

**FINANCING SOURCES, INSTITUTIONAL GOVERNANCE AND PERFORMANCE OF
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET)
INSTITUTIONS IN KENYA**

KIGIGE MUTEMBEI ANDERSON

**A Thesis Submitted to the School of Business in Partial Fulfillment of the Requirement for
the Award of Degree of Doctor of Philosophy in Business Administration and Management
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SEPTEMBER, 2025

DECLARATION AND RECOMMENDATION

Declaration

I declare that this thesis is my original work and has not been presented in any other university.

Signed.....Date.....

Mutembei Anderson Kigige

BUS-0228-1/2014

Recommendation

This thesis has been submitted for examination with our recommendation as university supervisors.

Signed.....

Date.....

Dr. Nancy Rintari (PhD)

School of Business and Economics

Kenya Methodist University (KEMU)

Signed.....

Date.....

Dr. Thomas Ongallo (PhD)

School of Business and Economics

Kenya Methodist University (KEMU)

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DEDICATION

I dedicate this work to my family Peninna, Cindy and Lenny for standing with me throughout my studies. I thank you very much, and God bless you.

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ABSTRACT

Performance of Technical and Vocational Education and Training (TVET) institutions in Kenya has remained a persistent concern, as many institutions continue to record low completion rates, inadequate training outcomes, and limited graduate employability. Technical and Vocational Education and Training is increasingly recognized as a critical sector for equipping the youth with the requisite skills for employment and economic development, both globally and within Kenya. Despite its strategic importance, the sector's performance has been constrained by inadequate and inconsistent financing. The main objective of this study was to examine the influence of sources of financing, institutional governance and TVET institutions' performance in Kenya. Specific objectives included: to establish the influence of government financing, influence of donor financing, influence of self-financing, and influence of public-private partnerships on performance of TVET institutions in Kenya. The study further analyzed the moderating effect of institutional governance on the relationship between financing sources and performance of TVET institutions. The study was anchored on Resource Dependence Theory, Human Capital Theory, Institutional Theory, and Stakeholder Theory. A descriptive research design was employed, utilizing a mixed-methods approach that incorporated both quantitative and qualitative data. The target population for the study comprised of 1464 key stakeholders in the TVET sector, including institutional administrators, teaching staff, and selected government officials from the Education Ministry department in charge of TVET management. Stratified random sampling was used to select a sample of 314 respondents from the target population and 297 valid responses were obtained. Data collection involved the use of structured questionnaires alongside a key informant interview guide. Quantitative data were processed and analyzed using SPSS (version 25), whereas qualitative information was examined through thematic analysis. The findings revealed that all four financing sources had statistically significant positive effects on the performance of TVET institutions, with government financing ($\beta = 0.799$, $p < .001$), donor financing ($\beta = 0.829$, $p < .001$), self-financing ($\beta = 0.787$, $p < .001$), and public-private partnerships ($\beta = 0.750$, $p < .001$) demonstrating strong predictive power. Additionally, institutional Governance manifested as a critical contingent variable profoundly modulating the dynamic interplay between financing and institutional performance. The study concluded that strengthening both financing mechanisms and institutional governance was essential for enhancing the performance of TVET institutions. It recommends policy reforms that prioritize adequate, timely, and sustainable funding, alongside improved governance practices, to maximize institutional effectiveness and long-term impact. Future studies should investigate the long-term effects of different financing models related to graduate employability and the quality of training in TVET institutions.

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ABBREVIATIONS AND ACRONYMS

CIPP	Context, Input, Process and Product
HELB	Higher Education Loans Board
ILO	International Labour Organization
KICD	Kenya Institute of Curriculum Development
NACOSTI	National Commission for Science, Technology, and Innovation
NGOs	Non-Governmental Organizations
STEM	Science, Technology, Engineering and Mathematics
TTIs	Technical Training Institutes
TVET	Technical and Vocational Education and Training
TVETA	Technical and Vocational Education and Training Authority
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
VTCs	Vocational Training Centers
AfDB	African Development Bank
CBET	Competency-Based Education and Training
PPS	Public-Private Partnerships

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, Technical and Vocational Education and Training (TVET) has been acknowledged as a key factor in promoting social inclusion, economic progress, and the decrease of poverty (Gyimah, 2020). International agencies like the International Labour Organization (ILO) and United Nations Educational, Scientific and Cultural Organization (UNESCO) have emphasized the significance of acquiring vocational skills in order to fulfill the dynamic demands of the global workforce (Victoria et al., 2023). TVET is regarded as crucial for providing people with the skills needed in important industries including manufacturing, services, ICT, and construction.

The TVET's crucial role in the economy cuts across different economies, especially in light of the Fourth Industrial Revolution and technological improvements (McGrath et al., 2019). Employability and quality training outcomes are greater in countries with strong TVET financing models that include government assistance, donor funding, and self-generated income. These underscore the need for long-term funding for TVET education. But because of inadequate and unstable funding, many countries struggle to maintain TVET institutes (Hanni, 2019). Therefore, the availability of sufficient financing is crucial in ensuring that TVET institutions provide high-quality training materials, up-to-date curricula, and well-equipped facilities (Mosalagae & Bekker, 2021).

TVET institutions play a vital role in providing skills to young people for self-reliance and economic development in many countries in the world (Resnick & Thurlow, 2015). According to Hanni (2019), adequate financing of TVET in Latin America and the Caribbean was the surest

way of guaranteeing quality skills acquisition among the graduates. Ideally, TVET enhances the achievement of Sustainable Development Goal four (4) of inclusive, equitable and accessible education for all. Demand-driven education calls for matching the industry needs with the quality of teaching which depends on teaching staff, infrastructure for practical skills in a simulated environment. Therefore, adequate financing becomes critical aspect in achieving quality of trainee who can easily be employable in the labour market (Wright, 2017).

1.1.1 Different TVET Financing Sources and their Influence on Institutional Performance

Government funding, donor funding, self-financing, and Public-Private Partnerships (PPPs) are some of the financial sources that have a significant impact on the success of TVET institutions (Indiazi, 2023). Institutional governance further influences the efficacy of these financing schemes by moderating the relationship between funding and institutional outcomes. Globally, TVET institutions with adequate funding tend to have high numbers of students, improved facilities, better training materials, and increased employable graduates (Maina & Muathe, 2023). Sustainable finance solutions are a crucial area of study because TVET program development and quality in Africa have been hampered by insufficient and irregular funding. In Kenya, where TVET institutions are crucial in tackling unemployment and skills gaps, improving institutional performance requires strengthening financial plans and governance frameworks.

