County. Nevertheless, the low

mean value was precipitated by the fact that 32(20.9%) of HODs rated this aspect zero, while 20(13.1%) indicated a very low extent, and 24(15.7%) to a low extent, pointed out reasons to get worried. Again, this aspect demeans the competitiveness of a TVET institute. The status of technology preparedness reported in the study results compare well with what was observed by Chileshe (2020) in Zambia. Chileshe (2020) reported that, equipment among TVET workshops and laboratories was mostly archaic. Available machinery was also very old and some of them did not function as required. It was uncovered that in Zambia, TVETs lagged behind with respect to current technology and students were shown modern equipment using online videos other than training using the equipment. The findings depict a worrisome situation where, trainees do not obtain technical and practical competencies required on the current job market. This calls on a need to upgrade the sector through allocating revenue for upgrading equipment.

The issue of having regular training and continuous professional development programs for teaching and non-teaching staff also had a low mean value, (mean = 1.59; SD = 1.480; and (mean = .9; SD = 1.133) respectively. This shows how TVET institutes in Nyeri County needed to prioritize training and continuous professional development programs for teaching and non-teaching staff. Conventionally, staff are required to be retooled to increase their productivity, enhance the acquired skills, foster personal growth and career advancement, and go a long way to enhance workplace engagement, hence high employee retention. These benefits contribute to competitive advantages; hence TVET institutes should strengthen their trainings and continuous professional development programs for teaching and non-teaching staff to heighten their competitiveness. The contributions of staff professional competence development enhancement have also been

stipulated in the results of Njenga (2019) as avenues to keep both teaching and non-teaching staff abreast of new technologies, trends, job requirements and hence effective in service provision. In TVETs, there exist policies which stipulate on continuous professional development, although the existing ones do not provide clear guidelines for the provision of CPD, financing and benefits (Njenga, 2019). To ensure implementation of continuous professional development programs among teaching and non-teaching staff in TVET institutions, there is need for provision strategies, finance allocation and clear policing of the same.

4.8.4 Testing of hypothesis one

The data collected from HODs constituted the quantitative findings, which were further used to test the null hypotheses. The first null hypothesis of the study stated that institutional capacity does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County. A Pearson correlation was conducted to assess the hypothesized relationship between institutional capacity and the competitiveness of TVET institutions. The correlation results are shown in Table 4.12.

Table 4. 10

Correlations analysis on institutional capacity and the competitiveness of TVET institutions

		Y	X1
Y	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	153	
X1	Pearson Correlation	.501**	1
	Sig. (2-tailed)	.000	
	N	153	153

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

The results show a Pearson correlation value of .501**, which is positive and nearer 1. This value is also significant, $P < 0.05$. This led to the rejection of the null hypothesis and concluded that there was a statistically significant positive relationship between institutional capacity and the competitiveness of TVET institutions. This meant that a positive increase in institutional capacity would lead to a positive growth in the competitiveness of TVET institutions. The results indicate a need for TVET institutions in Nyeri County to strengthen their institutional capacities to remain competitive. The areas of improvement were noted to include hiring of additional trainers, retooling of staff, ensuring adequate physical learning facilities, upgrading outdated equipment, establishing and strengthening library resources and access of the same.

4.8.3 Qualitative findings and discussion on Institutional Capacity of TVET institutions in Nyeri County

The qualitative data on the institutional capacity construct was obtained through interviews with principals, focused group discussions with student leaders and open-ended questions from HODs' questionnaires. In this study, the principals were required to respond to four questions regarding institutional capacity. The questions covered aspects of teachers' proficiencies, learning resources and infrastructural facilities to establish their opinions on how they influenced the competitiveness of your institutions. On teachers' proficiencies, the findings from principals indicated a highly proficient trainer enhances critical thinking and problem-solving skills and ignites academic achievements among learners. It is also vital in improving content curriculum delivery, easing lesson preparation, and enabling effective program design and co-curricular activities. This usually not only

creates confidence and enthusiasm among graduates but also attracts more prospective students.

Comparably, the role of teaching staff was noted by Lamichhane and Bhattarai (2020) as broad and impactful in ensuring education quality, learner employability and academic performance. With the high level of influence, qualified teaching staff were effective in enhancing classroom supervision, improving learner's performance, and restructuring teaching curriculum, aligning curricula to current job requirements, impacting employability skills on trainees and maintaining teaching standards. The results are henceforth, acknowledging the contributions of TVET trainees. To reap numerous benefits from the human resources, there is need to have them competent, knowledgeable and motivated. This implicates on implementation of staff professional development programs in TVET institutions.

The above observation was made from twenty-five responses provided by principals. The principal 06 noted, *“The availability of teachers who possess proficiency in a given subject matter, and pedagogical skills are able to effectively impart knowledge”* In addition, principals 02 described how the proficiency of a trainer was linked to students' learning outcomes, academic achievement and TVET competitiveness, saying,

“In our institution, students have been attaining an average pass rate of 70%, which is a good pass rate. Though not many distinctions are earned, most students attain a credit pass. This can be attributed to the proficiency of the teachers/trainers in conducting teaching and learning activities. The pass rate attracts prospective students to join our institute – this is a positive attribute to the competitiveness of the institute among other TVET institutions”.

The principals elaborated further and said, “*This has worked well for us since our programs are on demand. Actually, most of the students who enroll in our institution are referred by our former trainees.*” In this case, the referral business was reported to be coming from the industry where some companies and other prospective employers were requesting trainees from some TVETs for attachment, hence demonstrating the level of confidence and competitive advantage. Notwithstanding, internal efficiencies such as TVET partnerships, student exchange programs, referrals and adequate trainee’s preparation have also been reported in Nigeria as effective mechanisms for retaining competitiveness and increment of student enrollment (Oviawe, 2018). The study results point out on the needfulness to not only adequately prepare learners to suit and meet employability requirements but also establishing good linkages with employers, industrial attachment organizations and graduate trainees.

In the focused group discussion, the students’ leaders were noted to be using words such as upgrading, retraining, and advancing when describing what needed to be done to improve the proficiency of facilitators. They also used descriptors such as shortage and retention when describing issues affecting staff proficiencies in TVET institutions.

Regarding learning resources, the study noted that most TVET institutions had inadequate information sources for supporting course delivery. That notwithstanding, the principals provided twenty-five statements explaining how learning resources affect the competitiveness of TVET institutions. Out of the twenty-five statements, the study narrowed down to a few that included enhancing effective learning, fostering academic experience and excellence, improving grasping of concepts and enabling learners to meet

the requirements of a course. Principal 010 remarked, *“The availability of learning resources, such as textbooks and e-books, enhance the academic experience for trainees”*.

Respondents noted that training materials for technical courses are a bit expensive, which may explain why learning resources were inadequate in several TVET institutions in Nyeri County. As such, learners would be interested in joining a TVET institution with adequate and updated learning resources, which out-rightly defines competitiveness. Principal 01 noted, *“The lack of enough learning resources has led to training in outdated reference materials”*. This study, therefore, observed that the availability of adequate learning resources was essential for effective learning. Therefore, TVET institutions without enough learning resources were regarded as having a low level of competitiveness. Musymi (2021) and Sankale et al. (2017) also found the contributions of adequate infrastructure and well-equipped TVET institutions on skills development, smooth learning, acquisition of practical skills and competency for industrial growth. Therefore, findings in line with the discussed results elaborate the need for TVET capacitation through implementing funding models, infrastructure development committees to oversee progress and maintenance of existing facilities.

The study also sought to understand from principals how infrastructural facilities influence the competitiveness of TVET institutions in Nyeri County. The responses indicated that the physical appearance and condition of infrastructural facilities contribute immensely to enhancing the acquisition of practical skills and elevating the image and perception of a TVET institute, hence affecting growth. Principal 07 submitted that *“Trainees tend to seek admission in institutions with modern and wider space for training”*. Acakpovi and Nutassey (2015) also note that, appealing facilities and infrastructure

attracted learners to enroll and join a TVET institution. The results point on the need to maintain TVET facilities and infrastructural resources through repair, repainting, restructuring and replacing old machinery with technological up-to-date ones in bid to earn competitiveness.

Another common concept noted in the principal's response was how infrastructural facilities support effective teaching, training and learning. With good infrastructural facilities, the trainers can deliver course content as per the industry requirements. This eventually leads to the promotion of industries and colleges' collaboration and linkages in securing internships, attachments and employment opportunities for learners. This arrangement also heightens the competitiveness of a TVET institute.

4.8.5 Integration of quantitative and qualitative findings on institutional capacity of TVET institutions

There is a conspicuous convergence of both quantitative and qualitative findings, which agree that institutional capacity not only depicts quality education and training but also constitutes valuable differentiation etiquettes for the competitiveness of TVET institutions. The areas of convergence include:

- Quality and quantity of teaching staff.
- Physical infrastructural facilities, where aspects of preparedness, adequacy and up-datedness were underscored.
- Libraries, where relevant and adequate information sources were termed critical.

The study noted that institutions thrive when their trainers /facilitators possess requisite proficiencies. A proficient trainer can effectively impart knowledge to learners, attracting more students to join an institution. Personal presentation and pedagogical training

contribute to the trainer's ability to deliver content and engage learners, creating a positive learning environment. The findings have indicated that the impact of proficient trainers extends beyond the classroom to the industry. The successes, in turn, attract prospective students to the institution, hence increasing its competitiveness among other TVET institutions. This is because a proficient trainer produces competent graduates with the relevant practical competencies sought by industries and self-employment areas. The above results were also supported by the findings presented by Mwila et al. (2022) in South Africa, which opined that, teacher professional development and training enabled teachers to be current in pedagogy, instructional skills, classroom management, efficacy and practical training which were deemed critical in impacting employability skills. Agreeably, the findings stress the need for comprehensive cognitive and affective professional development and training to enable produce graduates of high quality and demand.

Both quantitative and qualitative findings have identified and underscored the value of the institution's infrastructure in supporting effective teaching and learning practices. However, challenges arise when there are insufficient infrastructural resources, leading to congestion in the institution, which may compromise the quality of training. Notably, the findings on learning facilities presented in Table 4.10 indicate a need for improvement. The same was reported by students during focused group discussions and also featured during interviews with the principals. In support, Osipide (2019) study submitted that inadequate infrastructures negatively affect the competitiveness of TVET institutions. Moreover, good infrastructural resources give institutions a competitive edge, while the adequacy of facilities like tuition rooms, workshops, laboratories, demonstration rooms, and library and internet connectivity affects the number of students that can be admitted,

limiting the institute's competitiveness in this aspect. The results presented pose implications on financial allocation so as to equip TVET institutions with the required infrastructure.

The study findings discussed in the preceding sections have underscored the significance of institutional capacity in shaping the competitiveness of TVET institutions. Some of the strategies identified by respondents that TVET institutions can consider include capacity building for instructors, upgrading/renovating/face-lifting the existing physical learning facilities, acquiring/subscribing learning resources, constructing training sheds, adopting new technology in training, engaging the community in the institute activities and events, ensuring good governance practices and efficient management and utilization of resources. It is expedient for TVET Institutes to promote collaborations, linkages and partnerships with other development partners in enhancing institutional capacity. Principal 04 remarked, *“Institutional heads should enhance collaboration, linkage and partnership locally, regionally and internationally to foster the competitiveness of TVETs.”* Agreeably, Tancibok (2020) and Mwila et al. (2022) projected on the need to implement continuous professional development to teaching staff in universities so as to impact them with cognitive and affective skills suitable for student preparation.

Other suggested remedies home to the study results include: deploying high-technology, equipping workshops, laboratories, libraries and classrooms (Holzer, 2015). The results are supporting the theory of dynamic capability and also the contingency theory of leadership whereby the leader influences subjects towards attaining the organizational goals through enhancing their capabilities with relation to competencies, technology

required, financial allocation, establishing good relationships, communicating effectively, promoting good partnerships with industries and also involving subordinates in decision-making. Presented results implicate on the need to equip TVET's workshops, laboratories, computer labs, libraries and student center with appropriate infrastructure in order to achieve the anticipated competitiveness.

4.9 Monitoring of Curriculum Implementation on Competitiveness of TVETs

The second objective of this study aimed to assess the influence of monitoring of curriculum implementation on the competitiveness of TVET institutions in Nyeri County. Data was obtained from HODs, principals and student leaders through questionnaires, interviews and focused group discussions. The findings based on quantitative data (both descriptive and inferential) are first presented, followed by the findings based on qualitative data. The last section provides an integration where both quantitative and qualitative converge to help the study conclude the analysis regarding the influence of monitoring of curriculum implementation on the competitiveness of TVET institutions in Nyeri County.

4.9.1 Descriptive results from HODs on monitoring of curriculum implementation in TVETs

The HODs are critical in ensuring curricula are implemented and monitored accordingly. The researcher, therefore, presented to the HODs several statements in a table requiring them to rate each statement using the Likert scale where 0 = Not at all, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. The Likert scale statements focused on various indicators and aspects of monitoring of curriculum implementation that included curriculum implementation measures and mechanisms, monitoring systems, quality control, supervision

documentation, involvement of facilitators and learners, evaluation reports and feedback.

The results are summarized in Table 4.13.

Table 4. 11***Descriptive results on monitoring of curriculum implementation***

Statements on monitoring of curriculum implementation (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
We have mechanisms in place for monitoring curriculum implementation	4(2.6%)	27(17.6%)	36(23.5%)	48(31.4%)	36(23.5%)	2(1.3%)	2.59	1.144
We have planned timeline for evaluating and revising curriculum	16(10.5%)	19(12.4%)	12(7.8%)	56(36.6%)	48(31.4%)	2(1.3%)	2.70	1.343
We involve industry in curriculum implementation	26(17%)	26(17%)	20(13.1%)	21(13.7%)	48(31.4%)	12(7.8%)	2.49	1.651
There is an established quality control body that is in charge of assessing curriculum implementation and evaluation at our institution	32(20.9%)	36(23.5%)	31(20.3%)	34(22.2%)	20(13.1%)	0	2.39	1.792

Statements on monitoring of curriculum implementation (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Relevance, consistency, practicability and efficacy of our curriculum has led to increase in student enrolment at our institution	4(2.6%)	4(2.6%)	33(21.6%)	56(36.6%)	46(30.1%)	10(6.5%)	3.08	1.057
There are mechanisms in place to ensure facilitators achieve the learning outcomes and expectations at the end of each training module	0	14(9.2%)	19(12.4%)	56(36.6%)	42(14.4%)	22(14.4%)	3.25	1.133
The supervision of facilitators is usually documented	8(5.2%)	4(2.6%)	28(18.3%)	28(18.3%)	69(45.1%)	16(10.5%)	3.27	1.251
Facilitators are involved in the process of identifying the strengths and shortcomings in the delivery of the curriculum	14(9.2%)	34(22.2%)	32(20.9%)	59(38.6%)	14(9.2%)	0	3.07	1.343

Statements on monitoring of curriculum implementation (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
There are mechanisms in place to ensure facilitators get feedback regarding their performance in the delivery of curriculum.	28(18.3%)	17(11.1%)	6(3.9%)	31(20.3%)	57(37.3%)	14(9.2%)	2.75	1.680
There are mechanisms in place to ensure trainees get feedback regarding their performance in acquiring the intended skills	0	8(5.2%)	10(6.5%)	46(30.1%)	50(32.7%)	39(25.5%)	3.67	1.088
There are mechanisms in place to ensure stakeholders are involved in curriculum implementation and monitoring	10(6.5%)	29(19%)	22(14.4%)	34(22.2%)	52(34%)	6(3.9%)	2.70	1.382
Average							2.91	1.351

The results in Table 4.13 show a summation mean that is slightly above half; that is, 2.91 with a standard deviation of 1.351. The standard deviation was around one; hence, there was no significant rating variation from the mean of various statements depicting monitoring of curriculum implementation. This indicates a moderate level of monitoring of curriculum implementation in TVET institutions in Nyeri County. This means that aspects of monitoring curriculum implementation at TVET institutions in Nyeri County were mainly around the average. However, there was one aspect that was rated high across many TVET institutions, that is, “There were mechanisms put in place to ensure trainees get feedback regarding their performance in acquiring the intended skills”. Fifty HODs (32.7%) rated this statement to large extent and 39(25.5%) to a very large extent (mean = 3.67; SD = 1.088).

Several statements had a mean that was around the mid-point. They included documenting the supervision of facilitators (mean = 3.27; SD = 1.251), establishing mechanisms to ensure facilitators achieve the learning outcomes and expectations at the end of each training module (mean = 3.25; SD = 1.133), and involvement of facilitators in the process of identifying the strengths and shortcomings in the delivery of the curriculum (mean = 3.07; SD = 1.343); facilitators receiving feedback regarding their performance in the delivery of curriculum (mean = 2.75; SD = 1.133), and involvement of stakeholders in the curriculum implementation and monitoring (mean = 2.70).

These findings show that TVET institutes have made considerable efforts in supervising trainers during curriculum implementation. The results further demonstrate the substantial involvement of trainers and trainees in the monitoring curriculum

implementation process of TVET institutes in Nyeri County. It was also clear that nearly half of TVET institutions in Nyeri County had instituted measures and mechanisms for monitoring curriculum implementation (mean = 2.59; SD = 1.144) and had established a timeline for evaluating and revising curricula (mean = 2.70; SD = 1.343). Obviously, timely and effective implementation of curricula reflects the attribute of quality training, which goes a long way in enhancing the competitiveness of a TVET institute. In South Africa, The National Evaluation Plan Report (2018) also demonstrated the existence of organized line of activities for ensuring curriculum evaluation. Some of these practices in place were; existence of an evaluation steering committee, employer involvement, curriculum evaluation framework and participatory procedures for stakeholders. The presented results in line with the discussed findings implicates on the need to strengthen curriculum evaluation and implementation procedures in order to achieve the anticipated competitiveness.

Although the above findings show a moderate practice in the monitoring of curriculum implementation in approximately half of TVET institutes in Nyeri County, only 20(13.1%) had established a quality control body charged with the responsibility of assessing curriculum implementation and evaluation at their institution. A quality control office is necessary for better coordination of quality assurance, for example, monitoring curriculum implementation. This implies areas for improvement in the monitoring practices of curriculum implementation in TVET institutions in Nyeri County. Despite this observation, most HODs admitted that the relevance, consistency, practicability and efficacy of the curriculum had led to an increase in student enrolment at TVET institutions in Nyeri County. This has implications for the competitiveness of a TVET institute. The

results presented are not much different from the situation reported in Tanzania by Kanyonga and Mtana (2019) research, which revealed that, in Arusha city, TVET institutions were established without proper planning. Specifically, it was revealed that, the stakeholders had little knowledge about the CBET curriculum, teaching methodologies, student evaluation and assessment and also curriculum restructuring. Moreover, poor curriculum implementation, planning, restructuring, limited resources and infrastructure hindered competitiveness of TVETS in Arusha. Therefore, presented results point on a need to strengthen curriculum management and revamping practices in order to attain desired competitiveness.

4.9.2 Testing of Hypothesis Two

The second null hypothesis of the study stated that monitoring of curriculum implementation does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County. A Pearson correlation was conducted to assess the hypothesized relationship between monitoring of curriculum implementation and the competitiveness of TVET institutions. The correlation results are shown in Table 4.14.

Table 4. 12

Correlations analysis between monitoring of curriculum implementation in TVETs and the competitiveness of TVET institutions

		Y	X2
Y	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	153	
X2	Pearson Correlation	.626**	1
	Sig. (2-tailed)	.000	
	N	153	153

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

The results show a Pearson correlation value of .626**, which is positive and strong and nearer 1. This value is also significant, $P < 0.05$. This led to the rejection of the null hypothesis and concluded that there was a statistically significant positive relationship between monitoring of curriculum implementation and the competitiveness of TVET institutions. This meant that a positive increase in monitoring of curriculum implementation would lead to a positive growth in the competitiveness of TVET institutions. The results indicate a need for TVET institutions in Nyeri County to strengthen their monitoring of curriculum implementation to remain competitive. The areas of improvement were noted to include curriculum implementation measures and mechanisms, monitoring systems, quality control, supervision documentation, evaluation reports and feedback.

The findings agree with the National Evaluation Plan Report (2018) which demonstrated that, the existence of an evaluation steering committee, teacher consultation in curriculum development, employer involvement, implementation of a curriculum evaluation framework and participatory procedures for stakeholders in curriculum implementation are best practices for ensuring quality of education and competitiveness. Moreover, the results support the Wheeler model opinions on curriculum development and evaluation. Given that the wheeler model is cyclic in nature, successful and competitive curriculum which addresses the educational needs of TVET Institutions ought to be regularly designed, monitored and evaluated in terms of their contents, the goals and objectives. Having established the positive significance of curriculum implementation on competitiveness of TVET institutions, this poses a need to setting up curriculum evaluation committee, finance allocation to curriculum management activities, setting up a quality

assurance department and stakeholder involvement. This implicates on developing or restructuring an existing TVET curriculum development policies.

4.9.3 Qualitative Findings and Discussion on Institutional Capacity of TVET Institutions in Nyeri County

Principals of TVET institutions were asked to describe the measures that they had taken to ensure successful monitoring and implementation of the curriculum at their institutions. Forty statements were received as responses transcribed from the interview questions. The forty statements were read and checked keenly to identify common phrases and thematic descriptions. The exercise narrowed down to eight thematic statements. A few broad themes were hence generated and reorganized into identified specific theme categories as listed in Table 4.15.

Table 4. 13

Suggested measures for successful monitoring and implementation of curriculum

Thematic statements	Broad themes	Specific theme categories
1) Creating a clear master timetable and scheduling various activities for successful curriculum implementation.	• Master timetable • Scheduling curriculum implementation activities	1. Scheduler
2) Ensuring trainers have appropriate training skills, prepare schemes of work and lesson plans	• Training skills • Schemes of work • Lesson plans	2. Training skills 3. Instructional plans
3) Facilitating trainers with appropriate instructional materials.	• Instructional materials	4. Instructional materials
4) Establishing linkages with the local industry to foster alignment of curricula with industry needs.	• Linkages with the local industry	5. Linkages with industries
5) Establishing committees and quality assurance departments to monitor and assess curriculum implementation,	• Quality assurance department • Internal audits	6. Quality assurance measures 7. Internal audits

conduct internal audits, and analyse external examination reports.	• External examination reports	8. External examination reports
6) Staying up-to-date with market needs and industry trends to ensure the curriculum remains relevant and flexible	• Understanding market needs and industry trends	9. Understanding market needs and industry trends
7) Empowering HoDs in curriculum supervision,	• Curriculum implementation supervision	10. Curriculum implementation supervision
8) Involving learners in the monitoring curriculum implementation and reporting of the same.	• Involvement of stakeholders	11. Involvement of stakeholders
	• Reports	12. Feedback

The thematic analysis results in Table 4.15 reveal essential aspects associated with effective monitoring and implementation of the curriculum at TVET institutions. From the study, it stood out that the scheduler was a vital system that can help TVET institute to plan, organize, and manage various educational activities tasks. A scheduler promotes effective scheduling of curriculum implementation activities, such as a master timetable that outlines when specific lessons, classes, exams, or other educational activities should take place. The results by Chu (2022) also demonstrated that effective curriculum implementation require adequate planning: when to facilitate teaching and learning, putting target goals and objectives, leveraging learning experiences, student evaluation, extra-curricular development and instructional delivery. In agreement, the Wheeler model opinions on curriculum development supports the observations made in the study. Competitive curriculum which addresses the educational needs of TVET Institutions ought to be regularly designed, monitored and evaluated in terms of their contents, the goals and objectives with a view to ascertain if they adequately meet the learning experiences of TVET trainees. This therefore stresses the needfulness for TVET institutions to embrace

good planning through timetabling in order to ensure good organization in lessons, field activities, and examination administration, practical and spiritual activities. The results pose implications on coming up with a planning and timetabling committee in TVETs institutions.

The trainers' factor also featured prominently as an essential measure considered when implementing approved implementation curricula. The trainer is expected to be knowledgeable and well-skilled to facilitate a given training. To be effective, the trainer is further expected to come up with instructional plans and utilize instructional materials in fostering curriculum delivery. HODs and principals providing supervision usually keep the entire curriculum implementation process in check. The quality assurance office usually develops quality control activities such as conducting internal audits, coordinating external examination processes and report writing, as well as providing feedback. Consistent with the presented results, Komba (2015) recognized the role of respective stakeholders such as teachers, student examiners and learner experiences for successful curriculum implementation. The quality of a teacher comprising of knowledge, instructional design, competence and skillfulness made teachers the most responsible individuals for putting the curriculum into reality. In succinct, the presented findings are pointing out the need to clearly define the roles of stakeholders like teachers, HODs, principals, quality assurance and trainees to keep the entire curriculum implementation process in check. This practice point on a need for a policy which clearly defines roles and responsibilities of TVET stakeholders.