Government financing affects infrastructure development, teacher remuneration, and student support services. It will be evaluated based on budgetary allocation, finance distribution efficiency, and adequacy of funds (Ngware et al., 2022). Strong government support in many developed nations guarantees modernized facilities and curricula that meet the demands of the labour market. Unpredictable government funding frequently results in resource shortages and decreased

institutional effectiveness throughout Africa, including Kenya's TVET industry. Donor funding supports the creation of infrastructure, specialist training programs, and capacity building. It will be evaluated based on funding volume, sustainability, and project implementation success. International organizations like the World Bank and UNESCO often provide funding for TVET programs worldwide (Maina & Muathe, 2023). Although reliance on donor funding in Africa has driven reforms in the TVET sector, it has also posed sustainability challenges. Despite Kenya benefiting from donor funding in initiatives such as the Kenya Youth Employment and Opportunities Project (KYEOP), long-term dependency remains a concern (Indiazi, 2023).

Self-financing improves institutional independence, and will be evaluated based on revenue from commercial activities, tuition fees paid by students, and financial autonomy (Okelo et al., 2021). In developed countries, TVET institutions are encouraged to diversify their funding sources by engaging in entrepreneurial endeavors. However, in Africa, financial flexibility is hampered by limited commercial activities and overreliance on student fees (Amubi & Kipkirui, 2023). To augment funding, Kenyan TVET institutions are increasingly looking into production units, consultancy, and short courses. Public-private partnerships (PPPs) are also very instrumental in matching training to the needs of the labour market, by closing the skills gap (Maina & Muathe, 2023). Measured by the number of partnerships, investment value, and industry engagement, countries like Germany have PPPs-driven dual training arrangements whereas in Africa, industry participation is still quite low (Ngware et al., 2022).

Despite Kenya's notable strides in engaging private sector players in apprenticeships and curriculum design, there are still challenges in securing long-term agreements (Okelo et al., 2021). The relationship between financing sources and performance of TVET institutions may depend on

institutional governance or leadership style. Institutional governance refers to the structures, rules, and procedures that direct organizational decision-making, resource distribution, and accountability (Rijal, 2023). In the context of TVET institutions, effective governance guarantees responsiveness, efficiency, and openness in the management of financial resources and the execution of training initiatives. Strong governance structures in TVET institutions provide better use of resources, enhanced institutional performance, and training program alignment with labour market demands (Peters, 2021). Effective leadership, regulatory compliance, stakeholder involvement, financial accountability, and strategic planning are all components of institutional governance. These governance structures influence the allocation and management of various funding sources, including government funding, donor support, self-financing, and public-private partnerships (PPPs), to improve TVET performance (Rijal, 2023).

Moderating effect of institutional governance will be determined by transparency, accountability, leadership effectiveness, and policy implementation. The governance frameworks have an impact on how institutional performance is influenced by funding sources (Ngware et al., 2022). In well-governed TVET institutions, financing leads to tangible improvements in infrastructure, training quality, and student outcomes. Awodiji and Magogodi (2023) further noted that the influence of financing is limited by weak institutional governance systems, which leads to inefficiencies and misallocation of cash. Although the TVET industry in Kenya has experienced governance improvements, issues with financial management and policy implementation still exist (Okelo et al., 2021).

Financing sources and TVET performance have a complex relationship that varies across global, regional, and national contexts (Ngware et al., 2022). According to Amubi and Kipkirui (2023),

for TVET to grow sustainably, financial resources, whether from the government, donors, self-financing, or PPPs, must be utilized effectively. This requires effective institutional governance for the right policy direction and monitoring of the progress. To increase TVET institutions' influence on job creation and skill development in Kenya, it would be essential to have in place effective financing strategies combined with robust governance frameworks (Ngware et al., 2022).

1.1.2 Global Perspective of TVET Financing and Performance

Globally on average, governments spend a substantial amount up to 12.6% of their budgets to finance TVET with the highest being Denmark, Korea and United States at 7.0% of their gross domestic product (Palmer, 2020). Mexico and New Zealand spend at least 6.5% of their budget on TVET, whereas Greece and Russia federation spend 4.2% and Asia spend over 3.8 % (Aryal, 2020). In Germany, financing of vocational training and education is dominated by three sources, including companies, the public sector, and trainees or self-financing (Müller et al., 2024). In the United Kingdom (UK), Hasanah (2023) revealed that various policies have been enacted by the government to help and advance the TVET sector both domestically and internationally. These policies, which range from funding to standard-setting, are meant to guarantee high-quality education and training to learners that will enable them to thrive in their chosen career fields while allowing employers to have access to a high-skilled and qualified workforce.

In China, to emphasize the important of TVET performance and the country's economic development, education in the sector is solely the responsibility of the government, technically making it legally free to the learners (UNESCO, 2024). However, new regulations have been introduced that encourage the sharing of financial costs and benefits with the private sector. According to Postiglione and Tang (2019), China has intensified its emphasis on skills acquisition

through TVET due to a combination of factors including technological acceleration, growing global engagement, and governmental aspirations to stimulate innovation and restructure the economy. In order to encourage partnerships in the TVET sector, the government provides incentives to enterprises, and implements structured mechanisms for internship placement, contract protection, employment security, and opportunities for professional growth. There are also properly constituted examination boards for skill certification of graduates, and information systems where poor students are effectively given the necessary guidance (Tian et al., 2019).

Hanni (2019) studied financing TVET in Latin America and the Caribbean and found sustained low levels of budget to support TVET programs and create demand, which ultimately significantly negatively impacted learning outcomes. The study recommended mobilization of resources and improving efficiency and effectiveness of programs. Given the global scope and context of the study, this makes their recommendations non-generalizable to Kenya. Further, Aryal (2020) revealed a high correlation between national budget and attainment of vocational education and training, noting low financial allocation to institutions to have significantly contributed to low achievement of the Sustainable Development Goal 4.

1.1.2 Regional Perspective of TVET Financing and Performance

Regionally, in Africa, TVET institutions are seen as essential for filling skill gaps, particularly among youth where technical skills are needed to lower unemployment and promote economic expansion ((World Bank, 2021). However, many African countries are greatly affected by poor infrastructure, out-of-date curricula, and a lack of sustainable financing, which have an adverse effect on TVET performance. To obtain funding for TVET growth, governments in the African region are increasingly teaming up more with foreign donors like the World Bank and the African

Development Bank (AfDB) (Yende (2021)). However, there are risks to sustainability when there is overreliance on donor support. With an emphasis on government funding, public-private partnerships, and self-generated income, the African Union's Agenda 2063 emphasizes the need for countries to develop diverse and sustainable funding models for TVET institutions.

Furthermore, Eicker et al. (2017) noted that in Africa there has been noticed high enrollment in TVET as a result of improvement in secondary school completion rates. However, the increase in enrollment rates does not match the government funding across African countries on TVET. This largely affects the implementation of TVET education. African countries have maintained an average of 0.78% of their gross domestic product (GDP) on education since 1995-2010. However, student enrollment rose from approximately 2.7 million in 1991 to about 9.3 million in 2006. The enrollments rates have been on an upward trajectory with an average of 16% where government expenditure grows to a low rate of 6% per annum on average (World Bank, 2021). Research has further shown that in many African countries, very few TVET institutions may offer necessary support to students, such as fees, stationery, or sexual reproductive health rights education, thereby making vocation education and training inaccessible to many students (McGrath et al., 2019; Mosalagae & Bekker, 2021).

In South Africa, for example, Yende (2021) noted that there was high enrollment rate in TVET institutes, but funding has been dwindling and most trainees were struggling in accessing the national financial aid. In Lusaka Zambia, Mubanga et al. (2019) found inadequate funding causing poorly resourced vocation institutions, lack of tools and equipment, material shortage and low motivation of trainers as the major challenges faced by the TVET institutes. However, the findings failed to specifically link financing to graduate or trainee skills development and acquisition.

Further, there has been a decrease in government expenditure per student and this financial constraint on the TVET institutions has an adverse effect on infrastructure development, trainer's development, completion rates and quality of trainees produced. In light of the aforementioned, it can be concluded that there has been underinvestment by governments in the TVET institutions across Africa (Delubom et al., 2020).

In Sub-Saharan Africa, the need for skilled workers is increasing, particularly to countries seeking to diversify their economy and lower youth unemployment (Allais, 2020). The necessity of technical and vocational education is emphasized in Agenda 2063 of the African Union, since it is necessary to provide a trained labour force capable of propelling economic progress. Yet, according to Kidega et al. (2023), for many TVET colleges in the region, financing is still a major obstacle. Due to socioeconomic limitations, government funding is frequently insufficient, donor contributions are erratic, and many students find self-financing methods to be infeasible. Part of the emphasis is therefore on the role of private-sector partnerships in bridging TVET financing gap and raising the standard of skill development in TVET institutions. There is, however, no data regarding how these finance approaches can impact trainee skills acquisition (Agole, 2022).

1.1.3 National Perspective of TVET Financing and Performance

In Kenya, the role of TVET is to provide skills and competencies for globally competitive employable human resources. Hanni (2019) contends that investment in human capital is positively related to economic growth. To achieve industrialization according to Kenya vision 2030 agenda which seeks to transition Kenya into a middle-income economy, human resource development index is key. The government has introduced reforms, such as the Competency-Based Education and Training (CBET) system, and expanded TVET institutions in order to satisfy the increasing

demand for skilled labour (Mutua, 2021). Funding for TVET is provided by the Kenyan government through development initiatives, student capitation, and budgetary appropriations to help TVET institutions across the 47 counties to meet their financial obligations.

Despite a number of reforms in education sector, TVET has not been able to achieve its full potential of producing employable graduates as indicated by high enrollment but low completion rates among students (Ngware et al., 2022). Consequently, financing sources of TVET are still insufficient, and many institutions are urged to look into alternative revenue streams including donor funding and income-generating initiatives, such as consultancy services and commercial ventures. To augment government funding, the National Treasury and Ministry of Education work with donors, such as the World Bank and GIZ (World Bank, 2021; Hasanah, 2023; UNESCO, 2024). Yet, this approach has not sufficiently generally addressed financing of TVET in Kenya. Tuition fee and exam fees, accommodation and upkeep are some of the challenges that affect students (Kagama et al., 2019; Ngware et al., 2022).

Lack of modern infrastructure, learning resources and equipment to keep up with the growing technology and industrialization in a globally competitive economy limits the competitiveness of a TVET trainees (Delubom et al., 2020). Further, use of outdated curriculum and poor coordination between TVET institutes and industry affects trainee employability (Essel et al., 2014). Additionally, lack of continuous development of trainers due to inadequate funding is among the common challenges facing TVET institutes in Kenya (Muriuki & Dominic, 2022). At the center of all these challenges is the question of insufficient financing of the TVET institutions (Okelo et al., 2021).

There are 1,432 public and private TVET institutions in Kenya, with 981 accredited and 271 awaiting accreditation (TVETA, 2020). These are categorized under National polytechnic (NP), Technical Training Institutes (TTI's), or Vocational Training Centers (VTC's) offering national diploma, craft certificates, artisan certificates and grade tests (1-3). One of the major challenges hindering the implementation of CBET in TVET institutions is the high tuition cost, which ranges between KES 30,000 and 80,000 annually in public TVETs, and from KES 120,000 to 250,000 annually in private institutions, according to UNESCO (2018). These costs remain unaffordable for a large segment of the population. With the ongoing transition from the 8-4-4 system to the competence-based 2-6-6-3 curriculum, TVET institutions are expected to function as senior secondary schools, particularly for learners specializing in STEM and technical disciplines. This new development is likely to make learning very difficult for many students in TVET institutes unless the question of financing is properly addressed.

In assessing the role of financing in influencing outcomes of TVET programs in Kenya in Nairobi County, Maina (2019) established that several colleges are underfunded. However, the study fell short of ascertaining whether financing or government capitation affect the student performance. Also, the TVET students in Nairobi might be more exposed to industries making it easy to acquire the skills which could be comparatively different in Meru County. Mutua (2021) did a study on determinants of sustainable financing for TVET in Kenya, but outside the scope of examining the impact of financing on trainee skills acquisition. However, the study failed to show correlation between infrastructure and financing with trainee skill acquisition.

Mutua (2021) sought to determine the variables that influence financing sustainability of TVET programs in Kenya, and noted that TVET institutions needed to diversify sources of finance in

order to remain sustainable. It also emerged that sustainability of financing had a positive relationship with graduate employability. However, the focus was more on TVET institutions nationally while concentrating on sustainability rather than performance in terms of performance. Furthermore, the analysis by Maina (2019) in Nairobi County focused on effects of financing on performance of TVET, but without specifically also focusing on private sector financing which forms part of the scope of the current research. The study found HELB financing, self-financing and donor funding to have had a positive impact on performance of TVET Institutes. Nevertheless, it was not clear to what extent each of these variables contributed to performance.