Another distinct element featured in the curriculum implementation initiative was understanding market needs and industry trends. Proper understanding is realized through

linkages with industries and involving stakeholders in curriculum implementation. These results are in agreement with what was discovered in Indonesia that private-public partnerships, industrial linkages, employing organization collaborations and commercial partnerships enabled impact practical knowhow to TVET trainees (Remington, 2018). As a result trainees were also ground in digital literacy and current employability skills (Remington, 2018). Pertaining the results on stakeholder involvement in curriculum implementation, Komba (2015) also acknowledged that, involvement of teachers, students, educational leaders, school administrators and community stakeholders led to implementation of a quantifiable plan and framework for delivering high-quality instruction. Other benefits were impact of core competencies, meeting of learner objectives, improved academic performance and meeting industry requirements among learners (Komba, 2015). This presents that, curriculum implementation is not a standalone activity but a series of processes which require inputs of relevant shareholders. The results pose implication on defining roles of stakeholders and also ensuring involvement in curriculum development processes.

When asked to explain how monitoring curriculum implementation affects TVET institutions' competitiveness, principals who participated in the study provided twenty-one statements during the one-on-one interview. After data transcription and preparation, the information gathered was broken down inductively into meaningful statements that bore a common message. Key aspects that stood out were adherence to the curriculum, proper planning, and timely delivery of training, which principals termed critical in making TVET institutions competitive. Principal 03 said,

Monitoring curriculum implementation helps the trainer and the trainee to have a clear road map of where they were, where they are and where they need to be in the future. The trainer can follow a well-guided plan as they train, and the learners can clearly understand what is expected of them.

The monitoring of curriculum implementation ensures that trainers stick to the curriculum. In addition, trainers can plan ahead of time and deliver the curriculum within the stipulated timelines. Apart from that, information gathered from HODs through open-ended questions in the questionnaires also justified how monitoring of curriculum implementation was contributing to the competitiveness of TVET institutes. According to HODs, it helps to ensure adequate curriculum coverage and fosters the provision of actionable feedback. A quotation from HOD 027 read, "*Continuous monitoring of curriculum provides a mechanism for collecting feedback from students, instructors, and industry partners*". The results are in agreement with the projection presented by Kaaya (2012) who found that, a well and robust implemented curriculum offers stakeholders in the community including: teachers, students, educational leaders, and others a clear strategy and structure for delivering a high-quality education. It also contributed to competitiveness of TVET education by: ensuring clear standards, meeting of learning objectives and development of fundamental skills that students must attain before progressing to the next level. These stresses the need to strengthen curriculum implementation through stakeholder involvement, resource allocation, industrial linkages, restructuring in order to attain the said benefits.

Additionally, HOD number 67 wrote, *"Regular monitoring of the curriculum implementation helps ensure that training programs offered by the TVET institute are aligned with current and emerging industry needs and trends."* The process, therefore, informs the identification of areas where curriculum improvements or innovations are needed. It also triggers necessary adjustments to curriculum content, delivery methods, and assessment strategies, leading to improved program outcomes. This implied that by staying up-to-date with industry requirements, the institute can produce graduates who are better prepared to meet the demands of the job market. This was long implemented in Malaysia, as put by Bassah (2022) that, TVETs in Malaysia are experiencing lifelong demand for TVET graduates due to the investments in providing top-notch instruction that is responsive to labor market demands, employing competent human resources, enhancing abilities through lifelong learning, revising curriculum, networking, curriculum alignment and articulation. The results pose implication on professional development of trainers, industrial linkages and keeping curriculum abreast with changing job requirements through regular revision.

HOD respondents further indicated that monitoring curriculum implementation helps uphold high standards of quality in technical education and training. This was significant in enhancing an institute's reputation, making it more attractive to students and employers. HOD 039 also wrote, *"Institutes with well-monitored and implemented curricula are more likely to meet the standards set by accrediting bodies or industry certifications."* It is indisputable that accreditation and recognition enhance the institute's credibility and competitiveness. This benefit was also evident in the results of Komba (2015) which stipulated that, a well-planned curriculum ensured standardization and high

quality education by ensuring the acquisition of employability skills, meeting of learning objectives and clear role definition of stakeholders. However, the role of accrediting bodies and certification in standardizing the quality of education has not been reported. TVETs leadership should invest human, financial and material resources in order to build their reputation through audit, certification and accreditation bodies in order to realize higher competitiveness.

Monitoring curriculum implementation also contributes to fiscal efficiency since the TVET administrator makes informed decisions in allocating funds to identified areas of the curriculum that require additional support or investment. This means that financial managers of TVETs can direct funds toward programs, departments and activities that significantly impact competitiveness. Some aspects of planning were mentioned by Kanyonga and Mtana (2019) research in Tanzania. Kanyonga and Mtana (2019) mentioned that, a robust implemented curriculum directed financial planning. This in place enabled ensure perpetuity of trainer professional development, employment of essential personnel, purchase of material, information and learning resources and also building physical facilities. The results therefore, deduce curriculum implementation as a centric element which informs financial decision-making and allocation. Therefore, it is out of a comprehensive curriculum that: trainer competence development, physical resources, lab equipment, laboratories, libraries and other infrastructure are equipped. This poses implication on stipulated interval curriculum alignment and restructuring to fit employability needs as well as inform resource allocation.

During the focused group discussions, the student leaders were asked to explain how trainees were involved in monitoring curriculum implementation at their institutions.

Information gathered during the discussion highlighted diverse approaches used across various TVET institutions. The most prevalent mechanism of involving trainees was the systematic course evaluation system where students anonymously rate individual courses and instructors. This approach enables a trainee to evaluate the delivery of a given unit and provide some assessment information about the trainer. It also includes feedback on teaching methods, class interactions, and the availability and relevancy of learning materials. In Manchester University College, Lu et al. (2015) reported that, pharmacology students were involved in curriculum development through focused group discussions and end of course evaluations to criticize teaching methodologies, course content delivered and the extend of impact of end of academic year courses. Through including student voice at Mancheser University College, improved learning experience, quality of learning and student retention was achieved. The results not only underscore the importance of trainee involvement in curriculum development but also clarifying the specific ways of involvement and roles to be undertaken by learners enrolled at TVET institutions.

Some TVET institutes were conducting surveys, while others had established suggestion boxes, and a few others had established online forums, where students provided information regarding their training experiences, course content, teaching pedagogies, and satisfaction with various facets. Moreover, open forum meetings are also featured, where students can discuss curriculum implementation matters with trainers and TVET administrators. This was not the case for college students based in the US. Lu et al. (2015) opined that, students were majorly involved in in curriculum development through focused group discussions and end of course evaluations. Comparably, it was unveiled that, leaner engagement had potential benefits which included: improved quality of teaching and

learning, instructional delivery, academic performance and curriculum acceptance. The involvement of trainees in monitoring curriculum implementation is crucial in capturing customers' insights, and this helps to ensure that the training programs and courses meet their needs and are of a high quality standard.

When asked to suggest ways to improve monitoring of curriculum implementation to increase competitiveness, student leaders mostly talked of the need for TVET to offer industrial day for students, ensure trainees are adequately skilled, engage examination bodies to monitor and assess industrial attachment, and benchmark for best practices, and hence use benchmarking data to identify areas for improvement. Other measures put forward by principals included:

- Providing times and appropriate textbooks and other training/instructional resources.
- Using assessments to gauge the curriculum's effectiveness based on trainees' performance in the industry.
- Ensuring a robust quality assurance department.
- Harmonizing continuous evaluation of trainees.
- Involving learners in regular evaluation of curriculum implementation.

On the same question, the HODs suggested standardizing class sizes, developing monitoring tools, and establishing a systematic process for regularly reviewing and updating the curriculum to ensure it remains current and aligned with industry needs. They also emphasized the value of establishing strong relationships with local industries and employers to gain insights into their evolving needs. The need for a flexible curriculum that allows customization based on students' interests and industry demands was also

suggested. This could be realized by involving industry experts in the curriculum development, implementation and review processes. An advisory committee comprising representatives from relevant industries, academia, and alumni would also suffice. Another key suggestion provided by HODs was integrating soft skills such as communication, problem-solving, and teamwork into the curriculum and ensuring the curriculum incorporates relevant technology and digital skills essential in current and future job markets.

Related findings exist which feature some common aspects of remedies for ensuring a competitive curriculum. One was reported by Remington (2018) in Indonesia whose findings opined that, skills development, public-private partnership, collaborations between TVETs and commercial partners, development of entrepreneurial skills and digital literacy led to improved quality of teaching and learning. Apart from this, Okorafor (2017) described that, the development of technology and industry partner engagement enabled adequate trainer preparation to meet the market demands and labor requirements. The presented findings in collaboration with the discussed results therefore, opine the need to strengthen employer TVET institutional partnerships, industrial attachment and technology which are essential in preparing trainees adequately. This pose implications on budget and funding.

4.9.4 Integration of Quantitative and Qualitative Findings on Monitoring of Curriculum Implementation in TVETs

A deeper interrogation of the quantitative and qualitative findings depicted similarities of issues and aspects associated with monitoring curriculum implementation.

In the first instance, there is no conflict on the significance of monitoring curriculum implementation in contributing to the competitiveness of TVET institutions. In the second instance, areas of convergence of quantitative and qualitative findings were identified, where both agreed that monitoring curriculum implementation provides a clear roadmap for trainers and learners. The attributes that link monitoring of curriculum implementation and the competitiveness of TVET institutions included syllabus coverage, facilitators' supervision, achievement of learning outcomes, identification of strengths and shortcomings in the delivery of the curriculum, quality control and assurance, basis for understanding and incorporating market needs and industry trends in the revised curricula.

The study noted that the competitiveness of TVET institutions would be enhanced considering that monitoring of curriculum implementation upholds high standards of quality in technical education and training and enhances the institute's reputation. The presented results agree with those of Dugarova et al. (2016) who pointed out that, ensuring consistency in methods of regulating and standardizing higher education results in international harmonization which in turn increases competitiveness of higher education. Specifically, this could be ensured through having quality assurance mechanisms and systems in place. To realize the said parameters, there is need to revitalize quality assurance, curriculum restructuring and stakeholder engagement.

Other converging aspects were measures needed to strengthen the monitoring of curriculum implementation, where the adoption of a scheduler system, establishment of a quality assurance department, and establishment of strong relationships with local industries and employers to gain insights into their evolving needs were predominant. In

addition, fiscal efficiency, which is a critical element of competitiveness, was noted. This is because TVET administrators would be guided on priority areas when allocating funds, and appropriate textbooks and other training/instructional resources for supporting effective delivery would be procured. Additionally, the involvement of stakeholders was underscored, which fosters a collaborative approach to curricula development, implementation and evaluation. Results have also underscored the contributions of competent personnel, clear procedures, adequately equipped facilities, modern infrastructure, adequate material resources, partnering with employing organizations and quality assurance (Supe et al., 2016; Gachunga et al., 2020). This implicates on considering the prerequisites of curriculum requirements before fund allocation in TVET institutions.

The convergence of the findings bolstered confidence in the correlation results, which provided empirical evidence of a statistically significant relationship between monitoring of curriculum implementation and the competitiveness of TVET institutions. Therefore, TVET institutions are expected to strengthen the aforementioned measures in order to remain competitive. The monitoring of curriculum implementation was therefore termed significant in helping TVET institutions to align their programs with industrial needs, ensuring that graduates possess the required skills and knowledge, hence making a TVET institute more competitive. Moreover, the monitoring provides quality assurance and continuous improvement, facilitates adherence to industry demands, fosters a learning culture, and increases confidence among learners and the community. These are in agreement with the stipulations of the National Evaluation Plan Report (2018) which demonstrated that, the existence of an evaluation steering committee, teacher consultation in curriculum development, employer involvement, implementation of a curriculum

evaluation framework and participatory procedures for stakeholders in curriculum implementation are best practices for ensuring quality of education and competitiveness. This underscores the need to put in place quality assurance mechanisms, stakeholder engagement, and resource allocation and employer collaboration measures in TVETS so as to attain desired competitiveness.

4.10 Influence of Financial Management Practices on Competitiveness of TVETs

The third objective examined the influence of financial management practices on the competitiveness of TVET institutions in Nyeri County. Data was obtained from HODs, principals and student leaders through questionnaires, interviews and focused group discussions. The findings based on quantitative data (both descriptive and inferential) are first presented, followed by the findings based on qualitative data. The last section provides an integration where findings on both quantitative and qualitative converge to help the study conclude the analysis regarding the influence of financial management practices on the competitiveness of TVET institutions in Nyeri County.

4.10.1 Descriptive results from HODs on financial management practices in TVETs

The efficiency of a TVET institute is characterized by adoption of prudent financial management practices. Since HODs were the main respondents in this study, the researcher asked them to provide comments on aspects about the financial management practices at their institution. From the context of this study, the HODs heads critical functional units of a TVET institution which are therefore revenue centers. Departments are also cost centers considering the training materials and other equipment needed to support effective learning and training.

The researcher, therefore, presented to the HODs several statements in a table requiring them to rate each statement using the Likert scale where 0 = Not at all, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. The Likert scale statements focused on various indicators and aspects of financial management practices that included annual financial plan, risk management and assessment practices, financial management policies, transparency and financial accountability systems, enforcement mechanisms, own-source revenue streams, transparency practices, government financial allocations, financial guidance from government, financial sustainability measures, adherence to policies and accounting & auditing standards and conventions; professional qualifications of accounting staff. The results are summarized in Table 4.16.

Table 4. 14***Descriptive results on financial management practices***

Statements on financial management practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Our training institute has an annual financial plan	2(1.3%)	14(9.2%)	25(16.3%)	48(31.4%)	46(30.1%)	18(11.8%)	3.15	1.185
Management adhere to the annual financial plan	4(2.6%)	37(24.2%)	44(28.8%)	48(31.4%)	20(13.1%)	0	3.01	1.433
Departmental budget is adhered to in our institution	6(3.9%)	14(9.2%)	8(5.2%)	56(36.6%)	53(34.6%)	16(10.5%)	3.20	1.227
Our institution has embraced risk management and assessment practices	28(18.3%)	18(11.8%)	17(11.1%)	36(23.5%)	46(30.1%)	8(5.2%)	2.51	1.586
There is an established financial management policies in our institution	20(13.1%)	2(1.3%)	24(15.7%)	36(23.5%)	57(37.3%)	14(9.2%)	2.98	1.462
Our institution adhere to the established financial management policies	6(3.9%)	14(9.2%)	8(5.2%)	60(39.2%)	36(23.5%)	29(19%)	3.26	1.307

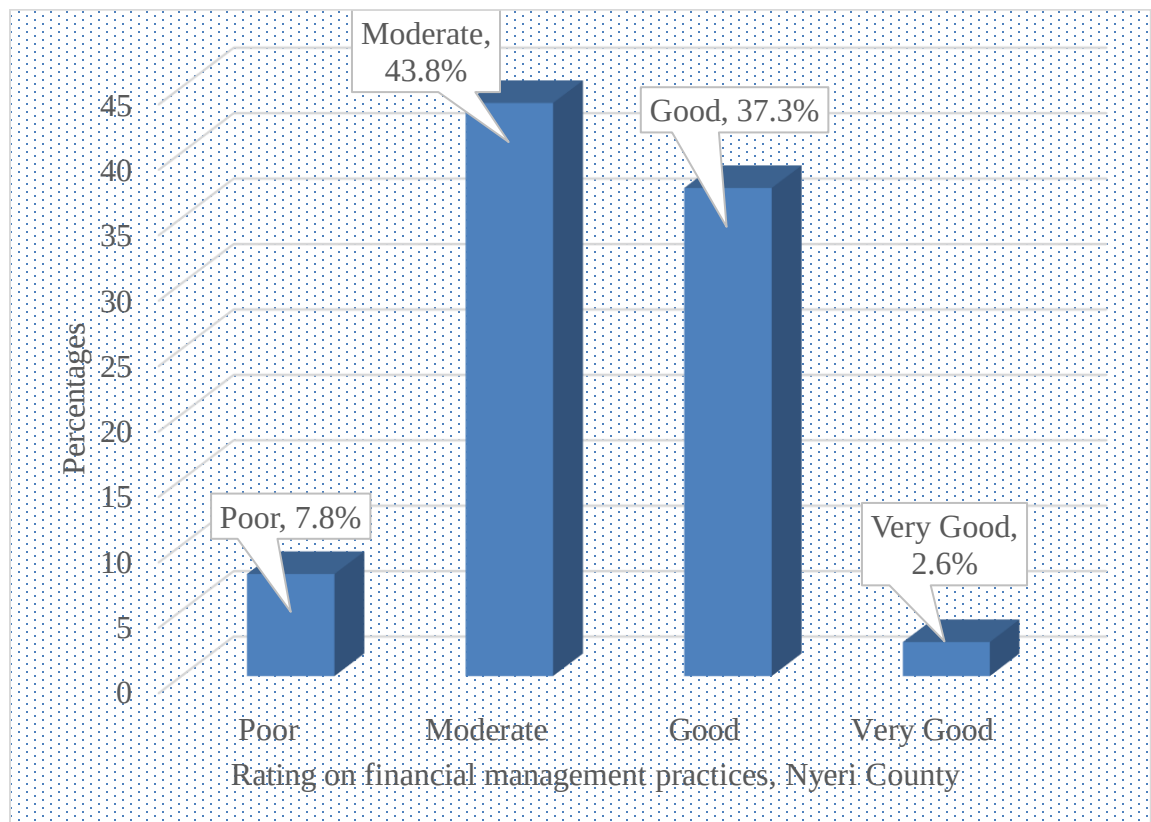
Statements on financial management practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Our institution has established transparency and financial accountability systems	10(6.5%)	14(9.2%)	2(1.3%)	39(25.5%)	44(28.8%)	44(28.8%)	3.47	1.483
The management is committed to enforcing established transparency and financial accountability systems	14(9.2%)	6(3.9%)	10(6.5%)	45(29.4%)	43(28.1%)	35(22.9%)	3.32	1.467
Our institution has own-source revenue streams	36(23.5%)	16(10.5%)	8(5.2%)	33(21.6%)	51(33.3%)	9(5.9%)	2.48	1.706
There is transparency in the management of own-source revenue	36(23.5%)	12(7.8%)	9(5.9%)	25(16.3%)	46(30.1%)	25(16.3%)	2.71	1.838
The government financial allocations is sufficient in meeting the financial needs of our institution	16(10.5%)	31(20.3%)	26(17%)	44(28.8%)	13(8.5%)	23(15%)	2.50	1.539
The government has provided direction and guidance on financial management and sustainability	14(9.2%)	14(9.2%)	18(11.8%)	48(31.4%)	43(28.1%)	16(10.5%)	2.92	1.419

Statements on financial management practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Our institution has put in place financial sustainability measures	12(7.8%)	12(7.8%)	15(9.8%)	67(43.8%)	30(19.6%)	17(11.1%)	2.93	1.328
Our institution adhere to accounting and auditing standards and conventions	8(5.2%)	12(7.8%)	6(3.9%)	65(42.5%)	48(31.4%)	14(9.2%)	3.14	1.222
Staff who work in financial department have the required professional qualifications	8(5.2%)	33(21.6%)	22(14.4%)	9(5.9%)	68(44.4%)	13(8.5%)	2.88	1.504
Summation mean							2.96	1.447

The results in Table 4.16 show a summation mean that is slightly above half; that is, 2.96 with a standard deviation of 1.447. The standard deviation is around one; hence, there was no significant rating variation from the mean of various statements depicting financial management practices. This indicates a moderate level of financial management practices in TVET institutions in Nyeri County. A similar information was obtained when HODs were asked to rate the level of transparency and financial accountability systems put in place at their institutions. The findings are shown in Figure 4.6.

Figure 4. 6

Rating on the level of transparency and financial accountability systems at TVET institutions in Nyeri County



This means that aspects of financial management practices at TVET institutions in Nyeri County were mainly around the average, as indicated by a moderate rating of 67(43.8%). However, there was one aspect that was rated high across many TVET institutions, that is, “Our institution has established transparency and financial accountability”. Forty-four HODs (28.8%) rated this statement to a large extent, and 44(28.8%) to a very large extent (mean = 3.47; SD = 1.483). A follow-up question also established that a sizeable number of TVETs had enforced the set transparency and financial accountability systems (mean = 3.32; SD = 1.467). This shows that most TVET institutions had established and implemented transparency and financial accountability systems. The results do not compare with the observations of Madondo (2021) among TVETs in South Africa, which were recognized to have very poor financial control and accountability systems. This was evidenced by poorly defined accountable financial responsibilities to principals and administrative staff tasked with the mandate of managing school finances. As a result, TVETS experienced poor capacitation of requires, high cases of corruption, wasteful expenditure and theft. The results are pointing the need for tight transparency and accountability systems including defining roles and financial obligations of school stakeholders.

It was also clear from the findings that most TVET institutions had established financial management policies (mean = 2.98; SD = 1.462) and were averagely adhering to them (mean = 3.26; SD = 1.307). Financial policies are critical in informing resource allocation and budgeting exercises, controlling costs, fostering long-term financial sustainability, transparency and compliance with guidelines, and promoting risk management practices; therefore, adherence to set policies is very significant. Results

presented are in agreement with the observations of Wakoli and Kitainge (2019) who established that technical training institutes in Bungoma, County, lacked comprehensive policies and did not have a standard procedure for resource allocation, resource mobilization and scientific way to assess departmental needs for inclusion in the annual budget. Poor adherence to financial policies deterred standard procedure for resource allocation, infrastructural development and fiscal accountability. This qualifies the need to communicate financial policies to TVET stakeholders through trainings and awareness creation platforms.

The findings also indicate that more than half of TVET institutes in Nyeri County had an annual financial plan (mean = 3.15; SD = 1.185), and the level of adherence on the same was at average (mean = 3.01; SD = 1.433). The departments were also noted to have had their budget, whose adherence level was also at average (mean = 3.20; SD = 1.227). The departmental budgets are essential and usually help to operationalize functional activities. Such appropriations are collated into one financial plan and are critical for promoting prudent financial management practices. Mubanga et al. (2019) also acknowledged budgeting as a critical financial control tool whose adherence ensured equitable sharing of resources within an organization, resource and infrastructure development. However, the extent of adherence to set budget was not clarified. The results appreciate the contributions of budgets in TVET institutions hence, mechanisms for promoting adherence to it should be strengthened.

The study additionally noted that most TVET institutes were also adhering to the accounting and auditing standards and conventions (mean = 3.14; SD = 1.222). However, only half had embraced risk management and assessment practices (mean = 2.51; SD =

1.586). The standard deviation was nearer 2 for this aspect, depicting a variation in the responses across TVET institutes. This implies that although slightly more than half of TVET institutes were adhering to the accounting and auditing standards and conventions, some still needed to embrace risk management and assessment practices. Failure to adopt risk management and assessment practices is a non-conformity issue in the financial management practices of an organization and demonstrates a low level of competitiveness. In South Africa, a lot of non-conformities were reported by Madondo (2021) despite the adoption of several financial convention frameworks and legal standards meant to streamline financial management practices in TVETs. Madondo (2021) complained of poor financial control, accounting, transparency, poor reporting, lack of responsibilities and risk management. This has implication on not only communicating financial management standards to responsible personnel but also, educate them on the importance of risk assessment and management practices.

The issue of funding is fundamental. The study wanted to establish the adequacy of funds allocated to TVETs by the government. According to the findings, half of the TVET institutes in Nyeri County indicate that the funds allocated were insufficient (mean = 2.50; SD = 1.539). The inadequate funds would force TVET institutes to look for alternative sources of money. When asked to indicate whether their TVET institutes had own-source revenue streams, 36(23.5%) said not at all, 16(10.5%) indicated to a very small extent, 8(5.2%) to a small extent; 33(21.6%) moderate, 51(33.3%) to a large extent, while 9(5.9%) was to a very large extent. This means that approximately 39.2% of TVETs had no own-source revenue or had miniature funds, while 51(33.3%) were moderate; hence, such institutions relied on government capitation. Reliance on government capitation can often

frustrate, primarily due to delays in disbursement and as a result of the piecemeal release of the funds.