In Nyeri County, Kagama et al. (2019) sought to find out the challenges facing technical institutes in Kenya. The study noted that most technical institutes are poorly equipped to provide market-driven skills to the trainees. Using the Context, Input, Process and Product (CIPP) mixed methods and SPSS 19 to analyze data, the study concluded that the training infrastructure does not support the program needs. The study however, did not seek to establish the effect of financing on performance of TVET Institutions, thus creating a knowledge gap that the current research sought to bridge. The aim of TVET programs is primarily to develop skilled and competent human resources with the right knowledge, skills and attitudes to engage in the national economic development. The attainment of the Kenya vision 2030 industrialization agenda, tasks TVET institutes with a critical role of developing the required skills and competencies for the trainee to be ready for the employment industry. However, as noted in the reviewed literature, inadequate financing has derailed the achievement of this goal.

Despite the government's commitment to fund TVET and tertiary education in general, government budgetary support on TVET institutes has remained almost constant over the years, yet the enrollments rates have continued to increase over the same period (Okello et al., 2021).

From the total government budget allocation of 30% to the education sector (MoE), only 3.6% is allocated to TVET (Amubi & Kipkirui, 2023). This arrangement has not however addressed the issue of TVET financing since the government rarely meets its obligation of releasing the money to TVET institutes on time for the government sponsored students. On the other hand, many self-sponsored students are not able to meet their financial needs, leading to frequent failure to be assessed (Ngware et al., 2022).

Despite the government's assurances of TVET funding through HELB loans, there is no guarantee for all the students to qualify for the loans and scholarships. Also, there is a challenge of inadequate amount allocated to the applicants to meet their financial obligations in terms of fees and money subsistence. As a result, so many students end up either being stranded at home because they cannot afford to cater for their upkeep and their share of fee, or they are forced to drop out of college (Mutua, 2021). The scenario tends to increase dropout rates, ultimately lowering the completion rates of the student who have enrolled for TVET programs. A lot is still unknown in Meru County on financing as relates to implementation of TVET education in Kenya due to scanty data. The current research specifically seeks to determine the influence of Government financing on performance among the TVET institutions in Kenya.

Like in other counties in Kenya, TVET institutions in Meru County are ideally considered very essential in helping young people develop their employability and entrepreneurship skills and abilities (Okelo et al., 2021). Nevertheless, many of the county's TVET institutions struggle with funding issues, which has an immediate effect on the supply of facilities, skilled instructors, and training materials. Furthermore, there is still irregular awarding and remittance of financial assistance or contributions made by the government, donors, and private sector partnerships

(Amubi & Kipkirui, 2023). Students that rely on self-financing methods bear a significant burden, as many of them are from economically disadvantaged homes.

Notwithstanding these initiatives, problems like reliance on outside funds and delayed government payments still exist. In the end, these financial problems jeopardize institutional performance by affecting infrastructure development, employee retention, and educational quality (Njenga, 2018). As a result, many TVET colleges frequently struggle to generate graduates with the necessary skills. This raises a pressing need to investigate how different sources of financing influence performance and skills development of trainees in TVET institutes across different counties in the country.

At the institutional level, Kenyan TVET institutions use diverse funding methods, including revenue-generating ventures like consulting, short courses, and rental services (Njenga, 2018; Ngware et al., 2022). However, insufficient managerial experience and a lack of funding sometimes restrict these self-financing initiatives. Furthermore, donor funding is project-based and not long-term sustainable, despite its advantages. Sufficient training materials, including libraries, infrastructure, and contemporary equipment, are essential to improving these institutions' performance. Yet, the aforementioned may not be possible without sustainable financing of the TVET institutes. This is because training resources act as a moderating factor, determining how well financing from various sources translates into improved institutional performance. Such a situation has been witnessed in various TVET colleges in Kenya, as demonstrated by existing studies.

A study in Meru County by Rodgers (2018) noted that there is little funding by government to TVET institutes and recommended use of alternative financing from other income generating

activities within the institutes. However, the study by Rodgers was limited by scope; focusing on the youth on activities of Polytechnics in Imenti South. The proposed study will focus on TVET institutes across Kenya, with a focus in the larger Meru County. According to Anindo et al. (2016), there is the need to invest in infrastructure and increase the teaching staff. Large class sizes with inadequate training equipment, and low industrial attachments greatly affect the trainee skills development. Despite these insightful findings, the scope of the researches by Rodgers (2018) and Anindo et al. (2016) did not specifically address the proposed specific dynamics by the current study.

In Uasin Gishu County, Okelo et al. (2021) assessed the emerging trends in TVET institution policies and their contribution to academic achievement of students. It was revealed that TVET financial resources significantly influence how students perform in their academic pursuits in Uasin Gishu County. It was recommended for the government to enhance resource allocation to the TVET institutes in order to enhance their operational capacity and resilience levels. Cost-saving and recovery measures would also ensure effective functioning of education programs in these institutions. However, inadequate financing of the TVET sector often tends to limit the performance of majority of the institutions. Notably, the dynamics related to Uasin Gishu county may be different from those of other counties, hence the need for the current research.

In Bungoma County, Okwemba (2023) did research on the effect of resource utilization on TVET institutions' implementation of strategic plans for development. It was concluded that TVET institutes should always attempt to align their development strategies with available resources for realistic budgets. Furthermore, resources should always be put into proper use in order for the TVET institutions to enhance their performance levels. However, lack of reliable and constant financial streams could make it difficult for the institutions to operate effectively and efficiently.

Given the possibly different dynamics among TVETs in Bungoma County, the current study in Kenya could provide more reliable findings.

Different financing sources, such as government allocations, donor contributions, self-financing by trainees, and private sector partnerships, directly influence the quality of training resources, infrastructure, and instructional capacity. Yet, as revealed by Mutua (2021) and Ngware et al. (2022), despite the importance of vocational training among the Kenyan youth, there exists a paucity of empirical substantiation regarding the manner in which various financing paradigms affect attainment within TVET institutions, especially in Kenya. Moreover, Rodgers (2018) established that little is known about the function of private-sector collaborations and the extent to which training resources can influence the relationship between financing of TVET institutes and skill acquisition and development. This knowledge gap can prevent donors, TVET administrators, and policy makers from making decisions that could improve efficacy of TVET programs.