The study also argues that if funds available to a TVET institute are insufficient, such TVETs would need more support to achieve internal efficiency, the absence of which may affect their competitiveness to a large extent. A situation alike was also presented in Zambia by Mubanga et al. (2019). Even though majority of TVETS in Lusaka Province had some other revenue source streams apart from government funding, Mubanga et al. (2019) respondents complained of late disbursement and irregularly distributed limited funding. Little funds from the government were blamed to be the key reason for poorly developed institutions in terms of infrastructure, physical facilities, teaching and learning information materials and limited staff. The results raise an outcry which implicates government reconsideration and restricting of the funding allocation model to TVETS. Moreover, TVETs need to initiate and enhance their own source revenue streams to achieve financial sustainability.

4.9.2 Testing of Hypothesis Three

The third null hypothesis of the study stated that financial management practices does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County. A Pearson correlation was conducted to assess the hypothesized relationship between financial management practices and the competitiveness of TVET institutions. The correlation results are shown in Table 4.17.

Table 4. 15***Correlations analysis between financial management practices and the competitiveness of TVET institutions***

		Y	X3
Y	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	153	
X3	Pearson Correlation	.677**	1
	Sig. (2-tailed)	.000	
	N	153	153

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

The results show a Pearson correlation value of .677**, which is positive and strong and nearer 1. This value is also significant, $P < 0.05$. This led to the rejection of the null hypothesis and concluded that there was a statistically significant positive relationship between financial management practices and the competitiveness of TVET institutions. This meant that a positive increase in financial management practices would lead to a positive growth in the competitiveness of TVET institutions. Agreeably, Gachunga (2021) reported the existence of a positive influence between resource mobilization, financial management and competitiveness of TVET colleges in Kenya. The results indicate a need for TVET institutions in Nyeri County to strengthen their financial management practices to remain competitive. The areas of improvement were noted to include risk management and assessment practices, adherences to financial management policies, initiation of own-source revenue streams, government financial allocations, financial sustainability measures, adherence to policies, and accounting & auditing standards and conventions.

4.10.3 Qualitative findings and discussion on financial management practices in TVET institutions in Nyeri County

During the focused group discussion, the researcher asked the student leaders to identify some of the accountability and transparency issues they had regarding financial matters, which were prevalent in TVET institutions in Nyeri County. The focused group discussions highlighted problems such as poor accountability of money meant for trips and academic tours, exaggerations on damages caused by students, transparency issues on tendering processes, exaggeration of prices of items when procuring resources, and slow decision-making processes which create avenues for manipulation and interferences on matters touching finances. This report was inconsistent with the one presented by Gachunga (2021) who expressed that, financial malpractices in TVET institutions was majorly indicated by the prevalence of corruption and lack of financial management knowledge among stakeholders. The presented results opine the need to tighten procurement offices with financial accountability systems in order to restrain exaggerations.

The tendering process is one avenue where organizations lose money. If the tendering process is characterized and mugged with irregularities, corruption, and exaggeration of prices of items, then the integrity of the procurement system is compromised. The compromise on the procurement system usually vitiates the competitiveness of an organization. In agreement, Wakoli and Kitainge (2019) found that TVET principals complained of corruption and funds malpractices as major detriments to procurement planning. Wakoli and Kitainge (2019) found that, this can best be alleviated by maintaining proper procurement standards, guidelines and practices.

The study was also interested in solutions to the issues undermining prudent financial management practices in TVET institutions. Principals were hence asked during the face-to-face interview to explain how financial management practices foster the attainment of competitiveness of TVET institutions. The principals provided thirty-five statements, which were scrutinized for common thematic statements. The exercise narrowed down to eight thematic statements. A few broad themes were hence generated, as listed in Table 4.18.

Table 4. 16

How financial management practices foster the attainment of competitiveness of TVET institutions

Thematic statements	Broad themes
1) Builds trust and confidence among stakeholders	• Trust and confidence of stakeholders
2) Ensure funds are used for the intended purposes	• Financial accountability and transparency
3) Enhance objective resource allocation	• Objective resources allocation
4) Fosters better utilization of allocated funds	• Efficient resources utilization
5) Enhance accountability and efficient resource utilization	• Accountability in resource utilization
	• Cost management
6) Fosters compliance with financial reporting regulations, which minimizes cases of malpractice	• Compliance with standardized financial practices
7) Improved quality training due to the timely availability of training materials and other resources	• Quality of training
8) Promotes financial stability	• Financial sustainability

The thematic analysis results shown in Table 4.18 indicate how financial management practices affect the competitiveness of TVET institutes in Nyeri County. Notably, prudent financial management practices are critical in building trust and confidence in parents/guardians, students and other stakeholders. As such, potential

development partners become interested in partnering and collaborating with TVETs. At the same time, the students also want to be associated with an institution they can trust, leading to increased competitiveness of a TVET institution. This was also observant in the reports of Bundotich and Maina (2020) in Uasin Gishu County which presented that, cash flow management practices influenced student's retention, employee turnover rates, and internal effectiveness of TVET institutional operations. This underscores the weighty of financial management practices in place as a mechanisms of achieving competitiveness in TVET institutes in Nyeri Couty. Since TVET stakeholders mind about the reputation of their affiliate institutions, the results implicate the need to tighten financial controls, accountability and reporting practices so as to win stakeholders trust.

The results in Table 4.18 show that when TVETs ensure that funds are used for the intended purposes, it promotes financial accountability and transparency and fosters objectivity in resource allocation and better alignment of activities with institutional goals. According to Principal 05, prudent financial management practices support budgetary control measures. The principal further argued that in her institution,

"When system of budgetary controls are installed and followed to the latter, it ensures that there is no over budgeting and minimizes chances of incurring costs that have not been budgeted and planned for." causing them to lose their students, higher employee turnover rates, and eventual closure of institutional operations

In an open-ended question of questionnaire, HOD number 103 concurred on the issue of budgetary saying,

"It ensures that resources are allocated efficiently to support critical areas such as faculty development, infrastructure improvement, and curriculum enhancement. The effectiveness in the allocation leads to better-equipped classrooms, modern equipment, and updated materials, enhancing the quality of education and training."

The findings underscore the implication of financial management on budgetary controls, cost management, and better-equipped learning facilities such as classes, laboratories, and workshops, among others, and enable timely maintenance of the same. Principal 01 noted, *"Modern and well-maintained facilities create a conducive learning environment and attract students to the institution"*. The above preceding discussion is in agreement with the observations of Mutai and Kimani (2019) which underscored that, prudent financial management practices such as budgeting and financial controls enabled TVETS settle liquidity problems which implied that an institution was able to settle its financial obligations timely. Moreover, proper budgeting and sticking to it helped minimize extra spending to non-budgeted activities, which enabled workers and suppliers to be paid on time, secure practical materials and food sustainability for boarding students. This improved the reputation of the institutions. Henceforth, there is urgency of establishing budget controls and practices to help TVET stakeholders stick to them so as to attain competitiveness.

The results also show that financial management practices lead to improved quality training due to the timely availability of training materials, educational technology, software, and other resources, which heighten the competitiveness of a TVET institution. It further enables investment in faculty and staff development, including training,

certifications, and research opportunities. Highly qualified and motivated instructors enhance the quality of education and contribute to the institution's reputation. The quality of instructors has further implications on academic programs and continuous curriculum development and improvement, which help students acquire in-demand skills, increasing their employability and ultimately making the institution more competitive. Amukhuma (2018) also associated financial allocation and its prudent management to teaching staff professional development, technology acquisition, and technical infrastructure development and information resource procurement. These findings propel the discussion by cementing the need for strengthening financial management practices through financial accountability policies', financial controls and reporting practices.

It is also clear that financial management practices foster the sustainability of TVETs. Financial stability provides comprehensive student support services, such as career counselling, academic advising, and mentoring. These services eventually help to improve student success rates and satisfaction, making the institute more attractive to potential students. Along this line of thought, Principal 07 added, *"Financial stability enables research and innovation initiatives within the institution. Research outputs can lead to program improvements, industry partnerships, and a reputation for being at the forefront of technological advancements."* Principal 03 also noted, *"When an institution's finances are stable, it can support outreach efforts to establish and maintain partnerships with local industries. The collaborations established with industries provide opportunities for internships, apprenticeships, and job placements for students, making them more employable."* The presented results agree with the report of Hamdard (2019) who reported that in Germany, finance channeled through their government to support TVET education

enabled top management cater for the training costs of their employees, apprenticeships, staff motivation tokens, allowances, supporting student education through financing their fees and other support services. In succinct, financial management practices encourage staff professional development as well as student retention in TVETS. There is need to embrace prudence practices to control cash flow, budget, report appropriately in order to realize the said benefits.

The HOD number 86 expounded the above discussion on financial sustainability to include the aspects of scholarships, bursaries, and sponsorship to financially needy students. In an open-ended question in the questionnaire, HOD number 86 wrote, *"Financial sustainability paves the way for the establishment of financial aid programs and scholarships for deserving students. These initiatives make education more accessible and enhance the institute's reputation."* The responses mean that the financial sustainability of TVETs plays a critical role in defining the competitiveness of a TVET institute. It provides confidence to instructors and students and promotes effective collaborations and partnerships, ultimately benefiting trainees in skills acquisitions and employment opportunities. This was realized in Germany where Hamdard (2019) reported the tremendous efforts leveraged by TVETs management in providing scholarship and bursary opportunities for needy students within the institution premises. Prudent finance managements leads to sustainability which ultimately causes students to benefit from the college. This is possible with supportive management and sound air tight finance management practices in place. The results implicates on the need to tighten financial misappropriation loopholes in order to make the best out of the disbursed funds from the national treasury towards supporting TVET education.

Financial sustainability has enormous implications for marketing programs. This is because some funds are usually dedicated to promoting the institution. Therefore, TVET institutions are expected to ensure an adequate budget for marketing and outreach activities. These efforts help advance the institute and its programs to potential students, parents, and industry stakeholders, increasing enrolment and industry engagement. The other observation noticed in Table 4.18 is compliance with standardized financial practices. This implies that financial management practices foster compliance with financial reporting regulations, which minimizes cases of malpractices.

The study further wanted to understand what TVET institutions should do in financial management practices to be more competitive. Principals provided forty-seven suggestions, including some measures they had already implemented at their institutions. The statements were analyzed to identify common themes. This resulted in seven thematic statements, namely,

- i. Ensuring funds received is acknowledged, cash transactions are minimized, proper financial documentation and adherence to procurement guidelines and law.
- ii. Employing qualified and adequate account staff
- iii. Auditing books of accounts annually
- iv. Establishing elaborate mechanisms for involving the Board of Governors in financial decision-making.
- v. Automating financial systems and integrating them with banks for revenue control.
- vi. Implementing robust internal audit systems
- vii. Adhering to budgetary allocation to promote transparency and accountability.

The findings indicate that fostering financial management practices is something achievable by all TVET institutions. TVETs were therefore expected to prioritize infrastructure development, institute budgetary control measures, support faculty development, strengthen student support systems, establish financial sustainability measures, negotiate better contracts with suppliers, optimize the utilization of resources, and explore cost-saving measures.

The focused group discussion with student leaders emphasized the need to adopt transparency in financial management and hold accountable anyone involved in all malpractices. The HOD number 63 recommended that TVET management eradicate irregularities and malpractices, mostly in tendering and procurement, to promote ethical practices. In Vietnam, common techniques have been adopted to encourage the competitiveness of TVETs. The common practices adopted include: promoting staff professional development, acquiring ICT technologies, developing and equipping institutions with modern infrastructure, TVET training facilities, equipment acquisition, and practical financial management practices in these institutions (Tuan & Cuong, 2019). This has implications in on TVET management to give the required support to develop the institutes employees, infrastructure and resources which require the put up of accountability systems.

When asked to state the measures that one had taken to ensure prudent financial management practices at their institution, Principal 09 said,

"The institute has systems that ensure fees are collected from registered students and other financial support in the form of bursaries, scholarships, and capitation is properly

recorded. After that, there is prudent allocation of resources through the drawing of a budget duly approved by the Board of Governors."

Principal 011 explained,

We allocate each department at the polytechnic an annual budget. The allocated budget, therefore, guides the transactions and all activities of the department. If the budget has been exhausted, this issue is reported to the chief finance officer, who advises the management on the way forward.

The results contradict what was reported by Madondo (2021) who noted poor compliance with internal and external financial control standards by TVETS. As a result, there lacked standard way of collecting budgets from departments. Despite the existence of standards, the study also observed that the lack of accountable financial responsibility and control leads to wasteful expenditure, fraud, corruption, and theft. The results are stressing the need for transparent processes and procedures to provide financial accountability and afford financial control, scheduling, and oversight measuring.

Other measures noted during the interview were adopting technology and procurement plans. Principal 010 said, *"The polytechnic has integrated the ERP system with banks. This helps in the monthly bank reconciliations and reduces revenue fraud since the transactions are done real-time."* Principal 02 pointed out that his institution had developed a comprehensive annual procurement plan and budgeting that are aligned to the strategic goal of TVET and had a finance policy that stipulates all the necessary internal controls. Some institutions also talked of having instituted measures to increase own-sourced finances through production units. The findings indicate some efforts made by TVET to strengthen financial management practices. The discussion has also pointed out

various areas that should be addressed to heighten the competitiveness of TVET institutions. In agreement, Wakoli and Kitainge (2019) also recommended the tightening up of procurement procedures and standards as a mechanisms for alleviating of corruption and funds malpractices. Wakoli and Kitainge (2019) found that, this can best be alleviated by maintaining financial control practices, budgeting and proper procurement standards, guidelines and practices. This implicates the need to adopt financial management system in order to integrate the different finance management mechanisms.

4.10.4 Integration of quantitative and qualitative findings on financial management practices at TVET institutions

Information gathered from HODs through questionnaires, interviews with principals of TVET institutes and focused group discussions held with student leaders all pointed out issues with financial management practices in TVET institutions in Nyeri County. In this study, financial management is the specialized process of managing money to achieve business goals and competitiveness. It involves planning, directing, monitoring and controlling TVET funds in order to make effective financial decisions (Al Breiki & Nobanee, 2019). In essence, financial management practices seek to apply standardized principles to the financial structures of a business (Al Breiki & Nobanee, 2019). Both quantitative and qualitative findings have pointed out weaknesses in the financial structures, internal controls, procurement practices, transparency issues, cost management, resource allocations, budgetary controls and financial sustainability issues. This indicates areas of convergence of the findings collected using different methodologies.

The inferential analysis substantiated the significance of financial management practices in influencing the competitiveness of TVET institutes. Similarly, the qualitative findings from FGD and interview further upheld the value of prudent financial management practices by emphasizing the aspects of trust and confidence among stakeholders, objective resource allocation, and better utilization of allocated funds, accountability and efficient resource utilization, compliance with financial reporting regulations, quality training, and financial sustainability. Agreeably, Gachunga (2021) reported the influence of financial management on the competitiveness of TVET colleges in Kenya. Financial management ensured resource mobilization, infrastructural development and equipment of modern facilities. Notably, Paryono (2017) noted that, financial management among TVETS in Asia improved to benefits including: maximizing access to TVET institutions, solidifying regional harmonization and developing TVET personnel, establishing quality assurance, and reducing the skilled labor supply and demand gap. The results ascertain the contributions of the balance score card model which translates how TVET institutions may gain competitive advantages in the market through ensuring monitoring and regular development of their institutional capacities, internal efficiencies with regard to financial management practices.

The study findings show that financial management practices at TVET institutions in Nyeri County were mainly around the average, as indicated in Figure 4.6 and demonstrated in the results shown in Table 4.17. These findings have provided evidence that there were some financial management measures that had been taken by some TVET institutes towards increasing competitiveness. The qualitative findings presented in section 4.10.3 were also consistent. The results pointed out measures that included establishing

measures for strengthening the collection of fees, financial support systems for students, allocating budget to each department, adopting technology in business processes, developing annual procurement plans, and instituting measures to increase own-sourced finances. That notwithstanding, there was room for improvement, considering that some aspects and indicators of financial management practices had low mean values, as shown in Table 4.17. Examples include risk management and assessment practices, own-source revenue streams, financial sustainability measures, and professional qualifications of staff who work in the financial department.

Coincidentally, these aspects were among measures identified by qualitative findings in the preceding section as areas requiring to be addressed by TVET management. Areas noted are minimizing cash transactions, proper financial documentation, employment of qualified and adequate account staff, annual auditing of books of account, robust internal audit systems, adherence to budgetary allocations, optimizing utilization of resources and establishing financial sustainability measures. These findings indicate a need for TVET institutions to strengthen their financial management practices to remain competitive. The results generally agree with studies such as Mwale et al. (2021), Madondo (2021) and Mubanga et al. (2019) carried out in the African continent which display substantive weaknesses existing despite the adoption of some practices aimed at managing institutional finances. Therefore, the study need to borrow in the contributions of the balance score card model to streamline organizational internal efficiencies, institutional capacity and financial management practices which are associated with internal capabilities that drives the competitiveness of TVET institutions. Notwithstanding, the results coin the need to strengthen up risk management and assessment practices, own-source revenue

streams, financial sustainability measures, and professional qualifications of staff who work in the financial department.

Financial management practices are also anchored in the Public Finance Management Act of 2012 and its regulations of 2015. They are also covered in the TVET Act of 2013 and feature in national circulars issued by the Ministry of Education occasionally. Despite these legislations and circulars, compliance weaknesses were noted, as indicated by the findings of this study. The quantitative results indicated risk management and assessment practices had a mean of 2.51, and the adherence to accounting and auditing standards and conventions had a mean of 3.14. The mean values are low, considering the existence of the guidelines mentioned above. The qualitative findings identified the issue of compliance with standardized financial practices as a critical theme, and the same was adversely mentioned during focused group discussions with student leaders. This indicates weak compliance mechanisms, which derail the competitiveness of TVET institutions. Similarly, weak compliance to finance obligations and regulation acts was reported in the findings of Madondo (2021) that despite the adoption of several financial convention frameworks and legal standards meant to streamline financial management practices in TVETs. Madondo (2021) complained of poor financial control, accounting, transparency, poor reporting, lack of responsibilities and risk management. In order to realize competitiveness, TVETS ought to take the challenge and communicate financial policies as well as implement a quality assurance body to oversee compliance.

4.11 Influence of Internal Systems on Competitiveness of TVETs

The fourth objective aimed to determine the influence of internal systems on the competitiveness of TVET institutions in Nyeri County. Data was obtained from HODs,

principals and student leaders through questionnaires, interviews and focused group discussions. The findings based on quantitative data (both descriptive and inferential) are first presented, followed by the findings based on qualitative data. The last section provides an integration where both quantitative and qualitative results converge to help the study conclude the analysis regarding the influence of internal systems on the competitiveness of TVET institutions in Nyeri County.

4.11.1 Descriptive results from HODs on internal systems in TVETs

The internal systems of a TVET institute are essential in ensuring effective program delivery and student success. Since HODs were the main respondents in this study, the researcher asked them to comment on aspects of their institution's internal systems. From the context of this study, the HODs interact with all the internal systems of a TVET institute. The researcher, therefore, presented to the HODs several statements about internal systems in a table requiring them to rate each statement using the Likert scale, where 0 = Not at all, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. The Likert scale statements focused on various indicators and aspects such as internal processes, institutional policies, institutional culture, administrative systems, accountability systems, quality assurance systems, academic systems, student support systems, and supportive technologies. The results are summarized in Table 4.19.

Table 4. 17***Descriptive results on internal systems of TVET institutes in Nyeri County***

Statements on internal systems (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
There is good coordination of the internal teaching activities in our institution	0	10(6.5%)	6(3.9%)	38(24.8%)	51(33.3%)	48(31.4%)	3.79	1.128
There is good coordination of the internal administrative activities in our institution	0	4(2.6%)	4(2.6%)	66(43.1%)	37(24.2%)	42(27.5%)	3.71	.985
We have a functioning quality assurance that monitors the quality of teaching and learning	14(9.2%)	29(19%)	26(17%)	49(32%)	21(13.7%)	14(9.2%)	2.50	1.419
There are established measures and systems to ensure curriculum implementation	0	23(15%)	27(17.6%)	42(27.5%)	41(26.8%)	20(13.1%)	3.05	1.255
There are procedures guiding daily operational activities in our institution	0	4(2.6%)	4(2.6%)	47(30.7%)	44(28.8%)	54(35.3%)	3.92	1.000

Statements on internal systems (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Students finish their academic programs on time as stipulated in the curriculum	0	6(3.9%)	8(5.2%)	24(15.7%)	61(39.9%)	54(35.3%)	3.97	1.038
There are standardized operating procedures in each department	0	0	6(3.9%)	51(33.3%)	52(34%)	44(28.8%)	3.84	.976
The internal systems has led to increased responsiveness	2(1.3%)	6(3.9%)	19(12.4%)	44(28.8%)	42(27.5%)	40(26.1%)	3.56	1.191
The internal systems has led to reduction of time spent serving a customer	2(1.3%)	6(3.9%)	6(3.9%)	60(39.2%)	43(28.1%)	36(23.5%)	3.59	1.091
There is commitment from staff to follow the established internal systems, structures and procedures when serving customers in our institution	0	0	4(2.6%)	64(41.8%)	57(37.3%)	28(18.3%)	3.71	.792

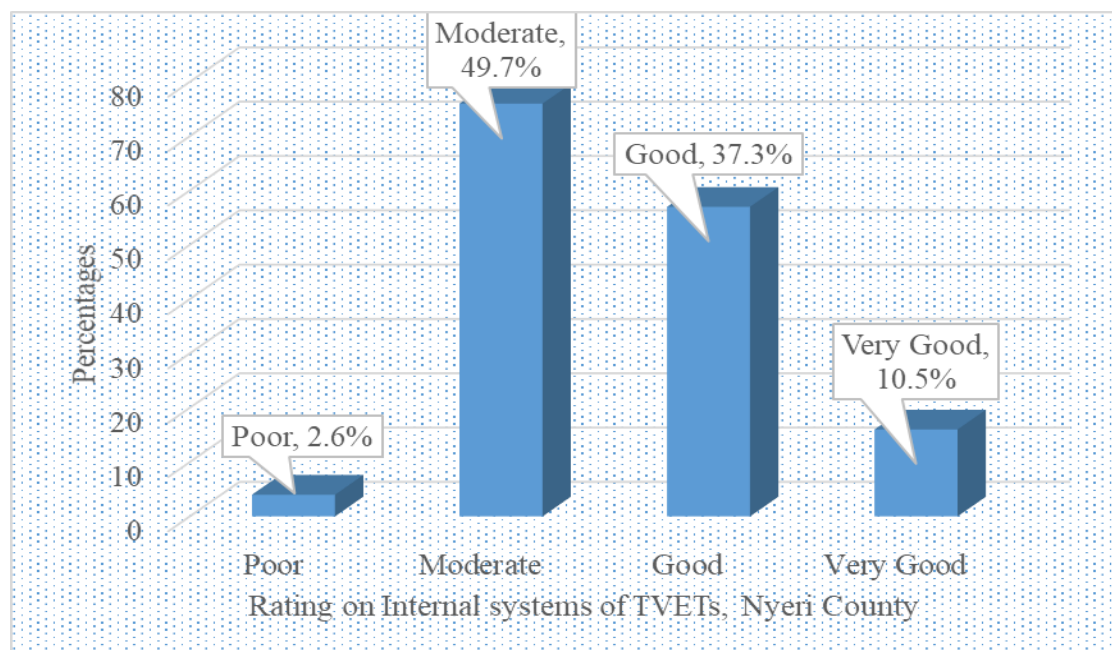
Statements on internal systems (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
The management support the adherence to established internal systems, structures and procedures	0	2(1.3%)	12(7.8%)	64(41.8%)	35(22.9%)	40(26.1%)	3.65	.997
Our institution has a policy framework to ensure smooth operations and activities	4(2.6%)	0	26(17%)	64(41.8%)	11(7.2%)	48(31.4%)	3.45	1.240
The management is committed to practices that promote internal efficiencies	7(4.6%)	0	16(10.5%)	64(41.8%)	29(19%)	37(24.2%)	3.43	1.223
Our institution is ISO certified	49(32%)	0	10(6.5%)	58(37.9%)	5(3.3%)	31(20.3%)	2.41	1.862
All processes in our institution are documented	27(6%)	6(3.9%)	8(5.2%)	11(7.2%)	79(51.6%)	22(14.4%)	3.14	1.699
Technology has been adopted in driving processes in our institution	0	22(14.4%)	10(6.5%)	59(38.6%)	42(27.5%)	20(13.1%)	3.04	1.473

Statements on internal systems (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
The institutional culture and practices enhances internal efficiencies in our TVET	0	6(3.9%)	44(28.8%)	49(32%)	48(31.4%)	6(3.9%)	3.03	.959
There is an established service charter in our institution	12(7.8%)	17(11.1%)	41(26.8%)	27(17.6%)	22(14.4%)	34(22.2%)	2.86	1.565
The service charter has been operationalized	25(16.3%)	4(2.6%)	41(26.8%)	19(12.4%)	38(24.8%)	26(17%)	2.78	1.655
The service charter is adhered to in our institution	27(17.6%)	2(1.3%)	46(30.1%)	29(19%)	17(11.1%)	32(20.9%)	2.67	1.673
There are reports and evaluation feedback on implementation of service charter in our institution	43(28.1%)	2(1.3%)	38(24.8%)	17(11.1%)	43(28.1%)	10(6.5%)	2.29	1.701
							3.30	1.261

The results in Table 4.19 show a summation mean of 3.30 with a standard deviation of 1.261 for construct on internal systems. The standard deviation is around one; hence, there was no significant rating variation from the average mean for various statements characterizing the internal systems. This indicates a moderate level of internal systems in TVET institutions in Nyeri County. It means that the internal systems of TVET institutions were average. The mean value and standard deviation results corroborated with the rating provided by HODs when asked to rate the internal systems put in place at their institutions. The findings are shown in Figure 4.7.

Figure 4.7

Internal systems put in place at your institution



The findings mean that the aspects of internal systems at TVET institutions in Nyeri County were at a moderate level, at 49.7%. However, according to Table 4.19, there are some elements that were rated high across many TVET institutions, these were, 'students finish their academic programs on time as stipulated in the curriculum' (mean = 3.97; SD = 1.038), 'there are procedures guiding daily operational activities in our institution' (mean = 3.92; SD = 1.000), 'there are standardized operating procedures in each department' (mean = 3.84; SD = .976), 'there is commitment from staff to follow the established internal systems, structures and procedures when serving customers in our institution' (mean = 3.71; SD = .792), 'there is good coordination of the internal teaching activities in our institution' (mean = 3.79; SD = 1.128), 'there is good coordination of the internal administrative activities in our institution' (mean = 3.71; SD = .985), 'the management support the adherence to established internal systems, structures and procedures' (mean = 3.65; SD = .997), 'the internal systems has led to reduction of time spent serving a customer' (mean = 3.59; SD = .091), 'the internal systems has led to increased responsiveness' (mean = 3.56; SD = 1.191), 'our institution has a policy framework to ensure smooth operations and activities' (mean = 3.45; SD = 1.240), and 'the management is committed to practices that promote internal efficiencies' (mean = 3.43; SD = 1.223).

All the ten aspects mentioned above had an average mean of 3.68 and a standard deviation of 1.060. The mean score had minimal variation. The mean is high and indicates an interplay of the existence of procedures guiding daily operational activities, standardized operating procedures in each department, commitment from staff in following the established internal systems, structures and procedures when serving customers, a policy framework to ensure smooth operations and activities, good

coordination of the internal teaching activities, and internal administrative activities; and the management support for adherence to established internal systems, structures and procedures; commitment of management to practices that promote internal efficiencies. These items eventually lead to the reduction of time spent serving a customer, increasing responsiveness in the institution, and with that, students can finish their academic programs on time as stipulated in the curriculum. These results indicate that some TVET institutes had elaborate internal systems cutting across several elements that promote internal efficiency. Notably, internal systems work together to create a conducive environment for effective teaching and learning in TVET institutions, ultimately preparing students for successful careers in technical and vocational fields. Emphasis on indicators discussed herein and interplay would translate to better internal efficiency and, eventually, to a high level of competitiveness.

Despite a high score on the items discussed above, several other indicators of internal systems were rated moderate. These included, 'all processes in our institution are documented' (mean = 3.14; SD = 1.699), 'there are established measures and systems to ensure curriculum implementation' (mean = 3.05; SD = 1.255), 'technology has been adopted in driving processes in our institution' (mean = 3.04; SD = 1.473), the institutional culture and practices enhance internal efficiencies in our TVET (mean = 3.03; SD = .959). The results are pointing out the areas that require attention at TVET institutions. This is because effective internal efficiency requires processes to be well documented. Training effectiveness also requires establishing measures and systems to ensure curriculum implementation, while adopting technology in functional areas is indispensable in organizations nowadays. Another critical aspect is institutional culture and practices,

which enhance internal efficiencies in a TVET institute to a great extent. A moderate score in these indicators indicates gaps which, if not addressed, would undermine the desired competitiveness of TVET institutions.

From the findings in Table 4.19, the study noted two key deficiencies which had a low mean value; that is, 'we have a functioning quality assurance that monitors the quality of teaching and learning' (mean = 2.50; SD = 1.419), and 'our institution is ISO certified' (mean = 2.41; SD = 1.862). The results show that only a few TVET institutes had a functional quality assurance department; hence, monitoring of curriculum implementation and quality of teaching and learning had noticeable delicacies. This is a serious gap and a drawback to the competitiveness of half of TVET institutions in Nyeri County.

4.11.2 Testing of Hypothesis Four

The fourth null hypothesis of the study stated that internal systems do not have a significant relationship with the competitiveness of TVET institutions in Nyeri County. A Pearson correlation was conducted to assess the hypothesized relationship between internal systems and the competitiveness of TVET institutions. The correlation results are shown in Table 4.20.

Table 4. 18

Correlations analysis between internal systems and the competitiveness of TVET institutions

		Y	X4
Y	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	153	
X4	Pearson Correlation	.693**	1
	Sig. (2-tailed)	.000	
	N	153	153

The results show a Pearson correlation value of .693**, which is positive and strong and nearer 1. This value is also significant, $P < 0.05$. This led to the rejection of the null hypothesis and concluded that there was a statistically significant positive relationship between internal systems and the competitiveness of TVET institutions. This meant that a positive increase in internal systems would lead to a positive growth in the competitiveness of TVET institutions. This is stringed by the reiterations of Butt et al. (2020) who observed a linkage between internal systems efficiency and competitiveness of TVET institutions. Butt et al. (2020) results configured that, internal systems create flexibility, responsiveness to change, continuity and consistency that help an organization to attain and retain competitive advantages. The results indicate a need for TVET institutions in Nyeri County to strengthen their internal systems to remain competitive. The areas of improvement were noted to include quality management systems, monitoring systems for curriculum implementation and quality teaching, measures and systems to ensure curriculum implementation, documentation of processes, and adoption of technology in driving processes, and institutional culture and practices.

4.11.3 Qualitative findings and discussion on internal systems in TVET institutions in Nyeri County

During focused group discussions, the students' leaders were asked to point out issues they had observed regarding internal systems and mechanisms at their institutions. The researcher guided the discussion to focus on internal processes, procedures, structures, systems, responsiveness, and quality assurance measures. The central themes/issues that stood out of the focused discussion included funding shortages, low responsiveness, tedious admission and registration process, confusion in the timetable, unclear disciplinary measures, hitches with industrial attachment, congested workshops, inadequate learning

materials, outdated equipment, gaps in the monitoring of class attendance, frail accounting systems, and weak quality assurance measures. The identified issues were categorized into three processes, which pointed out gaps in the procedures, admission and registration and timetable, and industrial attachment. The other issue was insufficient funding, which was blamed for low responsiveness to requests, congested workshops, inadequate learning materials, and outdated equipment. The last issue was weak quality assurance measures, which included monitoring class attendance and the nature of accounting systems put in place in a TVET institution.

From the above findings, and with reference to the arguments by Butt et al. (2020) and Dugarova et al. (2016), one can observe that if a TVET institute is experiencing issues with processes, funding and quality assurance measures, it indicates that internal efficiency is weak, and this would adversely affect service delivery, reputation, and sustainability. These are pointers to weak internal systems that would result in substandard technical education and training and are a risk to quality reputation for failing to meet the needs of students and employers. The results by Supe et al. (2018) also termed poor internal factors of an organization as the main detriments to attaining competitiveness. Poor internal systems were linked to result to instruction underdevelopment, non-compliance to policy guidelines, lack of quality assurance and low organizational performance. This implies a need for TVET institutions to invest in their processes, institute resource mobilization strategies, and implement robust quality assurance measures. These measures would go a long way in enhancing their competitiveness.

During the interview, principals were asked to explain how internal systems contribute to the competitiveness of TVET institutions. A similar question had also been

posed to HODs in an open-ended question. A total of forty-one statements were recorded from both interviews and FGDs. The forty-one statements were analyzed to identify common themes. A total of sixteen themes were identified. The same were further scrutinized and regrouped in themes broad categories as shown in Table 4.21.

Table 4. 19

How internal systems contribute to the competitiveness of TVET institutions

Aspects and value of internal systems in TVET institutes	Broad themes
1. Clear chain of command	Organizational effectiveness
2. Reduction of conflict in the responsibilities	
3. Effective communication in the organization	
4. Unity of direction	
5. Responsive organizational culture	
6. Cordial relationships between staff and management	
7. Increased staff productivities	Prudent utilization of resources
8. Reduction of operational costs and few errors	
9. Efficient utilization of resources	
10. Increased transparency	
11. Efficient operations	Service delivery
12. Adherence to established procedures and standards	
13. Improved accountability	
14. Compliance with regulatory and statutory requirements	
15. Better coordination of activities	
16. Harmony in the organization	

According to the findings presented in Table 4.21, internal systems were linked to efficient operations, reduction of operational costs and few errors; clear chain of command, reduction of conflict in the responsibilities, adherence to the established procedures and standards, improved accountability, efficient utilization of resources, high level of compliance with regulatory and statutory requirements, increased transparency, effective

communication in the organization, unity of direction, better coordination of activities, responsive organizational culture, cordial relationships between staff and management, increased staff productivities, and harmony in the organization. These elements significantly impact overall internal efficiency and would ultimately contribute to the competitiveness of a TVET institute. In agreement, Gachunga (2021) also submitted that, prudent utilization of finances, modern infrastructure and competent human resources impacted the efficiencies and competitiveness of tertiary institutions in Kenya. Similarly, Arfo (2015), noted that apart from lack of adequate teaching and learning facilities, poor governance and organizational culture were among the organization internal issues which influenced staff motivation, maintenance of the available resources and recognition of the institution by the society. This implies a need for TVET institutions to invest in their organizational culture, top leadership, and implement robust quality assurance strategies. These measures would go a long way in enhancing their internal efficiencies.

As attested in Table 4.21, three broad theme categories emerged from the findings: organizational effectiveness, prudent utilization of resources and service delivery. This means that the identified sixteen elements of internal systems have an enormous impact on internal efficiency, which impacts organizational effectiveness. Notably, the organizational effectiveness of a TVET institute is a cornerstone of organizational competitiveness. Therefore, when there is an excellent internal system, a TVET institute would enjoy optimal, prudent use of resources, good coordination of processes, and quality output. Essentially, established procedures and standards result in consistent and reliable outcomes. These elements reciprocate by enhancing quality control, reliability, smoothness in the organization's operations, and improved service delivery – all of which contribute to

overall organizational competitiveness. These are consistent with the observation made by Gachunga et al. (2020) and Koobonye (2020) who noted that, internal efficiency was established out of different practices such quality assurance mechanisms, procedures, service outlay, resources management, compliance to policies and institutional competence. These further are instituting the need to strengthen organizational internal systems so as to attain said benefits. The results implicates in enforcing compliance to organization standards meant for boosting internal systems.

The other issue noted is accountability, which is usually linked to responsible behaviour and decision-making in an organization. The aspect of accountability further boost confidence and trust from stakeholders. The results have also underscored compliance with regulatory and statutory requirements, which is a fundamental aspect of good governance. Establishing good internal systems requires a commitment to following the regulatory and statutory requirements, eventually enhancing organizational reputation. The findings also clearly show that good internal systems foster improved coordination of activities in a TVET institute. Policies and other internal regulations have also been classified as important enablers of institutional internal efficiencies (Koobonye, 2020). Effective coordination of actions leads to smoother workflows and reduced duplication of efforts. Which are critical aspects of internal systems in TVETS institutes. It also facilitates prudent use of resources and goes a long way in improving service delivery and enormously impacts organizational competitiveness. In agreement, in a TVET institution, internal systems constitute organization and coordination of internal activities, quality assurance mechanisms, procedures, service outlay and institutional competence (Gachunga

et al., 2020). The results implicate on having supportive leaders who coordinate organizations workflow and processes in order to attain competitiveness.

The study also noted that good internal systems promote harmony in an organization. This is because when employees work together harmoniously, it reduces conflicts, boosts morale, enhances overall productivity, and fosters better adaptability capabilities, contributing to organizational competitiveness. This was also clearly articulated in the results of Siregar and Sihombing (2021) that, internal systems create flexibility, responsiveness to change, team work, business continuity and consistency that help an organization to attain and retain competitive advantages.

The study further sought suggestions from student leaders, principals and HODs on what they thought should be done on internal systems to increase the competitiveness of their TVET institute. The suggestions were analyzed to identify essential measures to improve internal systems. Out of fifty-three suggestions, the study identified ten themes. These were communication, organizational structure, standards, culture of organization, administrative processes, quality assurance, and service delivery charter, coordination of institutional operations, capacity building and feedback. The ten themes were further categorized into three broad categories, namely; processes and procedures, organizational structures, and quality assurance. Consistent with Dugarova et al. (2016) internal systems were best built through activities, personnel, procedures, facilities, infrastructure, intellectual capacity, material resources, quality assurance and organizational policies. The results implicate on strengthening their human resources, compliance to policies, quality assurance department and infrastructure so as to retain competitiveness.

From the findings, it is clear that TVET institutions have some gaps in the processes and procedures, cutting across teaching and administrative processes. HOD 08 lamented, *"The long processes make TVETs less competitive."* These weaknesses can explain why student leaders emphasized establishing and adhering to service delivery charters. The principals agreed to have an established baseline for improving internal systems. Principal 01 noted, *"TVETs should foster a culture of continuous improvement of internal systems since they are not static."* Another way identified for improving internal systems is communication. HOD 073 wrote, *"Heads of TVETs should embrace an open-door policy to enhance communication and increase their accessibility by internal stakeholders."* This sentiment corroborates with an observation noted in FGD where student leaders emphasized the need to improve internal communication systems. The HOD 37 noted, *"Regular meetings with staff and students promote clear communication and understanding of the organizational structure."* This translates to the need for the management of TVETs to re-address the internal organizational structures to ensure smooth communication and feedback, unity of direction and better coordination of teaching and administrative activities. Pertaining the results on stakeholder involvement, Komba (2015) also acknowledged that, involvement of teachers, students, educational leaders, school administrators and community in decision-making improved organizational ownership and high-quality led instruction. Other benefits of involvement were clear communication which resulted in meeting of learner objectives, positive organizational culture, academic performance and meeting industry requirements among learners (Komba, 2015). The results pose implications on the need to strengthen internal organizational communication through enacting open-door policies.

The study also noted the value of human resources in the internal systems of a TVET institute. However, the issue of capacity building features severally in the discussions by student' leaders. HODs also highlighted it. A quotation from HOD 101 read, *"The government should ensure that TVET institutes are properly staffed with skilled technical personnel to optimize the internal operations."* The responses from Principal 08 also noted the need for government to fund staff development and capacity-building programs. The contributions of quantity, quality and staff professional development enhancement of staff in TVETs have also been stipulated in the results of Njenga (2019). Njenga (2019) has elaborated them as avenues to keep both teaching and non-teaching staff abreast of new technologies, trends, job requirements and hence effective in service provision. In TVETs, there exist policies which stipulate on continuous professional development, therefore, the current study implicates on the operationalization of this clauses to keep teaching staff abreast with changes in the field of technical teaching and learning.

Establishing and strengthening quality assurance measures also featured prominently as a mechanism for improving internal systems. HOD 83 noted, *"For quality services in TVET, one has to have quality human resources. TVETs should ensure they have the right qualified trainers and administrative staff."* The HOD 12 linked quality assurance to structures and policy regulations, saying, *"The establishment of governance structures, policies, and audit committees ensures proper oversight and adherence to regulations. This goes a long way in ensuring quality control in an organization."* This underscores quality assurance measures for strengthening the internal systems service delivery and demonstrates their influence on the overall internal efficiency of a TVET

institution. This implies a further need for TVETs to establish a framework for continuous monitoring of the performance of the internal system. The study notes that the interplay of the aspects discussed herein plays a key role in enhancing competitiveness in TVET institutions. In concurrence, a closely related study conducted in France by Chaparro et al. (2020) highlighted the implications of competitiveness on quality assurance of higher education. It was unveiled that, quality assurance measures improved organizational communication, organizational learning, and positive culture and facilitates the competitiveness of higher education. In TVETS institutions based in Nyeri County, the presented results put emphasis on the needfulness to promote quality assurance mechanisms by deploying a docket for managing the same, training the staff in charge of quality assurance as well as communicate their obligations noting its contributions towards attaining competitiveness.

4.11.4 Integration of quantitative and qualitative findings on internal systems at TVET institutions

The aspects associated with internal systems, as highlighted by the quantitative findings discussed in section 11.1, emphasize the elements such as quality management systems, measures and systems for ensuring curriculum implementation, documentation of processes, and adoption of technology in driving processes, and institutional culture and practices. Other elements noted include procedures for guiding daily operational activities, standardized operating procedures in each department, coordination of teaching and administrative activities teaching activities, and policy framework to support continuous monitoring of established systems. The qualitative findings noted in section 4.11.3 have linked these aspects to output value such as efficient operations, reduction of operational costs, clear chain of command, reduction of conflict in the responsibilities, adherence to

the established procedures and standards, improved accountability, efficient utilization of resources, high level of compliance with regulatory and statutory requirements, increased transparency, effective communication in the organization, unity of direction, better coordination of activities, responsive organizational culture, cordial relationships between staff and management, increased staff productivities, and harmony in the organization.

The convergence of elements highlighted herein underscores the internal efficiency of a TVET institute. These results concisely are demonstrating the contributions of internal efficiency in TVET institutions at Nyeri County. Similar contributions such as communication, strategic leadership, attaining organization vision, resource mobilization, human resource development, compliance to regulation and quality assurance have also been stated in the results of Koobonye (2020), Arfo (2015), Chaparro et al. (2020), Okinyi et al. (2021), Gachunga (2021) and Momanyi (2020).

The quantitative findings have demonstrated that the internal systems of TVET institutions were at a moderate level. They are, however, very significant in contributing to the competitiveness of TVET institutions. The quantitative results further pointed out aspects with moderate and low mean values. The identified elements comprised of processes quality assurance measures, institutional processes, institutional policies, institutional culture, administrative systems, accountability systems, academic systems, student support systems, and supportive technology systems. A convergence of these results with qualitative findings was noted in the improvement suggestions obtained from interviews, focused group discussions and open-ended questions. This is because more than 75% of the highlighted aspects were identified as areas that require improvement and which would be solved by addressing communication and feedback systems, organizational

structures, standards, culture of organization, administrative processes, quality assurance, service delivery charter, coordination of institutional operations, capacity building. Adopting the suggestion is envisaged to enhance service delivery, foster prudent use of resources, and improve organizational competitiveness.

4.12 Leadership Practices, Internal Efficiency and Competitiveness of TVETs

The fifth (last) objective aimed to determine the moderating effect of leadership practices on the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County. Data was obtained from HODs, principals and student leaders through questionnaires, interviews and focused group discussions. The findings based on quantitative data (both descriptive and inferential) are first presented, followed by the findings based on qualitative data. The last section provides an integration where both quantitative and qualitative results converge to help the study conclude the analysis on moderating influence of leadership practices on the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County.

4.12.1 Descriptive results from HODs on leadership practices in TVETs

Technical and Vocational Education and Training are essential components of the education system that focus on equipping students with practical skills and knowledge needed for specific trades and industries. Leadership in TVETs is therefore significant in ensuring effective program delivery and student success. Leadership within these institutions is essential for their success and for fostering a positive learning environment. Since HODs were the main respondents in this study, the researcher asked them to comment on aspects of leadership practices at their TVET institutes. From the context of this study, the HODs interact with leaders and managers of TVET institute hence their

views were cherished. The researcher presented to the HODs several statements about leadership practices in a table requiring them to rate each statement using the Likert scale, where 0 = Not at all, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. The Likert scale statements focused on various indicators and aspects such as stakeholders' involvement in decision-making, governance structure, leadership styles, staff's latitude to make decisions, unity of purpose, leadership skills, competencies and knowledge, effective communication, timely feedback, staff motivation, recognition and awards, staff welfare, provision of the required equipment and facilities. The results are summarized in Table 4.22.

Table 4. 20***Descriptive results leadership practices at TVET institutes in Nyeri County***

Statements on leadership practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
The leadership of our institution involves stakeholders in making decisions	0	8(5.2%)	8(5.2%)	63(41.2%)	70(45.8%)	4(2.6%)	3.35	.839
There are mechanisms and structures in place for involving stakeholders in decision-making at our institution	0	6(3.9%)	12(7.8%)	74(48.4%)	55(35.9%)	6(3.9%)	3.28	.823
There is established governance structure in our institution	0	12(7.8%)	10(6.5%)	64(41.8%)	39(25.5%)	28(18.3%)	3.40	1.102
Governance structures are adhered to in our institutions	0	10(6.5%)	16(10.5%)	47(30.7%)	50(32.7%)	30(19.6%)	3.48	1.119
Leadership provides strategic direction to our institution	2(1.3%)	8(5.2%)	12(7.8%)	40(26.1%)	77(50.3%)	14(9.2%)	3.46	1.033
The leadership styles embraced in our institution has caused progressive growth of our TVET	0	10(6.5%)	6(3.9%)	67(43.8%)	44(28.8%)	26(17%)	3.46	1.032
Leadership at our institution promotes internal efficiency	0	8(5.2%)	10(6.5%)	48(31.4%)	51(33.3%)	36(23.5%)	3.63	1.075

Statements on leadership practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation	
Leadership at our TVET has instituted monitoring and evaluation mechanisms on training and education		4(2.6%)	6(3.9%)	8(5.2%)	83(54.2%)	28(18.3%)	24(15.7%)	3.29	1.086
Leadership at our institution gives staff latitude to make decisions		4(2.6%)	10(6.5%)	12(7.8%)	57(37.3%)	58(37.9%)	12(7.8%)	3.25	1.102
Leadership at our institution inspires staff to work with commitment		12(7.8%)	8(5.2%)	8(5.2%)	55(35.9%)	56(36.6%)	14(9.2%)	3.27	1.273
Leadership at our institution has unified staff to ensure unity of purpose		12(7.8%)	8(5.2%)	8(5.2%)	55(35.9%)	56(36.6%)	14(9.2%)	3.16	1.298
Leadership in our institution have requisite skills, competencies and knowledge in leadership		2(1.3%)	2(1.3%)	16(10.5%)	57(37.3%)	62(40.5%)	14(9.2%)	3.42	.936
Leadership in our institution provides communication in a timely manner		6(3.9%)	12(7.8%)	6(3.9%)	38(24.8%)	77(50.3%)	14(9.2%)	3.37	1.202

Statements on leadership practices (N = 153)	Not at all (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)	Mean	Std. Deviation
Leadership in our institution respond quickly to matters presented to them	8(5.2%)	6(3.9%)	12(7.8%)	32(20.9%)	71(46.4%)	24(15.7%)	3.46	1.262
Leadership in our institution provides timely feedback regarding staff performance	6(3.9%)	6(3.9%)	8(5.2%)	36(23.5%)	85(55.6%)	12(7.8%)	3.46	1.106
Leadership in our institution appreciate and motivate employees	16(10.5%)	12(7.8%)	25(16.3%)	22(14.4%)	66(43.1%)	12(7.8%)	2.95	1.475
Leadership in our institution recognize and reward efforts made by employees	16(10.5%)	16(10.5%)	29(19%)	26(17%)	60(39.2%)	6(3.9%)	2.76	1.433
Leadership in our institution make staff to feel valued	16(10.5%)	14(9.2%)	23(15%)	38(24.8%)	48(31.4%)	14(9.2%)	2.85	1.459
Leadership of our institution demonstrates concern on staff welfare	10(6.5%)	16(10.5%)	21(13.7%)	38(24.8%)	54(35.3%)	14(9.2%)	2.99	1.369
Leadership of our institution demonstrates concern on students progression and completion	4(2.6%)	6(3.9%)	20(13.1%)	41(26.8%)	68(44.4%)	14(9.2%)	3.34	1.107

Leadership of our institution has provided staff with the required equipment and facilities	0	14(9.2%)	41(26.8%)	36(23.5%)	42(27.56%)	20(13.1%)	3.08	1.197
							3.27	1.158

The results in Table 4.22 show a summation mean of 3.27 with a standard deviation of 1.158 for construct on leadership practices. The standard deviation is around one; hence, there was no significant rating variation from the average mean for various statements characterizing the internal systems. The results indicate moderate leadership practices at TVET institutions in Nyeri County. It means that leadership practices at TVET institutions are is neither exceptionally strong nor exceptionally weak. It falls somewhere in the middle of the spectrum of possible leadership effectiveness. The results suggest that the institution's leaders are trying to provide direction and guidance but may not be achieving exceptional results. They are likely taking a balanced approach to leadership. This could be attributed to challenges or limitations that prevent it from achieving a higher level of leadership excellence. The findings show a foundation of leadership competence at the TVET institutions in Nyeri County, but there is also room for growth and improvement. The institution's leadership needs to enhance their leadership practices better to serve the needs of students and the community.