In Meru County, like other regions, the TVET sector is expected to help in lowering unemployment among the youth by equipping them with the right entrepreneurial skills for either absorption into formal jobs or self-employment in different fields. However, TVET institutions are generally faced with performance challenges, especially related to trainee skills acquisition (Ngware et al., 2022; Mutua, 2021). One of the key factors influencing effective and optimal performance of TVET institutes is accessibility and management of financial resources. Very little is also known about the influence of self-financing and donor financing on completion rates and TVET performance. Further, it is not clear whether institutional governance can moderate the relationship between financing and trainee skill acquisition.

By understanding the financial dynamics and their impact on training outcomes, the study aims to provide important actionable insights that can inform more effective financing strategies and improve the overall performance of TVET institutions. This will in turn enhance the overall capacity of the TVET sector in skills development and acquisition for the general good of the economy. The proposed study therefore, seeks to examine the influence of sources of financing on performance of TVET institutions in Kenya. This analysis will be done within the context of the moderating factor of institutional governance, with the likelihood of unique dynamics of specific institutions affecting how they utilize finances.

1.2 Statement of the Problem

Globally, despite the important role played by TVET institutions in skills development among young people, there are several factors that negatively influence performance of the sector. In the UK, Hasanah (2023) noted chronic underfunding in TVET sector is caused in part by reliance on government financing, erratic donor contributions, and limited self-financing initiatives. This has a detrimental impact on institutional performance since it leads to relying on obsolete curricula, poorly trained staff, inadequate facilities, and low student enrollment. This might be happening against the backdrop of a dynamic employment market that requires constant skills development, mainly through TVET institutions.

Regionally, in Africa, high rates of youth unemployment are a result of the persistent mismatch between the supply and demand for skills. Although TVET is seen as a solution for closing this gap, their effectiveness is hampered by insufficient and unstable funding. For instance, in their study in Lusaka, Zambia, Mubanga et al. (2019) revealed that conflicting priorities, such as security and healthcare, prevent many African countries from allocating enough budgetary resources to TVET. Moreover, in South Africa, Yende (2021) found out that despite the

government's funding of TVET institutes, the high enrollment rate in the sector lead to underperformance due to insufficient financing to cater for the increasing students population. The underdeveloped state of self-financing initiatives and public-private partnerships makes financial sustainability even more difficult. Inadequate infrastructure and training resources limits capacity of TVET institutions to provide high-quality training to satisfy labour market demands. However, the performance might also be dependent on the institutional governance, including infrastructure in place.

In Kenya, in a study in Murang'a County, Ngware et al. (2022) established that limited modern equipment and poor curriculum implementation due to poor financing contributed to TVET trainees' failure to become accustomed to the industry demands. Furthermore, in a study on factors influencing financing of TVET in Nairobi County, Maina (2019) noted that lack of reliable funding sources greatly interfered with performance of TVET in the County. Furthermore, in Nyeri County, Kagema et al. (2019) revealed that although HELB as the government tertiary education funding agency is actively financing students in TVET institutes, this does not guarantee the institutions' access to sustainable funding and ultimate performance in their mandate. Maina (2019) further noted that irrespective of the efforts by key stakeholders in the sector, many TVET colleges are still struggling financially. In light of the aforementioned, this study examines the influence of sources of financing on performance of TVET institutions in Kenya.

1.3 Purpose of the Study

The purpose of this study was to examine the influence of sources of financing on the performance of Technical and Vocational Education and Training (TVET) institutions in Kenya. Specifically, the study focused on the role of government financing, donor support, self-financing, and public-private partnerships, and how they enhanced TVET institutional performance. Additionally, the

study explored the moderating role of institutional governance in the relationship between financing sources and performance TVET's outcomes.

1.4. Main objectives of the Study

The study sought to examine the influence of sources of financing and institutional governance on performance of TVET institutions in Kenya.

14.1 Specific objectives of the study

- i. To determine the influence of government financing on performance of TVET institutions in Kenya
- ii. To ascertain the influence of donor financing on performance of TVET institutions in Kenya.
- iii. To determine the influence of self-financing on performance of TVET institutions in Kenya.
- iv. To evaluate the influence of public-private partnerships on performance of TVET institutions in Kenya.
- v. To identify the moderating effect of institutional governance on the relationship between sources of financing and performance of TVET institutions in Kenya.

1.5 Hypotheses of the Study

- H₀₁ Government financing had no significant influence on performance of TVET Institutions in Kenya.
- H₀₂ Donor financing had no significant influence on performance of TVET Institutions in Kenya.
- H₀₃ Self-financing had no significant influence on performance of TVET Institutions in Kenya.

H₀₄ Public-private partnerships had no significant influence on performance of TVET institutions in Kenya.

H₀₅ Institutional governance had no significant moderating effect on the influence of financing sources and performance of TVET Institutions in Kenya.

1.6 Scope of the Study

This study focused on examining the influence of various sources of financing on the performance of TVET institutions in Kenya. Specifically, the research scope was limited to 5 variables, government financing, donor financing, self-financing, public-private partnerships, and institutional governance as a moderator. Performance of TVET institutions was examined in relation to the influence of government support, including development grants, capitation, and budgetary allocations. The influence of donor contributions, such as grants, scholarships, and technical support, on the performance of the institutions was investigated. The study looked at how TVET institutions perform in relation to revenue-generating activities like consulting, short courses, and other business initiatives including students' fees. The study also evaluated how institutional governance structures moderated the relationship between funding sources and institutional performance.

In terms of geographical and contextual scope, the study was conducted in Kenya. To situate the study within a manageable geographical scope, it included TVET institutions within Meru, Embu, and Tharaka - Nithi counties which are relatively closer to one another. It specifically focused on public TVET institutions, including national polytechnics, Technical Training Institutes (TTIs), and Technical and Vocational Colleges (TVCs) across the country. These institutions were selected due to their strategic role in providing skills for the country's workforce and their

significant reliance on multiple funding sources. Indicators for the concept of performance within TVET institutions included students' enrollment rates and retention, quality of learning outcomes and graduate employability, staff capacity and retention, and availability and adequacy of infrastructure and learning materials. The research concentrated on data from the previous five years (2019–2024) period in order to document the most recent advancements and trends in finance and performance in TVET institutions in Kenya. This scope ensured that the study was feasible, relevant, and focused within the allocated time and resources.

1.7 Limitations and Delimitation of the Study

Despite anticipated success of this research, there were potential limitations that could negatively impede its quality or timely completion if they were not effectively addressed. These included limited access to accurate financial information from relevant sources, response biases from different respondents, and generalizability of the findings. Others could include external factors affecting performance, and time constraints. Regarding limited access to the right financial data and response bias, some of the TVET institutions could decide to provide incomplete, socially desirable answers or manipulated government, donor or private sector financing records for their own selfish ends. This challenge would be addressed through building of strong relationships with the respondents and ensuring them of confidentiality of their shared data, thereby enhancing mutual trust.