The results in Table 4.22 show that governance structures were in place (mean = 3.40; SD = 1.102) and were followed by more than half, 80(52.3%) of TVET institutions (mean = 3.48; SD = 1.119), and this promoted internal efficiency (mean = 3.63; SD = 1.075). With a standard deviation of around one, the responses had minimal variation across TVET institutes in Nyeri County. Four sentiments were also rated high (mean = 3.46 and a standard deviation around 1); these were: leadership provides strategic direction in the institution, the leadership styles embraced have caused progressive growth of TVET, leadership respond quickly to matters presented to them, and timely feedback regarding staff performance. It was also clear that leadership in TVET institutions had requisite skills, competencies and knowledge in leadership (mean = 3.42; SD = .936). These aspects imply that leaders in most TVET institutes in Nyeri County have the potential to elevate their practices and drive positive changes within the institutions.

Other indicators of leadership practices had average mean values that ranged between 3.01 and 3.39. These were: stakeholders' involvement in decision-making through established mechanisms, staff's latitude to make decisions, unity of purpose, effective communication, timely feedback, staff motivation, provision of the required equipment and facilities, monitoring and evaluation mechanisms on training and education, and having concern on students' progression and completion. These aspects had a mean of around one, which shows that the responses did not vary across TVET institutions. These findings indicate that TVET institutes in Nyeri County were functioning at a moderate level of effectiveness. They also suggest that there might be some degree of bureaucratic control or centralized decision-making. If the staff's latitude to make decisions is average, it can hinder innovation and the ability of educators to tailor their approaches to the specific needs

of students. Also, moderate unity of purpose may result in ambiguity in goals and priorities, while hitches in institutional communication may result in misunderstandings, lack of alignment, and inefficiencies within the institution. The researcher notes that when mechanisms for monitoring and evaluating training and education are average, it can derail the institution's ability to identify areas for improvement. At the same time, moderate staff motivation can affect the quality of education and support services.

Notably, the moderate level of leadership practices impacts the relevance of programs, and the institution's ability to meet industry and community needs effectively, and this may demean the competitiveness of TVET institutions. The presented results differ with the presentations of Peters (2021) who compared TVE in the US, UK and Germany and found that, dual system of leadership was dominant among TVETS. The institutions collaborated well with the trainers and the industry to keep curriculum abreast with current market training requirements. The system henceforth, promoted monitoring and evaluation activities for continuous improvement. This system of leadership promoted strong collaboration, unity of purpose, involvement in decision-making, unit of direction and better progression of students training. The findings, therefore, indicated room for improving Nyeri County TVETs leadership practices by strengthening systems and strategies that enhance stakeholder engagement, staff empowerment, communication, staff motivation, and student support while also implementing robust monitoring and evaluation mechanisms to drive continuous improvement.

The aspects directly related to staff matters had the lowest mean values ($2.70 < \text{mean} < 3.00$) with a standard deviation of around one. The mentioned aspects were about leadership appreciating and motivating employees, recognizing and rewarding employee

efforts, making staff feel valued and demonstrating concern for staff welfare. Employees not feeling optimally inspired or valued can impact their overall engagement and commitment to their work. They are also likely to engage in absenteeism (missing work) or presentism (being present at work but not fully productive). This would result in moderate levels of productivity and performance, where the staff may meet basic job requirements but may not go beyond to excel in their roles. These results agree with a report presented in Ethiopia by Kedir and Geleta (2017) which noted poor abilities of TVET principals on motivating trainers towards achieving the major goals and objectives of institutions in Ethiopia. This was displayed by the findings that revealed that principles modeled the way and enabled teachers to follow, whereas, they less inspired a shared vision, motivated staff, challenged the processes and encouraging members to share a common vision. As a result, teachers were less motivated and this lowered their commitment and ultimately the poor competitiveness. The results indicate that, principals of TVET institutions in Nyeri need to improve in their leadership styles to inspire staff productivity through motivation, recognition, promotion and acknowledging teachers efforts.

The other thing is that employees may be less inclined to suggest new ideas or take risks if they do not feel their contributions are valued. This would eventually stifle innovation and creativity, and this would affect the competitiveness of a TVET institution negatively. Similarly, the lack of staff recognition and appreciation can lead to resentment among employees. It may result in workplace conflicts or a hostile atmosphere, affecting overall workplace harmony. It is indisputable that organizations with more robust employee-centric leadership practices usually have a competitive advantage in attracting,

retaining, and leveraging the talents of their workforce. In agreement, Demissie (2017) also acknowledged that, staff recognition, acknowledgement and motivation encouraged their creativity, innovativeness and better performance at work. Demissie (2017) termed transformational leadership as the best approach for securing employee loyalty, cooperativeness, innovation, collaboration and creativity. Demissie (2017) further noted that transformational type of leadership was the most effective leadership style for attaining competitiveness in Ethiopian TVET institutions. The results harmoniously collate the benefits of staff motivation and recognition, therefore, this implicates on restructuring, staff welfare and human resource policies to actualize staff motivation.

In that connection, TVETs should consider implementing strategies to enhance leadership practices in appreciating and motivating employees, recognizing and rewarding their efforts, and demonstrating genuine concern for staff welfare. This can include regular feedback and communication, personalized recognition programs, professional development opportunities, and creating a positive workplace culture that values and supports the employees. Investing in employee well-being and motivation can lead to improved organizational performance and employee retention, which is critical in defining competitiveness. As put across by study results Peters (2021) also emphasized on creating a conducive school environment for trainers to prepare trainees through strong collaborations, involvement in curriculum restructuring, motivation and monitoring and evaluation activities. Notably, Kedir and Geleta (2017) also noted the needfulness for school heads to motivate employees through rewarding, recognizing their efforts and appreciating their dedication. Concerning the theories adopted in the study, the presented findings agree with the provisions of the contingency theory of leadership which registered

the role of a leader as someone who create an enabling and conducive working environment for successful achievement of the strategic direction. The above results call for holistic improvement of heads leadership practices to secure employees attention through motivation, clear communication, professional development opportunities and a conducive working environment.

4.12.2 Qualitative findings and discussion on leadership practices in TVET institutions in Nyeri County

During the interview, the principals of TVET institutions were asked to explain how leadership practices affect internal efficiency at their institutions. A total of twenty-eight responses were received. A deeper analysis of the responses noted that leadership practices are linked to various aspects of internal efficiency, such as availability of the required resources, better communication systems, efficiency and effectiveness in service delivery, enforcement of policies, staff relationships, harmony in the activities, prudent utilization of the resources, quality of education and training, staff productivity, transparency and accountability systems, monitoring systems, staff development and empowerment programs, and creation of responsive structures in the institution. This led to a few thematic observations that effective leadership practices promote efficiency and effectiveness, ensuring smooth workflow and clear instructions. It fosters a positive and harmonious environment, leading to better staff relationships and efficient resource utilization. This further leads to proper goal-setting, effective communication, staff development, and empowerment, and implementation of policies contributing to overall internal efficiency. Notably, ineffective leadership practices can lead to inefficiencies, lack of communication, and poor resource management.

The thematic areas noted in the above results highlight the significance of effective leadership practices in a TVET institution. Undoubtedly, effective leadership practices ensure that extra resources are sought by engaging government agencies, industry partners, and donors to support buying equipment and facilities needed for education and training in TVETs. Effective leadership establishes clear communication channels, fosters an open and transparent culture, and ensures that information flows efficiently among staff, students, and other stakeholders. This is critical in promoting efficient processes and systems. This is because leaders can streamline administrative procedures, curriculum development, and assessment methods, leading to more effective and timely service delivery to students and industry partners. Profound benefits of effective leadership in TVET institutions have also been discussed by Odoom et al. (2016), noting that: TVET leaders play a role in allocation of resources to drive internal processes. The allocated resources further affect core business which is teaching and learning, employee remuneration, equipment of facilities and resources.

The results are also agreeing with the foundation given by Bileviciute et al. (2019) that the school head is the internal manager of the university plays a critical role in influencing the competitiveness of higher education through resource allocation, infrastructure development, staff development, administration and curriculum restructuring. In connection to the contingency theory of leadership, visionary leaders ought to guide the organizational employees in adopting and accepting the changing technologies, involve members in decision-making, delegate where necessary and take care of the human resource competencies and professional capacities. The results underscore the benefits of effective leadership practices hence in line with the adopted theory which

underpinned the moderating construct. The results implicate the need to develop TVET leaders through professional development noting their critical role in promoting efficient processes and systems.

Internal efficiency relies on adherence to established policies. A TVET institute's leadership guides policy formulation and enforces policies and standards within the institution. Leaders are therefore, expected to set the tone for compliance with accreditation requirements, industry regulations, and codes of conduct, among others. They can drive curriculum improvements and instructor development and ensure the integration of industry-relevant skills into the curriculum. Additionally, leaders promote transparency and accountability in decision-making and resource management by developing budgeting and financial management strategies to maximize the impact of available resources. They are also responsible for establishing and overseeing monitoring and evaluation mechanisms to assess the institution's performance. In agreement, the results by Arfo (2015) underscored that in TVETs, the TVETs principals spearheaded the compliance to set policies and operational procedures which in return, led to producing students who do meet the needs of the labor market, securing of adequate teaching and learning facilities, funding and good governance. The results there underscore the needfulness for principals and other TVET leaders to support the adherence to organizational policies. They can do so by implementing quality assurance, curriculum development committees, financial management practices and motivating the staff who work under them.

Effective leadership practices impact human resources and their performance. Good leadership, therefore, fosters positive working relationships and harmony among employees. Notably, a harmonious work environment promotes collaboration and

enhances the overall conducive atmosphere within the institution. Moreover, effective leadership practices encourage professional development, establish empowerment programs and recognition systems, and provide a supportive work environment, all contributing to higher staff productivity. This was also put across by Peters (2021) who emphasized the contributions of school heads in creating a conducive school environment for trainers to prepare trainees through strong collaborations, involvement in curriculum restructuring, motivation and monitoring and evaluation activities. The results underpin a multidimensional role of TVETs leaders, this calls upon adopting different leadership styles to execute their mandate. As manager of employees, effective leadership practices aimed at prioritizing the needs, welfare and attitudes of employees are critical.

When emphasizing leadership and communication, HOD 043 wrote, *"Leadership in my institution has adopted an open door policy by allowing staff and students to engage management freely."*

Principal 04 said, *"I manage by walking around; hence, the trainees have direct access to the management. This allows them to openly discuss their achievements and share with me their challenges in the institution."*

The study further wanted to establish how leadership practices relate to TVET institutions' competitiveness. Respondents were, therefore, asked to state how leadership practices increase a TVET institute's competitiveness. The responses pointed out the timely provision of the resources needed for training and a conducive training environment. The focused group discussion by students' leaders noted that leadership encourages innovation and the exploration of new teaching methods, technologies, and programs. The innovative solutions foster newness, hence making TVET institute competitive. Other aspects of

leadership related to competitiveness highlighted in the discussion and noted in the open-ended questions by HODs were the establishment of clear goals and long-term strategies, aligning them with industry needs and trends; development of cutting-edge courses that attract students and meet industry demands, and allocation of resources, ensuring that investments are directed toward key areas such as faculty development, infrastructure improvement, and program enhancement.

Along the same vein, HOD 077 noted, *"Supportive leadership promotes faculty and staff development by providing opportunities for training, research, and professional growth."* HOD 093 further added, *"Leadership ensures curriculum development and revision align with industry needs and emerging trends. At the same time, Principal 08 submitted that ."* A TVET leader fosters and nurtures partnerships with local industries and employers, and establishes quality assurance mechanisms to monitor and maintain program excellence which enhances the institution's credibility and competitiveness." In this case, industry collaborations provide opportunities for internships, job placements, and real-world learning experiences for students. Some aspects mentioned in the preceding discussion have also been found in some past studies. For instance, Osman and Kamis (2019) established that, leadership promoted competitiveness by promoting innovativeness of employees. Another one is Wangmo (2021) who reported that, the type of leadership style adopted by leaders influenced the performance of learners which in turn influenced the competitiveness of technical training institutes. The results clearly established a link between leadership practices and competitiveness of TVET institutions. Therefore, this implicates on strengthening leadership practices through motivation, education and putting in place quality assurance and performance evaluation criteria for TVTES.

During the interview, principals of TVETs were asked to explain issues that hinder effective leadership practices at TVET institutions. Thirty-three challenges were provided, which narrowed to a few issues which were noted thematically. The main issues were staff shortages, poor capacity among staff, inadequate resources, resistance to change, staff welfare matters, negative attitude of leaders, undefined career progression policy, unclear policy on the collaboration of TVET institutions and other partners, poor leadership and management, and weak members of BoGs. From responses, Kedir and Geleta (2017) similarly noted the existence of hindrances to effective leadership practices in Ethiopia. These were: limited leadership styles, lack of innovativeness and limited resources. The results by Badenhorst and Radile (2018) in South Africa, similarly reported challenges about leadership in TVET colleges such as poor leadership and management and lack of competency among the leaders. This communicate on the need to strengthen leadership practices through training and professional development, funding, allocation of resources, career progression, motivation and setting leadership practice policies.

From the findings, many TVET institutions operate with limited financial and physical resources, including funding, facilities, and equipment. Inadequacy of such resources can hinder the ability of leaders to provide quality education and training. The study noted that the need for more qualified instructors can limit the institution's capacity to deliver quality education. At the same time, if the staff of a TVET institute are resistant to change, it can make it challenging for leaders to implement new initiatives, update the curriculum, or adopt modern teaching methods. Notably, a negative or resistant institutional culture can hinder leadership efforts to bring about positive change and innovation. Similarly, in Rwanda, Diop (2020) noted almost similar situation which

resulted from poor leadership practices. Poor leadership practices led to poor education curriculum, lack of competency of trainers, change in skill demands and poor responsiveness of TVETs to the change to the demands of employment sector. Ultimately, Diop (2020) pointed out that, these challenges resulted to lack of competitiveness of TVET education in the nation. The reported results call for repositioning leadership practices and strategies in the TVET sector to promote their innovativeness in sourcing for funds to supporting education and training. Funding for TVET sector will take care of staff incompetence, information resources and facilities, hence institutional capacity which will ultimately will improve the quality of education.

The solution to the issues mentioned above, which derail leadership practices at TVET institutions, was sought. Several measures were inevitable from the responses provided by principals, HODs and student leaders. They included a need for leadership to engage in strategic planning, seek external industrial partnerships, hold periodic open forum meetings to address persistent issues raised by stakeholders, invest in leadership development / in-service programs, institute capacity building of the staff, establish effective communication, advocate for policy changes, build strong teams by hiring competent faculty and staff members and develop a good culture of collaboration and respect, and continuously adapt to evolving educational and industry landscapes.

Other measures include transparent leadership, involvement of the Board of Management (BoM) in formulating policies and addressing issues affecting TVET institutions to ensure financial sustainability and foster innovative practices within the institutions, developing a clear and compelling vision for the institution's future, investing in professional development opportunities for faculty and staff, including training,

workshops, and advanced degrees; recognizing and rewarding excellence in teaching and research; and fostering a supportive and collaborative work environment. These solutions would go a long way to increasing the competitiveness of TVET institutes. In agreement, Bello and Muhammad (2021), Ramadan and Xiaohui (2019) and Okorafor and Nnajofo (2017) pointed out that, repositioning strategies in the TVET sector, restructuring policies and practices, sealing financial malpractices loopholes and investment in in-service training are common remedies for improving TVET leadership practices.

The discussion attests that good leadership practices are the linchpin connecting various facets of a TVET institution's operations. Effective leaders drive the institution's mission, values, and strategic goals, ensuring that resources are acquired and managed wisely, communication is clear and efficient, policies are enforced, staff is motivated and empowered, and the institution remains responsive to the evolving needs of students and industries. Leadership practices are, therefore, a critical factor in the success and sustainability of a TVET institute. This agrees with Gachunga (2020) who noted that, leaders in institutions are strategic planners, bear the vision of the institutions and implementation important decisions on resource allocation, organizations direction and attendance of competitiveness. To achieve these goals, they require resources' availability, institutional policies, positive organizational structure and competency in strategic planning. As elaborated by Gachunga (2020), the current study calls upon the development of leadership practices through fund allocation, professional development and clear policies.

4.11.4 Integration of quantitative and qualitative findings on leadership practices at TVET institutions

The results on leadership practices have pointed out common denominators from quantitative and qualitative findings. Outright convergence was noted on areas and issues impacted by leadership practices. They include areas such as communication, staffing, professional development and empowerment, work environment, service delivery, resource utilization, staff performance management, internal efficiency, building of organizational culture, establishment of organizational structures, workers compensation, employee engagement and financial sustainability of TVET institutions. Common mechanisms meant to improve leadership practices in institutions such as repositioning strategies in the TVET sector, restructuring policies and practices, financial allocation, motivation, positive organizational culture and investment in in-service training practices have been echoed in the studies carried out by Bello and Muhammad (2021) and Okorafor and Nnajiifo (2017). In this study, the results implicate room for improvement in communication, professional development and empowerment, work environment, staff performance management, employee engagement and financial sustainability practices.

The quantitative results in Table 4.22 have provided the status of various indicators of effective leadership practices. The aspects noted were involvement in decision-making, governance structure, leadership styles, staff's latitude to make decisions, unity of purpose, leadership skills, competencies and knowledge, effective communication, timely feedback, staff motivation, recognition and awards, staff welfare, provision of the required equipment and facilities. Although these elements were moderate at TVET institutions in Nyeri County, they were significant in shaping the internal efficiency and the competitiveness of

TVET institutions. Coincidentally, the qualitative data underscored the same aspects as critical aspects in creative competitive advantages. The drawbacks noted in these studies were also evolving about these aspects. The findings, therefore, corroborate a moderate level of leadership practices in TVET institutions in Nyeri County.

Quantitative and qualitative findings indicated a moderate level of leadership practices was in place at the TVET institution. However, there was room for growth and improvement. The results have shown a need for TVET institutes to consider implementing strategies to enhance leadership practices across various growth facets. Examples of strategies identified were human resource matters, internal processes and environment, organizational performance and industry partnerships. Leadership practices are essential not only in the success and sustainability of a TVET institute but also in enhancing the competitiveness of TVET institutions. The results contradict the observations of Koech (2018) which revealed that TVET institutions had poor leadership. Poor leadership were characterized by: poor policy implementation, poor staff motivation, poor strategic plan implementation, low levels of benchmarking and poor partnership. Noting the substantial contributions of leadership practices on quality and relevance of TVETS, there is need for promoting: policy implementation, benchmarking, staff motivation, strategic plan implementation and partnership.

4.13 Moderation Influence of Leadership Practices

The results in the preceding sections have provided empirical evidence on the relationship between internal efficiency and the competitiveness of TVETs. The results regarding leadership practices have also been presented showing how it affect internal efficiency and the competitiveness of TVETs. However, in objective five, the study aimed

to establish whether leadership practices moderate the relationship between internal efficiency and the competitiveness of TVETs. This lead to testing of hypothesis number five.

4.13.1 Testing of hypothesis Five

The fifth null hypothesis stated, leadership practices do not moderate the relationship between the internal efficiency and competitiveness of TVET institutions in Nyeri County. In testing this null hypothesis, a Moderated Multiple Linear Regression (MMR) was conducted. The adoption of a linear regression in this study was justified following the non-violation results of the underlying assumptions (see diagnostic test results in section 4.5). Notably, the output of a moderated multiple linear regressions shows three most essential tables; that is, the model summary, model validity (ANOVA) and regression coefficients. Each table shows three models. The first model consist the independent variables only, the second one has all the predictor variables and leadership practices; while, the third model have all the predictor variables, leadership practices, and the interaction terms. It is the third model that help the study to assess whether there is moderation effect or not using the R square change statistics derived from the model summary table. The ANOVA results help to determine whether the MMR model is valid or not. The third table contains regression weights which shows the coefficient values associated with each predictor variable in the MMR model. The study used the following MMR model.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_jZ_j + \beta_{ij}X_iZ_j + \varepsilon$$

The above model is in three levels;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \dots\dots\dots (i)$$

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_zZ_j + \varepsilon\dots\dots\dots (ii)$$

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_jZ_j + \beta_{ij}X_iZ_j + \varepsilon\dots\dots\dots (iii)$$

Where:

Y is the competitiveness of TVET institutes

β_0 is the constant value,

$\beta_1, \beta_2, \beta_3$ and β_4 are the coefficients of institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

X_1, X_2, X_3 and X_4 are institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

Z_j is the leadership practices

β_j is the coefficient of the leadership practices

X_iZ_j is the interaction term between variable X_i ($i = 1, 2, 3, \& 4$) and leadership practices

β_{ij} is the coefficient of the interaction term.

ε is the error term.

In the first model, institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems were regressed on the competitiveness of TVETs (Y) in one MMR model. In the second model, the leadership practices (Z_j) is added to help in checking a change in R-square statistics. The interaction terms (X_i*Z_j) is then introduced in the third model. This helps determine whether there is moderation or not. The results are shown in Tables 4.21, 4.22, and 4.23. The first presentation is on model validity in Tables 4.21.

Table 4. 21***ANOVA: Moderation effect of leadership practices***

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.470	4	13.867	50.604	.000 ^b
	Residual	40.557	148	.274		
	Total	96.027	152			
2	Regression	61.702	5	12.340	52.850	.000 ^c
	Residual	34.324	147	.233		
	Total	96.027	152			
3	Regression	63.276	6	10.546	47.014	.000 ^d
	Residual	32.751	146	.224		
	Total	96.027	152			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X1, X3, X2

c. Predictors: (Constant), X4, X1, X3, X2, M

d. Predictors: (Constant), X4, X1, X3, X2, M, Moderator

From the findings in Table 4.21, $F(4, 148) = 50.604$, $P < .000$. This indicates that the first model is valid (P- value is statistically significant; it is less than 0.05); meaning, the relationship between internal efficiency and the competitiveness of TVETs is real and is not due to chance. In the second model, the leadership practices construct is added to model one as predictor; which resulted to F statistics, $F(5, 147) = 52.850$, $P < .000$. This indicates that the second model is also valid (P- value is statistically significant; it is less than 0.05). This meant that leadership practices as a construct is a key predictor in influencing the competitiveness of TVETs. In the third model, the interaction term ($X_i * Z_j$) is introduced hence the F statistics, $F(6, 146) = 47.014$, $P < .000$. This means the third model is also valid. On overall, the ANOVA results in Table 4.14 show that the institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems, plus leadership practices are all vital predictors in determining the

competitiveness of TVETs. The extent of moderation is demonstrated in model three where, R-square change statistics are observed are shown in Table 4.24.

Table 4. 22

Model summary: moderation effect of leadership practices

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.760 ^a	.578	.566	.52348	.578	50.604	4	148	.000
2	.802 ^b	.643	.630	.48322	.065	26.694	1	147	.000
3	.812 ^c	.659	.645	.47362	.016	7.016	1	146	.009

a. Predictors: (Constant), X4, X1, X3, X2

b. Predictors: (Constant), X4, X1, X3, X2, M

c. Predictors: (Constant), X4, X1, X3, X2, M, Moderator

According to the data in Table 4.24, all the four constructs of internal efficiency account for 57.8% of the overall variance in the competitiveness of TVETs construct ($R^2 = .578$). The results also show that when the four variables (X_1 , institutional capacity; X_2 , monitoring of curriculum implementation; X_3 , financial management practices, and X_4 , internal systems) are considered in a single model, they indicate a positive correlation with the competitiveness of TVET institutes; the R-value is 0.760. This means that there is a strong positive relationship between internal efficiency and the competitiveness of TVET institutes. When leadership practices was added as a construct the second model, the R-square value improved by 6.5 percent, and the model was still statistically significant ($R^2 = .643$, $P = .000$). This meant that even after controlling for the moderator (the leadership practices), the model was still statistically significant in influencing the competitiveness of TVETs. The results also indicate that leadership practices as a construct is a significant

predictor. Existing research based on competitiveness of TVET institutions have underscored the contribution, influence and significance of leadership practices on the competitiveness by promoting innovation, allocation of resources, spearheading compliance to operational standards and guidelines (Bogonko, 2018; Koech, 2018). Significantly, the theory underpinning the study is supported noting the need to build capacity of leaders to be able to influence TVETs institutes quality, technology orientation, participatory decision-making, human resource professional development, positive organization culture and environment. This implicates on the need to strengthen leadership practices through professional development, benchmarking, motivation, staff appraisal systems, monitoring quality assurance and open forums to collect views of individual stakeholders.

In the next model, the interaction factor of the leadership practices, ($Z1 \times Xi$) is introduced into MMR model number three to determine the moderating influence. From the results, the R square increased by 6.3% to 37.9% (R-square change = .063, and the P-value of model three was statistically significant, ($R^2 = .659$, $p = .009$). This meant that when the moderation factor were introduced into the 3rd model, it led to an increase in the R square value, while the P-value shows that the model was statistically significant. Therefore, the study concluded that leadership practice was statistically significant moderator between the internal efficiency and the competitiveness. Subsequently, the regression coefficients in Table 4.25 were considered.

Table 4. 23***Moderation effect of the leadership practices: regression weights***

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.256	.165		7.615	.000
	X1	.035	.059	.043	.585	.560
	X2	.068	.067	.092	1.019	.310
	X3	.229	.051	.345	4.461	.000
	X4	.349	.073	.382	4.762	.000
2	(Constant)	1.071	.156		6.847	.000
	X1	.003	.055	.003	.045	.964
	X2	.087	.062	.117	1.402	.163
	X3	.064	.057	.097	1.124	.263
	X4	.175	.076	.191	2.313	.022
	M	.385	.074	.478	5.167	.000
3	(Constant)	2.301	.489		4.705	.000
	X1	-.217	.099	-.267	-2.194	.030
	X2	.011	.067	.015	.163	.871
	X3	-.033	.067	-.050	-.496	.621
	X4	.031	.092	.034	.343	.732
	M	.033	.152	.040	.215	.830
	Moderator	.035	.013	.962	2.649	.009

a. Dependent Variable: Y

X₁, X₂, X₃ and X₄ are the predictor variables (institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems)

X₁, X₂, X₃ and X₄ are institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

According to the findings in Table 4.25, financial management practices and internal systems, are statistically significant in predicting the competitiveness of TVETs,

whereas, institutional capacity and monitoring of curriculum implementation, are statistically insignificant. In model two, institutional capacity, monitoring of curriculum implementation, financial management practices, are insignificant, but internal systems and leadership practices are significant, however, the model was still relevant according to the findings in Table 4.14. These findings meant that the leadership practices have a strong influence on the competitiveness of TVETs. Notably, when the moderator factor was introduced in step three, model number three remained statistically significant ($\beta_1 = 2.301$, $P = .000$); and in that case, all the constructs of internal systems (institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems) when combined in one model together with the interaction terms became statistically significant. This mean that leadership practices had a strong moderation influence on the competitiveness of TVETs.

These findings support the conclusion that leadership practices moderate the relationship between internal systems and the competitiveness of TVETs. Existing literature possessed gaps on lack of statistical confirmation on the existence of a moderating influence between internal systems and the competitiveness of TVETs. Notwithstanding, there exist few research which have established the influence of leadership practices on the competitiveness on TVET institutions. These include: Bello and Muhammad (2021), Bogonko (2018), Koech (2018) and Okorafor and Nnajofo (2017) which equated leadership practices to influence competitiveness through innovation, staff motivation, resource allocation and giving strategic direction.

The resulting moderated multiple regression model was generated using the unstandardized coefficients because the scale used were similar and that the constant had a significant P-value. The model was:

institutional capacity, monitoring of curriculum implementation, financial management practices, and internal systems.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_jZ_j + \beta_{ij}X_iZ_j + \epsilon, \text{ hence,}$$

$$\text{The competitiveness of TVETs} = 2.301 - .217X_1 + .011X_2 - .033X_3 + .031X_4 + .033Z_j + .035Z_j + \epsilon.$$

The resulting moderated multiple regression model shows that the competitiveness of TVETs = $(-.217X_1 \text{ institutional capacity}) + (.011X_2 \text{ monitoring of curriculum implementation}) + (-.033X_3 \text{ financial management practices}) + (.031X_4 \text{ financial management practices}) + (.033Z_j \text{ leadership practices}) + (.035Z_j \text{ interaction terms } -2.387)$. In this model, 2.301 is the baseline value which is linked to the predictor variables. This implies that 2.301 is the same for each internal systems in the moderated multiple regression model. The results show that the relationship between internal systems and the competitiveness is moderated by the leadership practices. Existing literature possessed gaps on lack of statistical confirmation on the existence of a moderating influence between internal systems and the competitiveness of TVETs. The study therefore achieved its objective of coming up with new knowledge pertaining establishing the moderating influence of leadership practices on the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a synthesis of the findings presented in Chapter four, along with the conclusions and recommendations derived from these results. Furthermore, it offers suggestions for future research stemming from the identified research gaps. The study aimed to investigate the correlation between internal efficiency, leadership practices, and the competitiveness of technical and vocational training institutions in Nyeri County. The specific objectives included evaluating institutional capacity, monitoring curriculum implementation, financial management practices, and internal systems, as well as examining the moderating impact of leadership practices on the hypothesized relationship. The study drew upon four theoretical frameworks: the Wheeler model of curriculum development, the balanced scorecard model, the theory of dynamic capability, and the contingency theory of leadership. Data were collected from eleven TVET institutions, eleven principals, 11 student presidents, and 77 heads of departments using questionnaires, interview guides, and focus group discussions, and analyzed through both quantitative and qualitative approaches.

5.2 Summary of Study Findings

The findings are summarized based on the main sections of the results. Firstly, a summary is provided on the response rate, indicating the percentage of participants who participated in the study. Next, the background information of the respondents is summarized, including their demographic details and other relevant characteristics.

Finally, a summary is presented based on the variables investigated in the study, highlighting the key findings and outcomes related to each variable.

5.2.1 Response Rates

The study achieved an overall response rate of 87%, with 153 questionnaires being considered in the analysis. A 100% response rate for interviews with principals and a 100% response rate for focused group discussions on student leaders. The results presented a Cronbach alpha value of more than 0.7. This indicated that the data collected was adequate and reliable.

5.2.2 Background Information of Respondents

Concerning the Heads of Department (HODs), who were the main respondents, there was a gender imbalance where there were more male HODs (59.2%) than female HODs (40.8%). Regarding their educational qualifications, the majority had attained a diploma (45.8%), followed by a bachelor's degree (30.7%), a college certificate (21.6%), a postgraduate diploma (1.3%), and a master's degree (0.3%). The majority of the HODs had worked in the same institution between 1-5 years (39.9%). Regarding the experience of principals, the findings noted that all the principals had over 7 years of work experience. For student leaders' respondents from TVET institutes in Nyeri County, the study sought the year of study and the course one was undertaking at their institution. Data collected from students' leaders indicated that most were 2nd-year students and a few 3rd year.

5.2.3 Competitiveness of TVET Institutions in Nyeri County

This was the dependent variable in the study. The research conducted a comprehensive analysis of the competitiveness of TVET institutions in Nyeri County, integrating both quantitative and qualitative data. The study revealed a moderate overall

competitiveness, with a mean summation score of 3.34 and a standard deviation of 1.343, indicating minimal deviation from the mean. The respondents' ratings on a scale of one to five aligned with this, showing that 55.6% perceived competitiveness as moderate. Notable strengths included TVET institutions offering a diverse range of accredited programs, emphasizing timely course completion, and showcasing positive images with good leadership practices. However, the findings also exposed critical weaknesses, such as insufficient training facilities, outdated infrastructure, and a lack of modern learning resources, all of which contributed to the overall moderate competitiveness.

Interviews with principals, Heads of Departments (HODs), and student leaders' further highlighted challenges, including insufficient modern equipment, negative societal perceptions of TVETs, limited employment opportunities for graduates, outdated curricula, and low funding. These respondents argued that insufficient funding poses a threat to the provision of quality education and training. However, all these aspects of competitiveness were shadowed by the community perception of TVET institutions, implying that the negative attitude of the society demeaned the competitiveness of TVET institutions. Thematic analysis of suggested improvements which were embedded on thirteen areas, including curriculum development, teacher training, industry partnerships, state-of-the-art facilities, internships, and financial support.

5.2.4 Institutional Capacity and Competitiveness of TVET Institutions

This was the first variable of the study that aimed to assess the influence of institutional capacity on the competitiveness of TVET institutions in Nyeri County. Institutional capacity. The aspect of institutional capacity investigated was the adequacy of learning facilities and the quality and quantity of human resources. In terms of learning

facilities, the quantitative results revealed significant deficiencies. While 97.4% of TVET institutions had workshops, only 11.6% were equipped to a large extent, and 30.1% were equipped to a very large extent. Notably, 41 (26.8%) were moderately equipped, while 28.8% faced inadequacies. The absence of computer laboratories in 17% of institutions and the lack of libraries in 51.6% highlighted critical gaps in essential learning resources. The correlation analysis reinforced these findings, indicating a positive relationship (0.501**) between institutional capacity and competitiveness, underscoring the urgent need for strategic interventions to fortify TVET institutions in Nyeri County. The study found that the relationship between institutional capacity and competitiveness of TVET institutions was statistically significant.

The study noted that TVET institutions did not experience any challenges in getting competent trainers. However, the number of non-teaching staff was significantly low with a few of the non-teaching staff being moderately qualified. The study also noted low regular training and continuous professional development programs for teaching and non-teaching staff. The availability of infrastructural resources was also underscored as important in influencing the competitiveness of TVET institutions.

5.2.5 Monitoring of Curriculum Implementation and the Competitiveness of TVET Institutions

This was the second objective of the study which aimed to examine the influence of monitoring curriculum implementation on the competitiveness of TVET institutions in Nyeri County. The study noted that TVET institutions made considerable efforts to supervise trainers during curriculum implementation. It was also worth noting that more than half of TVET institutions in Nyeri County had instituted measures and mechanisms

for monitoring curriculum implementation and had a timeline for evaluating and revising curricula.

Although the findings show a moderate practice in the monitoring of curriculum implementation in approximately half of TVET institutes in Nyeri county, only 20(13.1%) had established a quality control body charged with the responsibility of assessing curriculum implementation and evaluation at the institution. The process of monitoring curriculum implementation is mostly the trainer's responsibility that is usually enhanced with HODs and principals' supervision. The study also noted that the quality assurance office usually develops quality control activities such as conducting internal audits, coordinating external examination processes and report writing as well as providing feedback. The results of the study indicated that regular monitoring of curriculum implementation helps in ensuring that the training programs offered by the TVET institutions are aligned with current and emerging industry needs and trends. The involvement of students in monitoring curriculum implementation helped to provide a platform for their participation in the course evaluation system as well as giving their feedback on the teaching methods, class interactions and the availability and relevancy of learning materials. Moreover, the correlation analysis results indicated a Pearson correlation value of .0626 which implied that there is a statistically significant positive relationship between monitoring of curriculum implementation and the competitiveness of TVET institutions.

5.2.6 Financial Management Practices on the Competitiveness of TVET Institutions

The third objective of the study aimed to assess the influence of financial management practices on the competitiveness of TVET institutions in Nyeri County. The

findings from the study on financial management practices in TVET institutions in Nyeri County indicate a moderate overall mean of 2.96 with a standard deviation of 1.447, suggesting a general trend towards average financial management practices. Notably, 67% of the institutions demonstrated a moderate level of financial management practices, while 28.8% of Heads of Departments rated transparency and financial accountability as high. However, some challenges were evident, particularly in aspects like risk management, adherence to financial policies, and the establishment of own-source revenue streams, where improvements are needed. Funding inadequacy was a prevalent issue, with 50% of TVET institutes reporting insufficient funds, underscoring the need for a reassessment of funding allocation models for enhanced financial sustainability.

Further insights were on the positive correlation (Pearson correlation value of .677**) between financial management practices and institutional competitiveness, emphasizing the significant role played by good financial management practices in fostering TVETs' competitiveness. Additionally, transparency and accountability systems have been successfully established in a considerable percentage of TVET institutions, with 28.8% of HODs rating them highly. Additionally, the study noted that most TVETs were adhering to the accounting and auditing standards and conventions. Despite these positive aspects, the study revealed areas for enhancement, especially in compliance with standardized financial practices and the creation of risk management frameworks. Also, only half had embraced risk management and assessment practices.

5.2.7 Internal Systems on the Competitiveness of TVET Institutions

The fourth objective aimed to determine the influence of internal systems on the competitiveness of TVET institutions in Nyeri County. The exploration of internal systems

in Nyeri County's TVET institutions underscores an operational landscape. The assessment reveals a moderate overall level, with a noteworthy summation mean of 3.30 and a standard deviation of 1.261. Essential aspects include students consistently completing programs on time (mean = 3.97; SD = 1.038) and well-established operational procedures (mean = 3.92; SD = 1.000), contributing to an average mean of 3.68. These elements collectively shape a conducive environment, facilitating efficient teaching and learning processes.

However, stark deficiencies emerged, notably in the functionality of the quality assurance department (mean = 2.50; SD = 1.419) and ISO certification (mean = 2.41; SD = 1.862), with only a few institutions exhibiting robust quality monitoring. This critical gap raises concerns about the effectiveness of curriculum implementation and the quality of teaching and learning in half of Nyeri County's TVET institutions. Moreover, the study establishes a statistically significant positive relationship (Pearson correlation = .693**) between internal systems and institutional competitiveness, underscoring the urgency of fortifying these systems. Immediate attention is warranted in addressing identified weaknesses, particularly in quality management, documentation, technology adoption, and institutional culture, to ensure the sustained competitiveness of TVET institutions in Nyeri County.

5.2.8 Leadership Practices

This was the last objective that aimed to determine the moderating effect of leadership practices on the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County. The findings reveal a critical picture of leadership practices at TVET institutions in Nyeri County. The mean of 3.27 with a standard deviation of 1.158 for leadership practices suggests a moderate level of effectiveness. The leadership

in TVETs seemed to have adopted a balanced approach, neither exceptionally strong nor weak. Key strengths included the presence of governance structures (mean = 3.40), adherence to policies (mean = 3.63), and leadership possessing requisite skills and knowledge (mean = 3.42). However, the study highlights areas for improvement, such as enhancing staff motivation and recognition (mean < 3.00), which can significantly impact overall productivity and performance. The aspects related to staff matters, if not addressed, could hinder innovation, creativity, and the ability of educators to tailor approaches to students' needs. The findings also emphasize the importance of continuous improvement, stakeholder engagement, and streamlining administrative processes to boost overall internal efficiency.

Qualitative insights from interviews with TVET principals align with quantitative results, emphasizing the critical role of leadership in internal efficiency. Effective leadership practices were found to positively influence key aspects such as resource availability, communication systems, service delivery, policy enforcement, staff relationships, and overall institutional harmony. Conversely, ineffective leadership practices were linked to inefficiencies, communication gaps, and suboptimal resource management. The study underscores the multifaceted impact of leadership practices, connecting various aspects of institutional operations, including curriculum development, staff development, and adherence to policies. The qualitative findings also shed light on the challenges hindering effective leadership, such as staff shortages, poor capacity among staff, inadequate resources, and resistance to change. The study proposed solutions that included strategic planning, external partnerships, open forums, capacity building, effective communication, and transparent leadership. Overall, the integration of

quantitative and qualitative findings emphasizes the need for holistic improvement in leadership practices to enhance the competitiveness and internal efficiency of TVET institutions in Nyeri County.

5.2.9 Summary of the overall purpose of the study

The purpose of the study was to assess the influence of internal efficiency on the competitiveness of TVET institutions in Nyeri County as well as the moderating influence of leadership practices on the relationship. The aspects of internal efficiency assessed included institutional capacity, monitoring curriculum implementation, financial management and internal systems. The findings of multiple regression analysis noted that all the aspects of internal efficiency had a statistically significant influence on the competitiveness of TVET institutions in Nyeri County. However, the results of regression weights indicated that although the four predictor variables were jointly statistically substantial in a combined model, the most significant ones were financial management practices and internal systems. The results further indicated that when the moderator factor was introduced, all the variables became significant in influencing the competitiveness of TVET institutions in Nyeri County. Thus, the study noted that leadership practices moderate the relationship between internal efficiency and competitiveness of TVETs.

5.3 Conclusions

The crucial aspect of any institution is its competitiveness. The competitiveness of an training institution is characterized by its ability to produce graduates with employable skills, offering a wide range of programs and offering of courses that are accredited, and having adequacy of training resources and human resources. The results indicate that low funding was a serious drawback to the competitiveness of TVET institutes. Insufficient

funding and inefficient internal systems pose threats to the provision of quality education and training in TVET institutions.

5.3.1 Institutional Capacity and Competitiveness of TVET Institutions

Regarding the first objective, the study noted that institutional capacity had a substantial influence on the competitiveness of TVET institutions in Nyeri County. Particularly, the correlation analysis established a clear relationship between institutional capacity and competitiveness, indicating that bolstering internal capabilities is significant in enhancing the competitive positioning of TVET institutions. The findings reveal a concerning state of inadequacy and under-preparedness. The quantitative analysis exposed significant deficits with respect to crucial learning facilities; for example, workshops, computer laboratories, and libraries. A considerable portion of these institutions lack the necessary resources to offer practical skills training, hindering students from gaining a competitive edge in the job market. The absence of well-equipped libraries further restricts access to essential reference materials, impairing the overall quality of education. These quantitative shortcomings are echoed in the qualitative data, which have emphasized the urgent need for targeted interventions to address the identified gaps and fortify the infrastructure and resources of TVET institutions.

Moreover, the examination of institutional capacity through quantitative measures in areas such as online resource subscriptions, technology infrastructure, and staff training programs reveals notable inadequacies. The study concluded that deficiencies in staffing, finances, training programs, and technological readiness, not only compromise the quality of education delivery but also impede graduates' alignment with contemporary job market demands.

5.3.2 Monitoring of Curriculum Implementation and the Competitiveness of TVET Institutions

The study reveals a moderate level of monitoring of curriculum implementation in TVET institutions in Nyeri County, with a noteworthy emphasis on providing feedback to trainees. While certain aspects, such as feedback mechanisms, are strong, there are areas for improvement, including documentation of facilitators' supervision and stakeholders' involvement. Importantly, the statistical correlation underscores the significant positive relationship between monitoring and the competitiveness of TVET institutions, emphasizing the critical role of effective curriculum oversight in institutional success.

The findings noted key factors contributing to successful monitoring, including the importance of a scheduler system, competent trainers, and a clear understanding of market needs. The involvement of trainees in the feedback process also stood out as crucial aspect for enhancing the quality of education. These insights collectively underscore the need for a targeted and comprehensive approach to strengthen curriculum monitoring practices in TVET institutions.

5.3.3 Financial Management Practices on the Competitiveness of TVET Institutions

Although the study reveals a moderate state of financial management practices within TVET institutions in Nyeri County, indicating room for improvement; they are statistically significant in influencing the competitiveness of TVET institutions. Notably, transparency and financial accountability systems have been relatively well-established; however, areas such as risk management, adherence to financial policies, and the development of sustainable own-source revenue streams require attention.

The findings suggest specific dimensions for enhancing the overall financial landscape of TVET institutions, including providing appropriate textbooks and other training/instructional resources, using assessments to gauge the curriculum's effectiveness based on trainees' performance in the industry, ensuring a robust quality assurance department, harmonizing continuous evaluation of trainees, and involving learners in regular evaluation of curriculum implementation. Moreover, transparent procurement processes and adherence to standardized financial practices emerge as crucial factors requiring focused efforts.

5.3.4 Internal Systems on the Competitiveness of TVET Institutions

The findings indicate a dynamic interplay of internal systems and competitiveness of TVET institutions in Nyeri County. While certain facets demonstrate commendable performance, such as adherence to schedules and well-defined operational procedures, critical deficiencies in quality assurance mechanisms and ISO certification were evident. These shortcomings pose significant challenges to the competitiveness of half of the institutions, which point out the urgent need for improvement.

The identified positive correlation between internal systems and institutional competitiveness underscores the significant role these systems play in shaping the educational landscape. Strengthening internal efficiency, particularly in quality management, documentation, technology integration, and institutional culture, emerged as a crucial imperative. The interconnectedness of these aspects and their impact on internal efficiency, cost-effectiveness, and overall service delivery reinforces the importance of addressing identified gaps. Failure to do so could compromise the institutions' ability to meet the evolving needs of students and employers, jeopardizing their reputation and

competitiveness. These factors in turn affect the organizational effectiveness. Therefore, when there is an excellent internal system, a TVET institute would enjoy optimal, prudent use of resources, good coordination of processes, and quality output. This implied that internal systems were an essential aspect of the competitiveness of TVET institutions.

5.3.5 Leadership Practices

The moderating role of leadership practices was found to be significant in influencing the relationship between internal efficiency and competitiveness of TVET institutions in Nyeri County. Strengths were observed in governance structures and policy adherence, and opportunities for improvement exist, particularly in areas related to staff motivation and recognition. The findings underscore the crucial role of effective leadership practices in shaping internal efficiency and competitiveness.

Challenges such as staff shortages, limited resources, and resistance to change need improvement to facilitate positive changes and innovations. Proposed solutions emphasize strategic planning, external partnerships, capacity building, and transparent leadership. Overall, the study emphasizes the interconnected nature of leadership practices, impacting various aspects of institutional operations. The study notes that continuous improvement, stakeholder engagement, and streamlined administrative processes are crucial in enhancing the overall effectiveness and competitiveness of TVET institutions in Nyeri County. The study notes that when leadership practices were introduced as moderators to the overall model, all the variables became significant in influencing the competitiveness of TVET institutions in Nyeri County. Therefore, the study concluded that leadership practices moderate the relationship between internal efficiency and competitiveness of TVETs.

5.4 Recommendations

The study developed recommendations based on the findings and further described the implications of the results on theories, policies and practices. The recommendations provided here below are organized according to the variables of the study.

5.4.1 Competitiveness of Technical, Vocational Education and Training Institutions

The competitiveness of TVET institutions is determined by the ability to produce graduates with employable skills. For TVET institutions to be effective in producing employable graduates, they should liaise with the industry in conducting training which involves the development of market-driven curricula among other initiatives. The study noted that the negative perception of the community on TVET institutions negatively affected their competitiveness. Thus, the study recommended that key stakeholders should create a solid societal awareness of the value of TVETs.

To enhance the competitiveness of TVET institutions in Nyeri County, a strategic focus on collaboration with local industries is imperative. This entails integrating industry experts into curriculum development processes and engaging with advisory boards to ensure educational programs align closely with evolving market needs, producing graduates with relevant and in-demand skills. Specifically, TVETs should invest in modern facilities and the integration of technology to create an optimal learning environment. They should allocate funds for cutting-edge equipment and facility modernization, along with the active incorporation of technology into teaching methodologies, and prepare students for the dynamic demands of the modern workplace.