Another limitation could be related to possible changes in donor or government financing policies which could complicate reliability of data collected. This challenge was addressed by acknowledging such policy shifts if and when they would occur so that data analysis could incorporate them into the discussion of the findings and how they influence TVET financing.

Apart from just financing of the TVET institutions, external factors such as students' socio-economic backgrounds, employment opportunities, or personal motivation could influence performance. These factors would be controlled in the analysis by acknowledging them as limitations where suggestion would be given for them to be explored in future research. Another common limitation could be time constraint, which could limit depth of data collection and analysis. This challenge was to be dealt with through proper time management and properly allocating time for the research activities within realistic timelines and scope of the research. Using mixed-methods approach would also allow gathering of enriched data within a relatively short time.

In terms of delimitation of the study, this research was limited to TVET institutions in Kenya, focusing on the influence of financing on performance of these institutions. Specifically, the research focused on different sources of financing, such as government, donor, and self-financing, on performance of TVET institutions. Other possible financial sources, such as alumni contributions or community-based funding, were not included in this study.

The study focused solely on TVET institutions, and did not consider other types of educational institutions such as universities and Vocational Training Centers (VTCs). The choice to focus on TVET institutions was driven by their specific mandate of providing vocational training and the direct association with performance. This delimitation allowed clearer focus and manageability of the research, ensuring that the research objectives were achieved within the available time and resources.

1.8 Significance of the Study

This study is critical in providing practical recommendations for improving financing models for TVET institutions for the common benefit of all key stakeholders in the sector. To the TVET management, the study highlights the importance of various financing models and help them to make informed decisions on budgeting and resource allocation. The findings help the TVET managers on how to build partnerships with donors and the private sector for improved financing outcomes of their institutions. The study also benefits TVET students (trainees) in relation to how better-equipped institutes can properly train and produce well prepared graduates for the job market.

The study is significant to donor agencies and private sector organizations by illustrating how their contributions influence the development of technical and vocational skills in Kenya. In addition to helping create long-term funding sources for these institutions, the study promotes more focused and efficient expenditures in TVET programs. The findings are relevant to the local community and employers in Kenya, by helping to improve the quality of training through better financing and producing better skilled graduates for the job market. The study augments existing wisdom on the endowment of Technical and Vocational Education and Training (TVET), spotlighting how diverse fiscal schemas govern its efficacy and longevity in Kenya, and provides a basis for future researches on similar topics.

Despite availability of various financing options, such as government funding through Higher Education Loans Board (HELB) and other initiatives, donor contributions, and self-financing, it was imperative to examine how these sources of financing influences institutional performance. Understanding these dynamics provides insights into optimizing funding strategies to enhance the quality and relevance of TVET programs. Ultimately, this research is instrumental in enhancing

operations of TVET institutions as they endeavor to produce more skilled graduates for the labour market, and fostering sustainable economic growth in Kenya.

1.9 Study Assumptions

The study made various assumptions, including a presumption that the respondents would provide accurate and reliable data for answering the research questions. Also, the study assumed that the TVET institutions would share honest and up-to-date financial information from their different sources. The study made an assumption that performance could be consistently measured across different TVET institutes, and that the indicators for performance are valid and reliable measures learning outcomes of the students.

It further assumed that financing of TVET through government, donor, self-financing, and private sector models can contribute to performance. The study assumed that all TVET establishments in Meru County operated under similar conditions in terms of institutional structure, training objectives, and student demographics, allowing for meaningful comparisons of the effects of financing on performance. Finally, an assumption was made that institutional governance, such as hierarchical structure, policies and procedures, decision-making processes, and transparency and accountability mechanisms would effectively moderate the relationship between financing and performance.

1.10 Operational Definition of Terms

Donor financing: refers to the financial support that foreign governments, non-governmental organizations (NGOs), and international organizations give to TVET institutions. These may be in form of grants, scholarships, and project-based funding (Kagema et al., 2019).

Financing: refers to the funding that TVET institutions receive from a variety of sources, such as the government, donors, student self-financing, and the private sector. It includes the money allocated for salaries, resources for training, infrastructure development, and operating expenses (Muriuki & Dominic, 2022).

Government financing: describes the funding that TVET institutions receive from the national or county governments, including subsidies, grants, and direct budgetary allocations meant to assist skill-development initiatives (Maina, 2019).

Infrastructure: describes the physical spaces available in TVET institutions, such as classrooms, workshops, labs, and other structures necessary for efficient teaching and learning (Ngware et al., 2022).

Meru County: is a geographical area in the Eastern region of Kenya where the study is focused. The county is home to several TVET institutes targeted for this research (Maina, 2019).

Private sector financing: means financial support and collaborations received by TVET institutions from corporations, industries, or private groups. This can involve providing money for educational initiatives, donating equipment, or sponsoring students (Ngware et al., 2022).

Private sector partnerships: refer to collaborations between TVET institutions with commercial companies, industries, or private business entities. These collaborations often entail giving trainees' financial assistance, training supplies, internships, or job placements (Maina, 2019).

Public-private partnerships (PPPs) Government-private accords underpin, cultivate, and propel TVET financing and advancement as well as manage projects or services that serve public needs (Joudyian et al., 2021). Within the framework of Kenya National Polytechnics, PPPs may take the form of joint ventures, contractual arrangements, or cooperative projects intended to increase

program quality, provide access to opportunities for vocational education and training, or generally enhance financial sustainability (Muthuprasad et al., 2021).

Self-financing: is a term used to describe the monetary contributions made by individual trainees and their families to TVET institutions to cater for tuition, course materials, and other relevant costs in the learning process (Muriuki & Dominic, 2022).

Trainee skills acquisition: refers to the process by which students enrolled in TVET colleges acquire technical, vocational, and practical skills in different career fields (Kagama et al., 2019). This comprises the skills and information students acquire from education, practical training, and assessments to prepare them for employment in various sectors of the economy.

Training resources: are the supplies, instruments, machinery, and teaching aids that teachers and students utilize to facilitate learning. In TVET institutions, these comprise manuals, computers, machines, textbooks, and other learning resources that are necessary for skills acquisition (Kagama et al., 2019).

TVET institutions: are specialized educational establishments that offer students vocational and technical training, emphasizing employability and practical skills (Muriuki & Dominic, 2022).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter addresses theoretical review and framework, empirical review, and conceptual framework of the study. Additionally, the chapter highlights existing research gaps that the current research sought to bridge.