The study recommends the need for TVETs to establish and strengthen structured internship programs and cooperative education initiatives with industry partners to bridge the gap between theory and practice. Additionally, they should strengthen measures for integrating soft skills training into the curriculum to ensure that graduates possess not only technical proficiency but also strong interpersonal competencies, hence enhancing their overall employability. Another recommendation is a need for TVETs to facilitate regular forums with dialogue learners, teaching staff and industries to ensure a coordinated and adaptive approach to enhancing TVET competitiveness.

They should in addition pursue advocacy programs involving local and international stakeholders, industry associations and government are essential in shaping a favorable perception of TVET education. These measures are recommended for all TVETs for increased government funding, diversified revenue streams, and scholarship programs are crucial to alleviate financial barriers for students and ensure sustained operational and capital budget needs. The results indicates a need for TVETA to establish a robust quality assurance framework, incorporating regular external audits and continuous improvement mechanisms based on stakeholder feedback. This will help to maintain industry standards.

TVET institutions should endeavour to secure funding for infrastructure development and prioritize the repair and construction of modern facilities. They should engage and cultivate positive relationships with political leaders to advocate for sustained support and budgetary allocations for TVET institutions. The TVETA should further establish a robust system for continuous monitoring, incorporating key performance indicators and regular evaluations.

5.4.2 Institutional Capacity and Competitiveness of TVET Institutions

The study noted that there is a critical need for substantial investment in physical infrastructure, including workshops, laboratories, computer facilities, and libraries. Specifically, the study underscores the need for immediate attention to address the gaps in learning facilities, including science laboratories, studios, and agricultural land. TVETs should therefore focus on modernizing workshops, laboratories, and computer facilities to ensure they are well-equipped with contemporary machinery and resources. This requires a strategic allocation of funds and resources, and pursuance of partnerships with relevant industries and government departments.

The absence of libraries in more than half of the TVET institutions suggests a need for standard guidelines in the policy development of TVET libraries. The study recommends that TVETA to liaise with information professionals to establish and enforce guidelines for a library in every TVET institute. This involves collaboration between education authorities TVET management and information professionals to ensure compliance to enhance the overall quality of training and education.

The lack of adequately equipped student centres in a significant percentage of institutions poses a challenge to competitiveness. Consequently, TVETs should allocate adequate resources, specifically for the development of student centres. These centres play a crucial role in enhancing student engagement, extracurricular activities, and in providing platform for academic support. Investing in these facilities will make TVET institutions more attractive to learners.

The study highlights gaps in the institutional capacity of TVETs, including insufficient subscription to online e-resources, outdated technology, and inadequate training opportunities for trainers. TVET institutions should enhance institutional capacities by investing in technology upgrades, subscribing to relevant e-resources, facilitating staff training programs, and ensuring the availability of up-to-date learning resources. The study emphasizes the importance of continuous professional development for both teaching and non-teaching staff. To address this, TVET institutions should prioritize the development and implementation of effective training programs.

5.4.3 Monitoring of Curriculum Implementation and the Competitiveness of TVET Institutions

The study recommends TVET institutions in Nyeri County to focus on enhancing specific aspects of curriculum monitoring to bolster competitiveness. Firstly, attention should be directed towards areas with moderate ratings, such as documenting facilitator supervision and involving stakeholders in the curriculum implementation process. Additionally, the establishment of a quality control body dedicated to assessing curriculum implementation and evaluation is recommended.

Secondly, taking cognizance of the positive correlation between monitoring and competitiveness, there should be an emphasis on continuous improvement strategies. TVET institutions should therefore invest in the development of a curriculum evaluation committee, allocate finances to curriculum management activities, and actively involve stakeholders in the ongoing assessment and enhancement of curriculum content. This approach aligns with best practices highlighted in the National Evaluation Plan Report and

the Wheeler model, emphasizing the cyclical nature of curriculum development, monitoring, and evaluation for sustained competitiveness.

There is a crucial need for TVETs to refine and update monitoring guidelines regularly. These guidelines should be dynamic, responsive to feedback from stakeholders, and adaptable to the evolving landscape of curriculum implementation. Additionally, it is imperative to establish specialized quality control bodies within each TVET institution. These bodies would conduct internal audits, and assessments, and ensure strict adherence to predetermined standards, fostering a culture of continuous improvement.

Thirdly, TVET institutions should devise and implement ongoing staff professional development programs to enhance instructional skills and keep trainers informed about industry trends. This is deemed to contribute significantly to the effectiveness of curriculum delivery. Strengthening collaborations with local industries is also recommended. This involves forming advisory committees with industry experts, ensuring that the curriculum aligns closely with the real-time needs of the job market.

To optimize resource allocation, principals of TVETs should ensure establishment of a clear link between fiscal planning and curriculum requirements. Financial resources should be allocated based on identified needs through robust curriculum development and monitoring processes. Principals of TVETs should further ensure the implementation of systematic course evaluation systems, suggestion boxes, surveys, and open meetings to encourage students to participate actively in curriculum improvement. Finally, the regular review of curricula is vital. TVETA should liaise with the management of TVET institutions to develop systematic processes for periodic reviews, actively engage

examination bodies in monitoring industrial attachment programs, and ensure the integration of essential soft skills into the curriculum.

5.4.4 Financial Management Practices on the Competitiveness of TVET Institutions

Prudent financial management in TVET institutions is crucial in determining the competitiveness of the institution. It is therefore imperative for these institutions to prioritize the establishment and reinforcement of comprehensive risk management and assessment practices. The study reveals a notable gap in this area, indicating a need for focused efforts to mitigate potential financial risks. In that connection, TVETs should institute regular training programs for staff involved in financial management, along with the development of clear guidelines for risk assessment.

Furthermore, diversifying revenue streams is essential for the financial sustainability of TVET institutions. TVET boards of management should actively seek partnerships with industries, engage in income-generating projects, and establish dedicated teams for fundraising. This diversification will help create additional income avenues, reducing dependency on government funding.

The study further notes that optimizing budget controls and adherence is imperative. TVET boards should also strengthen internal controls to minimize financial misappropriation and ensure compliance with financial reporting regulations are fundamental steps toward fostering a sustainable financial environment. They should in addition strengthen budget controls to ensure strict adherence to annual financial plans, regular reviews, and adjustments based on institutional needs, along with penalties or incentives for departmental adherence. This is expected to contribute to effective financial

management for a roadmap for TVET institutions to enhance their financial practices and, consequently, their competitiveness in the educational landscape.

5.4.5 Internal Systems on the Competitiveness of TVET Institutions

The study underscores several key recommendations to enhance the internal systems of TVET institutions in Nyeri County and, consequently, boost their competitiveness. Firstly, there is a pressing need for institutions to prioritize the establishment and strengthening of internal quality assurance mechanisms. This involves developing a robust quality management system, fostering a culture of accountability, and implementing regular monitoring and evaluation processes in all TVET institutions.

The study also recommends that TVET institutions should streamline their administrative processes, including documentation, to minimize bureaucracies. They should imperatively embrace technology to drive various internal processes to facilitate efficiency, reduce errors, and align with contemporary organizational practices. The integration of modern technology should be accompanied by comprehensive capacity-building programs for staff to enhance their technological skills. While certain aspects, such as adherence to established procedures and standardized operating procedures, received favourable ratings, critical deficiencies in quality assurance mechanisms and ISO certification were identified as significant challenges to competitiveness. Attaining ISO certification is indicative of a commitment to maintaining international quality standards, which can enhance the institutions' credibility and competitiveness.

Furthermore, the study emphasized the importance of documentation and technological adoption in driving internal efficiency. Specific measures should be taken by the TVETs board of management to ensure that all processes within the institutions are

well-documented. This includes procedures for daily operational activities, curriculum implementation, and overall institutional policies. Financial challenges emerged as a significant hindrance, affecting workshop congestion, learning materials, and equipment. Therefore, TVETs should lobby and seek additional government funding, explore partnerships with industry stakeholders, and implement targeted fundraising initiatives.

The study also highlighted the importance of fostering a culture of continuous improvement and effective communication. Specific actions that TVET institutions can consider involve organizing regular meetings with staff and students, promoting an open-door policy among heads of TVETs, and encouraging feedback mechanisms. These initiatives aim to enhance communication, unity of direction, and coordination of internal activities, contributing to a more harmonious and efficient organizational culture.

Human resource development emerged as a key theme in this study, with a focus on ensuring TVET institutions are properly staffed with skilled technical personnel. Staff adequacy and competency gaps were noted. Specific recommendations include the need for TVETs to advocate for government support in staff development programs, including training initiatives and capacity-building efforts. This will ensure that the institutions have the right qualified trainers and administrative staff to optimize internal operations.

5.4.6 Leadership Practices

Effective leadership practices in an institution impact human resources as well as the allocation of resources within the institution. The internal efficiency relies on the adherence to established policies. However, effective leadership practices in TVET institutions were hindered by TVET staff who were resistant to change. This made was a

big drawback for leaders to implement new initiatives, update the curriculum, or adopt modern teaching methods. This implied the need for TVETs to initiate capacity building of the staff. Investing in professional development programs equips staff with contemporary leadership skills and strategies.

To ensure leadership effectiveness, principals of TVETs should prioritize staff recognition and motivation, and institute tangible programs that demonstrate genuine appreciation for staff efforts. In that connection, TVET institutions should invest in leadership skills and competencies through continuous professional development to enhance the overall leadership prowess.

Fostering stakeholder engagement emerged as a key strategy for improving leadership. TVET leaders should devise systems for actively involving faculty, students, industry partners, and local communities in decision-making processes. This inclusive approach contributes to a collaborative leadership style, and is critical in aligning institutional goals with diverse perspectives. Addressing staff welfare matters is also a crucial aspect in enhancing the institutional climate. Therefore, TVET institution board of management should focus on implementing policies related to career progression, collaboration, and resource adequacy to create a supportive work environment. They should fathom and adopt transparent decision-making and resource management practices and build trust among staff and stakeholders.

Although TVETs are facing financial challenges, allocating resources judiciously, particularly for faculty development and infrastructure improvement, contributes to the overall competitiveness of TVET institutions. This requires action by the Ministry of

Education. Finally, building a collaborative work environment is essential. TVET management should therefore foster strong teams, encourage open communication, and embrace adaptability to evolving educational and industry landscapes. Periodic open forum meetings with staff and students provide a platform for addressing concerns and promoting a culture of collaboration and respect, ultimately contributing to the long-term competitiveness of TVET institutions in Nyeri County.

5.5 Implications of the Findings on Theories, Policies and Practices

The findings of the study have implications for the theories presented in chapter two, as well as for policies and practices. Implications in these three areas are described in subsequent sub-sections.

5.5.1 Implications of Study Findings on Theories

The findings of this study have outright implications for the four theories used in this study. The same is discussed below.

5.5.1.1 Wheeler Model of Curriculum Development

The Wheeler model of curriculum development emphasizes a systematic approach to curriculum design and implementation. In light of the study's findings, the Wheeler Model underscores the need for TVET institutions in Nyeri County to enhance their curriculum development processes. The iterative nature of curriculum development, as highlighted in the study, aligns with Wheeler's model, emphasizing the importance of ongoing evaluation and adaptation. In this context, the Wheeler Model implies that TVET institutions should view curriculum development as a dynamic process, ensuring that educational programs remain responsive to the evolving needs of industries. The study's focus on areas like teacher training, industry partnerships, and state-of-the-art facilities

which largely aligns with the Wheeler model's emphasis on collaboration and engagement with external stakeholders to inform curriculum decisions.

5.5.1.2 Balanced Scorecard Model

The balanced scorecard model emphasizes a holistic approach to organizational performance measurement, considering financial and non-financial aspects. The study's findings, particularly in the realm of financial management practices, resonate with the balanced scorecard's emphasis on financial sustainability. The model suggests that financial practices are integral to overall institutional competitiveness. The study's identification of challenges in risk management, adherence to financial policies, and the establishment of revenue streams points to areas where TVET institutions need to focus to achieve a balanced scorecard. The model implies that a comprehensive evaluation of financial practices, encompassing not only transparency and accountability but also risk management and revenue diversification, is essential for the sustained competitiveness of TVET institutions.

5.5.1.3 Theory of Dynamic Capability

The theory of dynamic capability asserts that organizations must possess the ability to adapt, integrate, and reconfigure internal and external competencies to address changing environments successfully. In the context of TVET institutions in Nyeri County, the study's findings reveal profound implications for the theory of dynamic capability, emphasizing the imperative for these institutions to cultivate a culture of continuous adaptation and innovation. The study underscores the importance of dynamic capabilities in curriculum development, teacher training, industry partnerships, state-of-the-art facilities, and a continuous improvement mindset. TVET institutions embracing

dynamic capabilities are well-positioned to thrive in the dynamic educational and training landscape by proactively shaping their internal competencies to align with external demands, ensuring sustained relevance and competitiveness.

5.5.1.4 Contingency Theory of Leadership

The contingency theory of leadership posits that effective leadership depends on various situational factors. The study's focus on leadership practices and their moderating effect on internal efficiency and competitiveness aligns with the principles of contingency theory. The theory implies that leadership approaches should be tailored to the specific needs and challenges faced by TVET institutions. The study's identification of areas for improvement in staff motivation, recognition, and the need for continuous improvement resonates with the contingency theory, suggesting that leadership practices should adapt to the unique context of each institution. The theory underscores the importance of aligning leadership strategies with the internal and external contingencies faced by TVET institutions in Nyeri County to enhance overall competitiveness.

The implications of the study's findings on these theories underscore the need for a comprehensive, adaptive, and context-specific approach in curriculum development, financial management, dynamic capability cultivation, and leadership practices for TVET institutions in Nyeri County to thrive in a rapidly evolving educational landscape.

5.5.2 Implications of Study Findings on Policies

The study's findings bear significant implications for existing policies governing Technical and Vocational Education and Training (TVET) institutions. In the realm of resource allocation and funding, the study acknowledges the prevalent issue of financial inadequacy, with half of the surveyed TVET institutes reporting insufficient funds. To

address this situation, policies related to funding should be reconsidered, with an emphasis on reassessing existing models to ensure sustained financial support, thereby bolstering the overall financial sustainability of TVET institutions.

In the areas of curriculum development and quality assurance, the study suggests that policies governing these aspects should prioritize regular monitoring, industry relevance, and responsiveness to market needs. Quality assurance policies at TVET institutions should be strengthened to address internal deficiencies identified, particularly in ISO certification and quality monitoring. Furthermore, human resource development policies should take into account gender imbalances among Heads of Departments and advocate for continuous professional development programs for both teaching and non-teaching staff.

Industry partnerships and collaboration policies should be strengthened and promoted to enhance the practical relevance of programs and improve graduates' employability. Also noted was a need for leadership and governance policies which should focus on leadership training, motivation strategies, and transparent governance practices. Aspects of monitoring and evaluation stood out distinctively in this study, hence, policies should spell out the importance of regular assessments, while community engagement and perception policies should address negative societal views by promoting awareness campaigns.

Additionally, infrastructure development was flagged as an imperative aspect. Infrastructure development policy should prioritize the provision of state-of-the-art

facilities and adequate resources; while, institutional capacity-building policies should focus on collaborations for resource and personnel enhancement.

5.5.3 Implications of Study Findings on Practices

The implications of the study's findings on the practices within TVET institutions are substantial. In the first instance, the identified financial challenges underscore the necessity for a reassessment of financial management practices within these institutions. With 50% reporting insufficient funds, there is a clear need for improved financial planning, risk management, and the establishment of sustainable revenue streams. Practices related to financial transparency and accountability should be reinforced to ensure efficient resource allocation and utilization.

In the second instance, the study has provided critical insights into curriculum development and implementation practices, highlighting the importance of continuous monitoring and adaptation. The identified gaps in syllabus coverage, facilitators' supervision, and quality control, point out a need for enhanced practices in these areas. TVET institutions should prioritize regular assessments and revisions of curricula, with a specific focus on aligning programs with industry needs in a continuous manner. The study also emphasizes the positive impact of involving students in the monitoring of curriculum implementation; hence, suggesting a great need for practical practices for promoting student engagement and feedback mechanisms.

Furthermore, in terms of internal systems, the study points to both strengths and weaknesses. While certain aspects, such as program completion rates and well-established operational procedures, are commendable, deficiencies in quality assurance departments

and ISO certification practices demand immediate attention. TVETS should embark and strengthen practices related to internal systems. These are critical in addressing gaps in quality management, documentation, technology adoption, and institutional culture to ensure efficient teaching and learning processes.

Additionally, the study underscores the significance of leadership practices in influencing internal efficiency. Practices related to staff motivation, recognition, and overall leadership effectiveness should be enhanced. TVET institutions should prioritize staff development, streamline administrative processes, and engage in continuous improvement initiatives to foster an environment conducive to innovation and creativity. In essence, the study's implications call for a comprehensive reassessment and enhancement of financial, curriculum, internal systems, and leadership practices within TVET institutions to ensure their sustained competitiveness and effectiveness.

5.6 Recommendations for Further Studies

Considering the findings which have underscored the prevalence of deficiencies in internal efficiency, leadership practices, and competitiveness, the following further studies were recommended.

- The findings of the study indicate that the competitiveness of a TVET institution is also dependent on political support and goodwill. This is not covered in this study. Hence, a wider study should be undertaken to examine the extent to which politics influence the competitiveness of TVET institutions.
- The study investigated internal efficiency phenomena and discovered that institutional capacity, leadership practices and financial management were very crucial. Another

study can be carried out to investigate this further with a view to recommending a training module for teachers to improve their proficiencies.

- The study recommend the adoption of effective leadership for improving internal efficiency in TVETs in Nyeri County. Further study should therefore be conducted on government universities and compare the results.
- Future studies could go deeper into investigating the perspectives of various stakeholders, including students, parents, employers, and policymakers. Moreover, exploring the alignment of TVET programs with industry needs and the perceptions of different stakeholders could contribute to a more comprehensive understanding of competitiveness.
- A further study can be conducted to specifically evaluate how policy interventions in areas like curriculum development, infrastructure improvement, and financial management contribute to internal efficiency.
- A further study is recommended to investigate the influence of technology integration on the internal efficiency of TVET institutions. Assess how the adoption of digital tools, online learning platforms, and innovative technologies to establish the extent to which they affect administrative processes, teaching methods, and overall operational efficiency. Future studies can also focus on how collaborations with industries contribute to curriculum relevance, availability of resources, and the overall quality of education provided by TVET institutions.

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APPENDICES

Appendix I: Consent to Participate in the Study

Edward Mutahi Kahiga

Kenya Methodist University

P.O. Box 267 – 60200.

Dear respondent,

I am writing to request for consent to participate in my study which will help me to actualize my academic research that investigates on ***Relationship between internal efficiency, leadership practices and competitiveness of technical and vocational education and training institutions in Nyeri County, Kenya.*** This research hope to improve practices that impact the internal efficiency which seem to be curtailing the competitiveness of TVET institutes in Kenya.

Procedure to be followed

The specific questions in the questionnaire and interview is organized into sections ranging from section A to I. Section A covers the introduction part constituting the biographical information of the sampled respondents. Sections B, C, D and E, contain questions regarding the independent variables, while section F constitutes questions on the dependent variable. The last section, that is, G contains questions on moderating variables. Most questions in the questionnaire are closed-ended, and a few open-ended ones for each construct. All sentiments in the questionnaire are in 5 points Likert scale. In total. It takes approximately 10 to 15 minutes to complete the questionnaire and 30 minutes to respond to interview questions. The respondent is under no obligation to complete the questionnaire or to answer all questions presented or participate in the interview. If one comes across a question which one don't wish to answer, simply skip it.

I hope you will be willing to participate in this study in your capacity as one of key respondent identified for the study.

Discomforts and risks

In this study, there is no risks of participating in the research. The reputation of the participant will also not be injured. The respondent is welcome to discontinue participation in the study at any time, should one wish to do so due to discomfort.

Benefits

If you participate in this study you will help us to improve the competitiveness of TVETs in Nyeri County and beyond. Your input is therefore critical in generating new knowledge and will go a long way in revamping internal efficiency in TVET institutes.

Rewards

There is no reward for anyone who chooses to participate in the study. The participation is entirely voluntary. Each participants is asked to avail information freely as part of contribution to community development.

Confidentiality

Your participation in this study will remain strictly confidential. No name will be recorded on the questionnaire or attached to any of the data you provide. The data collection will be kept in a confidential location after collection and in future and, moreover, will not have anything to identify you.

Contact Information

Should you have questions regarding your participation, please contact me on mutahi8@gmail.com. You may also contact my research supervisor at paul.maku@kemu.ac.ke

I am kindly asking you to sign the consent form (below) indicating agreement for you to participate in this study.

Participant's Statement

The above statement regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will not be victimized at my place of work whether I decide to leave the study or not and my decision will not affect the way I am treated at my work place.

Name of Participant..... Date.....

Signature.....

Investigator's Statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and the benefits involved.

Name of interviewer.....Date.....

Interviewer Signature.....

Appendix II: Questionnaire for Heads of Departments

Introduction

This questionnaire is designed for research purposes aimed at determining relationship between internal efficiency, leadership practices and competitiveness of technical and vocational education and training institutions in Nyeri County. The information you will give in this questionnaire will be treated very confidentially and will be utilized for the purposes of research only.

Instructions

Please do not indicate your name anywhere on this questionnaire. Instead, you are requested to read the questions carefully and respond accordingly by either ticking (✓) or filling in the blank spaces appropriately.

Section A: Demographic Information

- 1) Indicate your gender
 - a. ☐ Male
 - b. ☐ Female

 - 2) What is your highest level of academic qualification?
 - a. College Certificate ☐
 - b. Diploma ☐
 - c. Bachelor degree ☐
 - d. Postgraduate diploma ☐
 - e. Master's degree ☐
 - f. Doctorate degree ☐

 - 3) For how long have you been serving as a head of department in a TVET Institute?
 - a. Less than a year ☐
 - b. Between 1- 5 years ☐
 - c. Between 6 -10 years ☐
 - d. Between 11-15 years ☐
 - e. Between 16 - 20 years ☐
 - f. Over 21 years ☐

 - 4) Indicate name of the department that you head _____
-

SECTION B: Institutional Capacity of TVET institution

- 5) To what extent are learning facilities at your TVET institute adequate and equipped?
To answer this question, use a rating scale of 0 to 5, to rate the extent to which each stated facility is equipped to support training at your institution. Rating scale: 0 = does not exist, 1 = to a very small extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to large extent, 5 = to a very large extent.

To what extent are learning facilities equipped?	We don't have this facility (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. Science laboratories	[0]	[1]	[2]	[3]	[4]	[5]
b. Computer laboratories	[0]	[1]	[2]	[3]	[4]	[5]
c. Workshops	[0]	[1]	[2]	[3]	[4]	[5]
d. Studio	[0]	[1]	[2]	[3]	[4]	[5]
e. Library	[0]	[1]	[2]	[3]	[4]	[5]
f. Classroom	[0]	[1]	[2]	[3]	[4]	[5]
g. Land for agriculture courses	[0]	[1]	[2]	[3]	[4]	[5]
h. Students centre	[0]	[1]	[2]	[3]	[4]	[5]

- 6) The table below contains statements regarding institutional capacity at your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statements on institutional capacity	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. The institution has adequate number of teaching staff	[0]	[1]	[2]	[3]	[4]	[5]
b. The institution has adequate number of non-teaching staff	[0]	[1]	[2]	[3]	[4]	[5]
c. The teaching staff possess the required academic and professional qualifications	[0]	[1]	[2]	[3]	[4]	[5]
d. The non-teaching staff possess the required academic and professional qualifications	[0]	[1]	[2]	[3]	[4]	[5]
e. We have enough teaching and learning information materials like core text books, research materials and other reference books	[0]	[1]	[2]	[3]	[4]	[5]
f. Our institution has subscribed to e-resources that are relevant to courses offered	[0]	[1]	[2]	[3]	[4]	[5]
g. We have enough teaching and learning information materials	[0]	[1]	[2]	[3]	[4]	[5]

like core text books, research materials and other reference books						
h. We have up to date technology and ICT infrastructure for steering training, education and, administrative activities	[0]	[1]	[2]	[3]	[4]	[5]
i. There are regular and continuous professional development programs for staff	[0]	[1]	[2]	[3]	[4]	[5]
j. The institution has provided the required support to staff to enhance utilization of technologies in training and assessment	[0]	[1]	[2]	[3]	[4]	[5]

7) How would you rate the state of curriculum monitoring and implementation at your institution?