2.2 Theoretical Review

The study was guided by resource dependence theory, human capital theory, institutional theory, and stakeholder theory. Each of these theories helped to anchor specific thematic areas of the study and provided direction and the basis of arguments and focus on the variables of the study and how they influenced the research outcome on the dependent variable.

2.2.1 Resource Dependence Theory

Resource Dependence Theory (RDT), posited by Pfeffer and Salancik in 1978, delineates how an entity's reliance on external assets dictates its conduct and strategic maneuvers within its environment. The theory contends that financial, technical, and human resources are frequently under the authority of other environmental players, including governments, funders, and partners in the commercial sector. To lower uncertainty and preserve operational autonomy, RDT highlights that organizations must deliberately manage their dependence through alliances, diversification, or negotiation. Within the framework of this research, RDT offers a valuable perspective for understanding how Kenyan TVET institutions depend on external funding sources,

including the government, donors, and corporate partners, and how this dependence affects their effectiveness.

RDT's primary advantage is its accurate depiction of the interaction between institutions and their surroundings. It acknowledges that in order for TVET institutions to obtain the funds they require to survive, they must maintain continuous communication with their funding sources. The study's first objective, for instance, aimed to determine how government funding affects performance. According to RDT, institutions must match their strategic aims with government policies in order to guarantee continuous support, as government budgets provide a significant source of funding for TVET operations. A similar emphasis is placed on how institutions depend on development partners for capital-intensive projects such as infrastructure and equipment in Objective 2, which looks at donor financing. These dependencies, in accordance with RDT, are dynamic and require management through robust accountability frameworks and conformity to donor expectations.

Furthermore, organizations should be ready to adapt with the external funding environment in order to enhance sustainability in business as they obtain the resources they need to exist (Werner, 2008). This suggests that the competitiveness of a company is determined by the quality of its external resource management (Hillman et al., 2009). This theoretical view ideally further supported objective 2 of the study on the influence of donor financing on performance of TVET institutions in Kenya.

RDT was applied in this study to examine how TVET institutions relied on external funding, partnerships, and support to maintain their financial viability (Celtekligil, 2020). Since acquiring external resources is essential to any organization's tactical and strategic management, the RDT has many important implications. These include the most effective organizational structure, hiring

board members and employees, production methods, contract structure, relationships with external organizations, and other aspects associated with organizational strategy (Van, 2018). The theory states that in order for organizations, such as TVET institutions, to survive and thrive, they require external resources. These resources include funds, partnerships, and assistance from public authorities, corporate stakeholders, and other groups.

TVETs in Kenya depend on external funding sources, such as government grants, industrial partnerships, and subsidies, to fund their operations and programs. This was explained using the RDT. From these perspectives, the RDT was very critical to the explanation of the broader question of how funding sources affected TVET institutions' performance in Kenya. In this way, all 4 of the study's specific objectives could be addressed using the theory. The study shed further light on how well TVET institutions in Kenya performed by examining the relationships between TVET and different funding sources as well as the methods employed to secure and manage the financial resources that were outsourced.

RDT does, however, have several significant weaknesses. Critics contend that it frequently presents corporations as passive entities that largely respond to external forces rather than actively influencing their surroundings (Mishra, 2024). This might understate the capacity of TVET institutions or innovation and entrepreneurship, particularly when putting self-financing projects into action (Objective 3). Additionally, RDT might not adequately account for internal governance elements that also affect the efficiency of using external resources, such as institutional culture or leadership. Furthermore, by assuming that institutions are always at a disadvantage, the theory may oversimplify power relations when, in reality, cooperative arrangements like public-private partnerships can result in mutual benefit (Objective 4).

A key limitation however of RDT is that it often portrays resource dependency as a weakness, emphasizing the risks of over-reliance on external actors (Mishra, 2024). This perspective may ignore the possibility of institutions to make money from a diverse range of streams and being able to renegotiate levels of stakeholder support and build internal financial resilience. Furthermore, many critics suggest that the theory underrates the capabilities stemming from institutions in instituting changes, wrongly portraying organizations as passive recipients of external resources and gateways for funding through their institutional agency. Nonetheless, RDT remains a powerful lens through which to describe how TVET institutions operate within their financial restrictions and use multiple sources of finance to enhance their performance.

Overall, Resource Dependence Theory was particularly useful in this study as it explained TVET institutions' requirement for finance through various channels, including government grants, donor aids, self-funding and public-private partnerships for survival in addition to performance enhancement. The theory posited that in order to keep both stability and growth, organizations have to source for and effectively manage external resources. In TVET institutions, government financing offers key balances, donor funding compensates for infrastructure and training, self-financing was instrumental for institutional sovereignty and public-private partnerships were a catalyst for resource mobilization. In conclusion, Resource Dependence Theory fits in well with all four of the study's specific objectives and provides a convincing explanation of TVET institutions' financial behaviour. The significance of external funding is emphasized, but it also identifies the institutional measures needed to reduce risk and optimize the performance results from various funding sources.

2.2.2 Human Capital Theory

Gary Becker and Theodore Schultz developed the human capital theory in 1964 to highlight the ways in which quality educational preparation improves people's professional capacities, particularly through increased productivity and efficiency (Becker, 1992). Human capital theory states that education and training should be seen as a means of helping people become more employable and raise their chances of making more money in their paid jobs. Human capital theory, as a study of human resources, places additional emphasis on raising our economic worth via strategic training and education. Becker (1993) further emphasized that we should invest in human capital through improved education and training (Becker, 1993). These theoretical views can be relevant in justifying objective 3 of the study, which is about determining the influence of self-financing on performance of TVET institutions in Kenya.

A primary advantage of Human Capital Theory is its clear link between educational investment and quantifiable economic outcomes (Gillies, 2011). This makes it especially relevant to the study's first and second objectives, which are about government funding and donor funding, respectively. For example, when governments or donors fund the construction of modern training facilities or offer scholarships and teacher training programs, they are effectively strengthening the country's human capital foundation. These expenditures raise the caliber of graduates and the learning environment, increasing their employability. Thus, the amount and quality of financial investment in the development of human capital can be directly linked to the performance of the institution as indicated by indicators such as employability, graduation rates, and accreditation compliance.

Furthermore, according to human capital theory, investing in human capital encourages individuals to grow, which may subsequently be measured by an employer's employees' aptitudes, work ethics, and skill sets. All of these eventually result in higher output, financial gain, and a positive reputation for the organization. Human capital theory further postulates that individual skill and organizational financial production can both rise with improved human attributes brought about by education and training (Becker, 2009). In general, human capital theory categorizes human capital components according to what people or groups can learn while pursuing knowledge and skills (Gillies, 2011).