[] Very Poor [] Poor [] Moderate [] Good [] Very Good

8) State what need to be done on institutional capacity to increase the competitiveness of your TVET institute.

SECTION C: Monitoring of Curriculum Implementation

9) The table below contains statements regarding monitoring of curriculum implementation at your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statements on monitoring of curriculum implementation	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. We have mechanisms in place for monitoring curriculum implementation	[0]	[1]	[2]	[3]	[4]	[5]
b. We have planned timeline when we undertake revision and evaluation of curriculum	[0]	[1]	[2]	[3]	[4]	[5]
c. The industry is involved in curriculum implementation	[0]	[1]	[2]	[3]	[4]	[5]
d. There is an established quality control body that is in charge of assessing curriculum implementation and evaluation at our institution	[0]	[1]	[2]	[3]	[4]	[5]
e. Relevance, consistency, practicability and efficacy of our curriculum has led to increase in student enrolment at our institution	[0]	[1]	[2]	[3]	[4]	[5]
f. There are mechanisms in place to ensure facilitators achieve all	[0]	[1]	[2]	[3]	[4]	[5]

the learning outcomes and expectations at the end of each training module						
g. Facilitators supervision and monitoring is usually documented	[0]	[1]	[2]	[3]	[4]	[5]
h. All facilitators are involved in the process of identifying the strengths and shortcomings in the delivery of the curriculum	[0]	[1]	[2]	[3]	[4]	[5]
i. There are mechanisms in place to ensure facilitators get feedback regarding their performance in delivering curriculum.	[0]	[1]	[2]	[3]	[4]	[5]
j. There are mechanisms in place to ensure trainees get feedback regarding their performance in acquiring the intended skills and competencies.	[0]	[1]	[2]	[3]	[4]	[5]
k. There are mechanisms in place to ensure stakeholders are involved in curriculum implementation and monitoring	[0]	[1]	[2]	[3]	[4]	[5]

10) How would you rate the state of curriculum monitoring and implementation at your institution?

[] Very Poor [] Poor [] Moderate [] Good [] Very Good

- 11) State what need to be done on curriculum monitoring and implementation to increase the competitiveness of your TVET institute.

SECTION D: Financial management practices

- 12) The table below contains statements regarding aspects of financial management practices at your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statements on financial management practices	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. Our training institute has an annual financial plan	[0]	[1]	[2]	[3]	[4]	[5]
b. There is commitment from management to adhere to the annual financial plan	[0]	[1]	[2]	[3]	[4]	[5]
c. Departmental budgeting and implementation is adhered to in our institution	[0]	[1]	[2]	[3]	[4]	[5]
d. Our institution has embraced risk management and assessment practices	[0]	[1]	[2]	[3]	[4]	[5]
e. There is an established financial management policies in our institution	[0]	[1]	[2]	[3]	[4]	[5]
f. Our institution adhere to the established financial management policies	[0]	[1]	[2]	[3]	[4]	[5]

g. Our institution has established transparency and financial accountability systems	[0]	[1]	[2]	[3]	[4]	[5]
h. The management is committed to enforcing established transparency and financial accountability systems	[0]	[1]	[2]	[3]	[4]	[5]
i. Our institution has own-source revenue streams	[0]	[1]	[2]	[3]	[4]	[5]
j. The own-source revenue is management in a transparent manner	[0]	[1]	[2]	[3]	[4]	[5]
k. The government financial allocations is sufficient in meeting the financial needs of our institution	[0]	[1]	[2]	[3]	[4]	[5]
l. The TVETA body has provided direction and guidance on financial management and sustainability	[0]	[1]	[2]	[3]	[4]	[5]
m. Our institution adhere to accounting and auditing standards and other approved conventions	[0]	[1]	[2]	[3]	[4]	[5]
n. Staff who work in financial department have the required professional qualifications	[0]	[1]	[2]	[3]	[4]	[5]

13) How would you rate the transparency and financial accountability systems put in place at your institution?

[] Very Poor [] Poor [] Moderate [] Good [] Very Good

14) State what need to be done on financial management practices to increase the competitiveness of your TVET institute.

SECTION E: Internal systems

15) The table below contains statements regarding aspects of internal systems at your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statement on internal systems	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. There is good coordination of the internal teaching activities in our institution	[0]	[1]	[2]	[3]	[4]	[5]
b. There is good coordination of the internal administrative activities in our institution	[0]	[1]	[2]	[3]	[4]	[5]
c. We have a functioning Quality Assurance Department that monitors the quality of teaching and learning	[0]	[1]	[2]	[3]	[4]	[5]
d. There are established measures to ensure curriculum implementation	[0]	[1]	[2]	[3]	[4]	[5]
e. There are procedures guiding daily operational activities in our institution	[0]	[1]	[2]	[3]	[4]	[5]
f. Students finish their academic programs on time as stipulated in the curriculum	[0]	[1]	[2]	[3]	[4]	[5]
g. There are standardized operating procedures in each department	[0]	[1]	[2]	[3]	[4]	[5]
h. The internal systems and structures have enabled our institution to increase responsiveness	[0]	[1]	[2]	[3]	[4]	[5]

i. The established internal systems, structures and procedures reduce the time spent serving a customer	[0]	[1]	[2]	[3]	[4]	[5]
j. There is commitment from staff to follow the established internal systems, structures and procedures when serving customers in our institution	[0]	[1]	[2]	[3]	[4]	[5]
k. The management support adherence to established internal systems, structures and procedures	[0]	[1]	[2]	[3]	[4]	[5]
l. Our institution has comprehensive policy framework to ensure smooth operations and activities	[0]	[1]	[2]	[3]	[4]	[5]
m. The management is committed to practices that promote internal efficiencies	[0]	[1]	[2]	[3]	[4]	[5]
n. Technology has been adopted in driving processes in our institution	[0]	[1]	[2]	[3]	[4]	[5]
o. The institutional culture and practices facilitate internal efficiencies	[0]	[1]	[2]	[3]	[4]	[5]
p. There is an established service charter in our institution	[0]	[1]	[2]	[3]	[4]	[5]
q. The service charter has been operationalized and is adhered to in our institution	[0]	[1]	[2]	[3]	[4]	[5]
r. There are reports and feedback on evaluation of adherence to service charter in our institution	[0]	[1]	[2]	[3]	[4]	[5]

16) How would you rate the internal systems put in place at your institution?

[] Very Poor [] Poor [] Moderate [] Good [] Very Good

- 17) State what need to be done on internal systems to increase the competitiveness of your TVET institute.

SECTION F: Competitiveness of TVET Institutions

- 18) The table below contains statements regarding aspects of competitiveness of your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statement on competitiveness of TVET institutions	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. The good financial management practices in place has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
b. The mechanisms of implementing and monitoring curriculum has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
c. The efficiency of our internal systems has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
d. The leadership practices has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
e. The timely completion rates has caused influx	[0]	[1]	[2]	[3]	[4]	[5]

of students into our institution						
f. The employability of our graduates has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
g. Students compete /scramble to get admitted to pursue courses at our institution	[0]	[1]	[2]	[3]	[4]	[5]
h. The range of programs offered in our institution has attracted students even from other counties	[0]	[1]	[2]	[3]	[4]	[5]
i. The range of programs offered in our institution are regularly revised to match what is needed in the market	[0]	[1]	[2]	[3]	[4]	[5]
j. Institutional infrastructure development and equipment has caused influx of students into our institution	[0]	[1]	[2]	[3]	[4]	[5]
k. There has been steady growth of accredited courses in our institution	[0]	[1]	[2]	[3]	[4]	[5]
l. The liaison between our institution and industries has increased the demand of our graduates	[0]	[1]	[2]	[3]	[4]	[5]
m. Our institution attracts qualified teaching and non-teaching staff	[0]	[1]	[2]	[3]	[4]	[5]
n. There are reports of students transferring from other TVETs to our institution	[0]	[1]	[2]	[3]	[4]	[5]
o. Our institution retains qualified teaching and non-teaching staff	[0]	[1]	[2]	[3]	[4]	[5]
p. The adoption of technology places our institution ahead of other TVETs	[0]	[1]	[2]	[3]	[4]	[5]
q. The courses offer at our institution are on high demand	[0]	[1]	[2]	[3]	[4]	[5]

r. Other TVET institutes come to benchmark with our institution	[0]	[1]	[2]	[3]	[4]	[5]
s. Stakeholders have positive image of our institution	[0]	[1]	[2]	[3]	[4]	[5]
t. The brand name of our institution is attributed to the our competitive programs	[0]	[1]	[2]	[3]	[4]	[5]
u. Students enrolment at our institution has been growing gradually	[0]	[1]	[2]	[3]	[4]	[5]
v. Employers are happy with the skills of our graduates	[0]	[1]	[2]	[3]	[4]	[5]

19) How would you rate the competitiveness of your institution?

[] Very Poor [] Poor [] Moderate [] Good [] Very Good

20) State what need to be done to enhance the competitiveness of your TVET institute.

SECTION G: Leadership Practices

21) The table below contains statements regarding aspects of leadership practices at your institution. Kindly provide a rating expressing the extent to which you agree with each statement provided. The rating scale is: 0 = *This has never happened in our institution*, 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *to a moderate extent*, 4 = *to large extent*, 5 = *to a very large extent*.

Statement on Leadership Practices	This has never happened in our institution (0)	To a very small extent (1)	to a small extent (2)	To a moderate extent (3)	To large extent (4)	To a very large extent (5)
a. There are mechanisms and structures in place for involving stakeholders in decision-making at our institution	[0]	[1]	[2]	[3]	[4]	[5]
b. The leadership of our institution involves stakeholders in making decisions	[0]	[1]	[2]	[3]	[4]	[5]
c. Leadership provides strategic direction of our institution	[0]	[1]	[2]	[3]	[4]	[5]
d. The leadership practices and styles embraced in our institution has caused progressive growth of our TVET	[0]	[1]	[2]	[3]	[4]	[5]
e. Leadership at our institution promotes internal efficiency	[0]	[1]	[2]	[3]	[4]	[5]
f. Leadership at our TVET has instituted monitoring and evaluation mechanisms on training and education	[0]	[1]	[2]	[3]	[4]	[5]
g. Leadership at our institution gives staff latitude to make decisions	[0]	[1]	[2]	[3]	[4]	[5]
h. Leadership at our institution inspires staff to work with commitment	[0]	[1]	[2]	[3]	[4]	[5]

i. Leadership at our institution has unified staff to ensure unity of purpose	[0]	[1]	[2]	[3]	[4]	[5]
j. Leadership in our institution have requisite skills, competencies and knowledge in leadership	[0]	[1]	[2]	[3]	[4]	[5]
k. Leadership in our institution provides communication in a timely manner	[0]	[1]	[2]	[3]	[4]	[5]
l. Leadership in our institution respond quickly to matters presented to them	[0]	[1]	[2]	[3]	[4]	[5]
m. Leadership in our institution provides timely feedback regarding staff performance	[0]	[1]	[2]	[3]	[4]	[5]
n. Leadership in our institution appreciate and motivate employees	[0]	[1]	[2]	[3]	[4]	[5]
o. Leadership in our institution recognize and reward efforts made by employees	[0]	[1]	[2]	[3]	[4]	[5]
p. Leadership in our institution make staff to feel valued	[0]	[1]	[2]	[3]	[4]	[5]
q. Leadership of our institution demonstrates concern on staff welfare	[0]	[1]	[2]	[3]	[4]	[5]
r. Leadership of our institution demonstrates concern on students progression and completion	[0]	[1]	[2]	[3]	[4]	[5]
s. Leadership of our institution has provided staff with the required equipment and facilities	[0]	[1]	[2]	[3]	[4]	[5]

1) How would you rate the leadership practices of your institution?
[☐] Very Poor [☐] Poor [☐] Moderate [☐] Good [☐] Very Good

2) State what need to be done on leadership practices to increase the competitiveness of your TVET institute.

Thank you for your cooperation and time.

Appendix III: Interview Schedule for TVET Principals

SECTION A: Demographic Information

- 1) How many years have you served as a principal of a TVET?

SECTION B: Institutional Capacity

- 1) Describe the measures that you have taken on institutional capacity to ensure competitiveness of your institution
- 2) Explain the ways in which the teachers' proficiencies, learning resources and infrastructural facilities affect the competitiveness of your institutions.

SECTION C: Monitoring of Curriculum Implementation

- 3) Describe the measures that you have taken to ensure successful monitoring and implementation of the curriculum at your institution.
- 4) Please, explain how the monitoring of curriculum implementation affect the competitiveness of TVET institutions.

SECTION D: Financial management practices

- 5) Describe the measures that you have taken to ensure prudent financial management practices at your institution.
- 6) Explain the ways in which financial management practices foster the attainment of competitiveness of your TVET institution.

SECTION E: Internal systems

- 7) Describe the measures that you have put in place to ensure adoption of good internal systems at your institution.
- 8) Explain ways in which internal systems contribute to the competitiveness your institution.

SECTION F: Competitiveness of TVET Institutions

- 9) What are the main drawbacks to achieving the competitiveness of your institution?
- 10) State what you feel should be done to improve the competitiveness of TVET institutions in Nyeri County.

SECTION G: Leadership Practices as a Moderator

- 11) In what ways do leadership practices affect internal efficiency at your institution?
- 12) In what ways do leadership practices affect competitiveness of your institution?
- 13) Explain issues that hinder effective leadership at TVET institutions in Nyeri County.
- 14) What aspects of leadership do you think should be considered to make TVET institutions in Nyeri County competitive?

Thank you for your cooperation and time.

Appendix IV: Focused Group Discussion Questions for Students

SECTION A: Demographic Information

- 1) Provide information on the year and the course you are undertaking at your institution.

SECTION B: Institutional Capacity

- 2) Discuss what should be done on the following aspects of institutional capacity to improve competitiveness of your TVET Institute
 - a. Teachers' proficiencies,
 - b. Learning resources
 - c. Infrastructural facilities

SECTION C: Monitoring of Curriculum Implementation

- 3) Discuss how the monitoring of curriculum should be handled to facilitate the competitiveness of a TVET institution.

SECTION D: Financial management practices

- 4) Discuss what TVET institutions should do on financial management practices to make them more competitive

SECTION E: Internal systems

- 5) Discuss how internal systems and mechanisms should be handled to facilitate the competitiveness a TVET institution

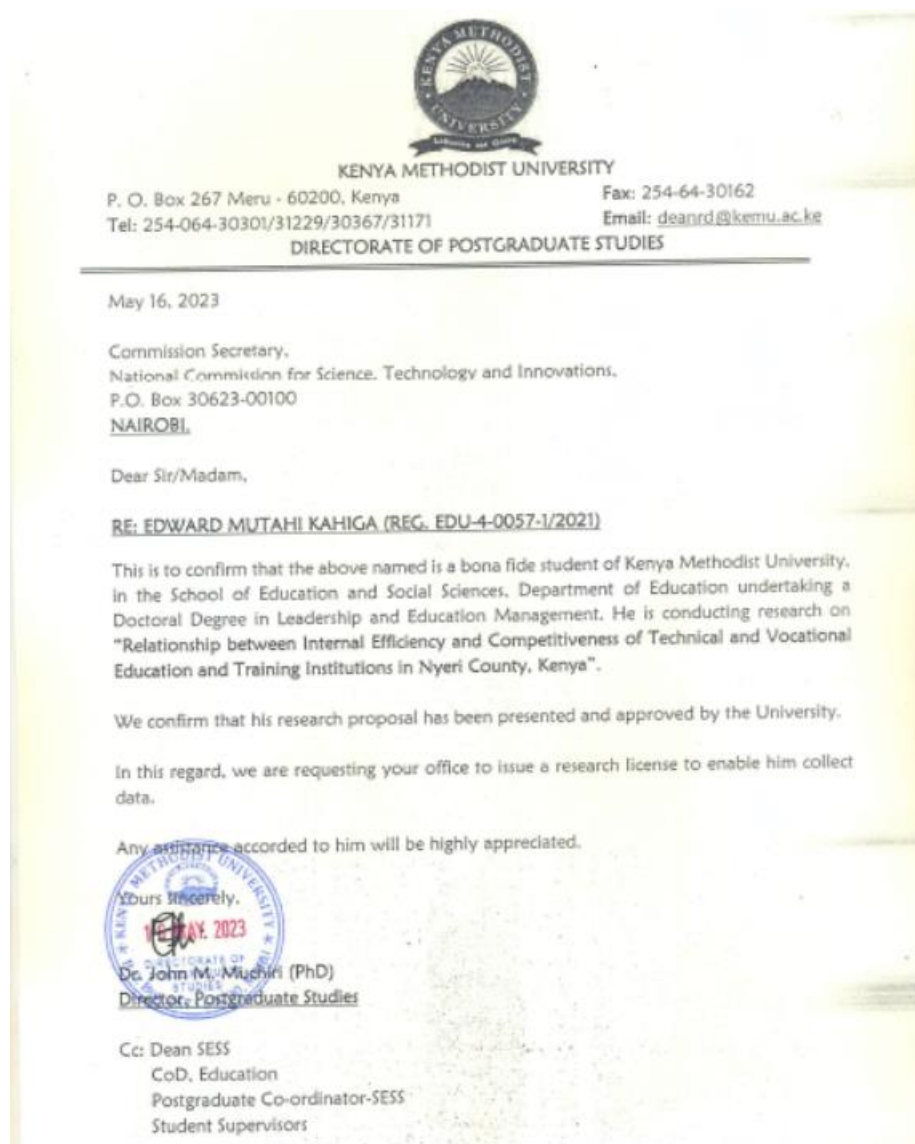
SECTION F: Competitiveness of TVET Institutions

- 6) Discuss aspects that contribute to poor competitiveness of a TVET institution.
- 7) Discuss solutions for enhancing competitiveness of a TVET institution.

SECTION G: Leadership Practices as a Moderator

- 8) Discuss ways in which leadership practices affect internal efficiency at your institution?
- 9) Discuss ways in which leadership practices affect competitiveness of your institution?
- 10) Discuss aspects of leadership that you think should be considered to make TVET institutions in Nyeri County competitive?

Appendix V: Introduction Letter from KeMU



Appendix VI: Ethical Clearance Letter


KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: INFO@KEMU.AC.KE

May 16, 2023 KeMU/ISERC/EDU/06/2023

EDWARD MUTAHI KAHIGA
EDU-4-0057-1/2021

Dear Edward,

SUBJECT: RELATIONSHIP BETWEEN INTERNAL EFFICIENCY AND COMPETITIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN NYERI COUNTY, KENYA

This is to inform you that Kenya Methodist University Institutional Scientific Ethics and Review Committee has reviewed and approved your research proposal. Your application approval number is KeMU/ISERC/EDU/06/2023. The approval period is 16th May, 2023 – 16th May, 2024.

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 Kenya Methodist University Institutional Scientific Ethics and Review Committee.
- 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 KeMU ISERC 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 KeMU ISERC 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 KeMU ISERC.

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.



Appendix VII: NACOSTI Research Permit

 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



This is to Certify that Mr. EDWARD MUTAHI KAHIGA of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nyeri on the topic: **RELATIONSHIP BETWEEN INTERNAL EFFICIENCY AND COMPETITIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN NYERI COUNTY, KENYA for the period ending : 31/May/2024.**

License No: NACOSTI/P/23/26226

Applicant Identification Number: 101717

Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

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See overleaf for conditions.

COUNTY GOVERNMENT OF NYERI



P.O. BOX 1112 - 10100

Telephone 061 2030700

NYERI

Email: governorsoffice@nyeri.go.ke

OFFICE OF THE GOVERNOR

CGN/GVN/GEN/III/69/2023/09

19th June, 2023

County Executive Committee Member
Department of Education
NYERI

RE: AUTHORITY TO COLLECT DATA FOR MY RESEARCH

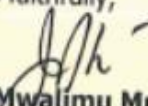
I am a PhD student at Kenya Methodist university. I am pursuing my doctorate with a thesis **"RELATIONSHIP BETWEEN INTERNAL EFFICIENCY AND COMPETITIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN NYERI COUNTY, KENYA."** I intend to conduct my research in the following institutions.

- 1.) Gichira
- 2.) Karatina
- 3.) Nairutia
- 4.) Othaya
- 5.) Rukira
- 6.) Gathuthi

I will greatly appreciate your assistance in this endeavor.

Attached kindly find my NACOSTI permit authorizing me to collect data.

Yours faithfully,


H.E. Mwalimu Mutahi Kahiga, EGH
GOVERNOR - NYERI COUNTY

COUNTY GOVERNMENT OF NYERI



OFFICE OF THE COUNTY EXECUTIVE COMMITTEE MEMBER DEPARTMENT OF EDUCATION AND TRAINING

P. O. Box III2 Nyeri, Email: education@nyeri.go.ke or elimuwaziricec@gmail.com

Ref: CEC/ESST/ADM/ /2/3/V. III. (154)

Date: 19th June 2023

TO THE MANAGERS

- GICHIRA VTC
- KARATINA VTC
- NAIRUTIA VTC
- OTHAYA VTC
- RUKIRA VTC
- GATHUTHI VTC

AUTHORITY TO COLLECT DATA

Reference is made from the letter reference CGN/GVN/GEN/II/69/2023/10 dated 19th June, 2023 from the Office of H.E the Governor for the authorization of the Research to collect data from the Vocational Training.

Permission has been granted to conduct research in the above institutions.

Attached find the find the Research letter.

A handwritten signature in blue ink, appearing to read 'Margaret W. Macharia'.

MARGARET W. MACHARIA
COUNTY EXECUTIVE COMMITTEE MEMBER
DEPARTMENT OF EDUCATION AND TRAINING

COUNTY GOVERNMENT OF NYERI



P.O. BOX 1112 - 10100

Telephone 061 2030700

NYERI

Email: governorsoffice@nyeri.go.ke

OFFICE OF THE GOVERNOR

CGN/GVN/GEN/III/69/2023/10th

19th June, 2023

Mr. Charles Nyota
Regional Director
Technical and Vocational Education Training
NYERI

RE: AUTHORITY TO COLLECT DATA FOR MY RESEARCH

I am a PhD student at Kenya Methodist university. I am pursuing my doctorate with a thesis "**RELATIONSHIP BETWEEN INTERNAL EFFICIENCY AND COMPETITIVENESS OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN NYERI COUNTY, KENYA.**" I intend to conduct my research in the following institutions.

- 1.) Nyeri National Polytechnic
- 2.) Mathenge Technical Training
- 3.) Tetu Technical Vocational College
- 4.) Kieni Technical Vocational College
- 5.) Mathira Technical Vocational College
- 6.) Mukurwe-ini Technical Vocational College

I request your authorization of the same.

I will greatly appreciate your assistance in this endeavor.

Attached kindly find my NACOSTI permit authorizing me to collect data.

Yours faithfully,

H.E. Mwalimu Mutahi Kahiga, EGH
GOVERNOR – NYERI COUNTY



REPUBLIC OF KENYA

MINISTRY OF EDUCATION
STATE DEPARTMENT OF VOCATIONAL & TECHNICAL TRAINING

Telephone: 254-0721-588722
Email: tvetnyeri@gmail.com
When replying please quote
Ref. MST/DTVET/NYE/(5)

COUNTY DIRECTOR TVET
P.O. BOX 1960-1100
NYERI
20th June, 2023

H.E. Mwalimu Mutahi Kahiga,
Governor – Nyeri County

Dear Sir,

RE: AUTHORITY TO COLLECT DATA FOR RESEARCH

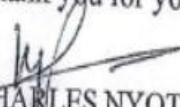
We refer to your letter Ref. 69/2023/10.

We hereby authorize you to visit and collect data as per your request in the following institution,

1. Nyeri National Polytechnic
2. Mathenge Technical Training Institute
3. Tetu Technical and Vocational College
4. Kieni Technical and Vocational College
5. Mathira Technical and Vocational college
6. Mukurwe-ini Technical Training Institute.

The Principals are advised to provide you with the support needed to achieve the objective.

Thank you for your continued support.


CHARLES NYOTA
REGIONAL COUNTY DIRECTOR TVET NYERI

COUNTY DIRECTOR OF TVET
P. O. Box 1960 - 10100
NYERI

Cc: All Principals.