According to the human capital theory, spending on education and training boosts economic growth and productivity. The availability of funding (from the government, donors, or self-financing) allows TVET institutions to make investments in infrastructure, staff development, and training materials. Therefore, more funding improves educational quality and graduates' employability, which in turn improves institutional performance. This theory offers a framework for understanding the relationship between funding and TVET institutions' skill and competency development. In this case therefore, the human capital theory can be applied to support all the four specific objectives of the study.

Research on funding and performance at Kenyan TVET institutions heavily relies on the application of human capital theory. According to this theory, spending on education and training, like that offered by TVET, directly raises a person's earning potential and productivity, which in turn promotes overall economic growth. This paradigm is used by academics in Kenya to examine the effects of several funding sources on TVET program quality, including government funding, student loans such as those from HELB, and private investment. Studies frequently look at salary

levels, employability of graduates, and the institutions' capacity to satisfy industry demands in order to determine the return on investment (Cheng et al., 2022). This strategy helps in the justification of both governmental and private sector investments in the field by highlighting TVET's contribution to the creation of a skilled labour force that is vital to Kenya's economic development objectives.

In the context of Kenyan TVET sector, the Human Capital Theory is also criticized, with critics contending that it oversimplifies the intricate relationship between labour market outcomes, skills, and education (Amegah, 2022). Regardless of their training, factors including labour market inefficiencies, institutional inequalities, and the informal economy – which is highly prevalent in Kenya – can have a big impact on graduates' success. Furthermore, there are concerns that an overemphasis on financial gains could lead to overlooking of other crucial facets of TVET, such as social justice and the growth of critical thinking abilities (Cheng et al., 2022). Furthermore, there are concerns about TVET institutions' capacity to stay up to date with the rapidly evolving technology innovations in the workplace. In a setting where job creation may lag behind the output of TVET graduates, researchers also note that the theory often ignores the challenges of converting acquired skills into meaningful employment.

Moreover, the theory's tendency to view education and training as purely economic inputs, frequently ignoring the social, political, and institutional factors that significantly influence outcomes, is one of its main weaknesses. The theory falls short in addressing equity concerns in the context of self-financing (Objective 3), as institutions that rely too much on tuition fees may turn away students from low-income families, restricting access and lowering the societal return on education (Amegah, 2022). Furthermore, the theory presupposes that all investments in

education would be profitable; yet, in reality, financial mismanagement, poor governance, and a mismatch between labour market demands and training might lower the anticipated returns.

Despite its limitations, the theory of human capital is central to understanding how funding and performance are related at TVET institutions. It explains the advantages of public-private partnerships (Objective 4), which not only provide funding but also establish grounds for the development of pertinent skills through industry-linked training, apprenticeships, and career pathways (Becker, 1993). Furthermore, the theory somewhat supports the necessity of robust institutional governance as a moderating factor because these structures guarantee that expenditures in human capital are strategically aligned, appropriately targeted, and well-utilized. Generally, this study is supported by Human Capital Theory, which views investment in TVET as a means of achieving better institutional and social outcomes. It supports the claim that expanding and changing funding sources can improve TVET institutions' performance, particularly when those resources are allocated wisely to improve training quality, workforce relevance, and employability for graduates.

2.2.3 Institutional Theory

John Meyer and Brian Rowan initiated institutional theory in the late 1970s to study how local, national, regional, and international settings shape, impact, and interact with organizations (Meyer & Rowan, 1977). According to the theory, organizational practices, structures, and behaviour are shaped by social, cultural, and institutional factors. The theory would also suggest that TVETs are expected to follow the institutional norms and expectations established by industry standards, accrediting bodies, and regulatory authorities. The institutional theory states that conformity to

regulatory standards ensures institutional legitimacy and credibility, which is necessary to attract students, secure funding, and build partnerships (Dacin et al., 2002).

One of the main strengths of institutional theory is its capacity to describe how external forces, especially those that are not strictly technical or economically rational, influence internal institutional operations (Roszkowska-Menkes, 2023). The theory may be aligned to objective 1 for example, supporting the idea that TVET institutions can implement particular administrative practices, performance indicators, or reporting systems not only because they increase efficiency but also because doing so ensures government legitimacy and funding. Similar views may apply to donor funding under Objective 2, such as implementing particular governance procedures, gender policies, or curricula. Institutional theory explains why these requirements are accepted by institutions, not only because they provide financial resources but also because donors believe they are legitimate and in line with international standards.

Institutional theory further acknowledges the role of external pressure is forcing the institutions to perform their mandate. The structured regulatory environment in which TVET institutions operate in Kenya is influenced by donor needs, societal norms, and government policies (Roszkowska-Menkes & Aluchna, 2017). According to institutional theory, these organizations frequently give in to external demands, such as donor requirements, competency-based training requirements, and government money distribution rules, in order to preserve their legitimacy and secure necessary resources (Roszkowska-Menkes, 2023). Their operational choices and the kinds of funding they obtain are frequently determined by their ability to meet these expectations, which has an effect on TVET performance. Yet, several TVETs still suffer from financial challenges, either due to impropriety or lack of adequate funding sources (Mahandara, 2023).

The adoption of standardized practices by TVET institutions in Kenya to attract government and donor funds is framed by institutional theory (Maina & Muathe, 2023). To meet the requirements for government and donor financing, they could, for example, match their activities with international development goals or national priorities, such as Kenya's Vision 2030. In order to attract these donors, TVET institutions may emphasize certain revenue-generating activities or implement particular governance structures, which can be explained by this theory.

Institutional theory also helps to clarify the challenges that TVET organizations encounter while creating self-financing systems (Sheehy, 2019). In addition to the need to increase financial sustainability by producing their own revenue, institutions may face normative pressures to concentrate on conventional educational models, which could restrict their capacity to explore commercial opportunities for enhanced financial standing (Roszkowska-Menkes, 2023). Coercive demands from accrediting requirements or governmental policies may further limit their capacity to generate revenue, which can ultimately affect the performance of the institution.

Since standards for facilities and educational materials are frequently determined by regulating and accrediting agencies, the theory also places the significance of training resources in context (Roszkowska-Menkes & Aluchna, 2017). With this knowledge, the study may examine how TVET institutions work to fulfill or surpass these expectations, which affects their position and appeal to both donors and students. The study will employ Institutional Theory in order to investigate how TVET institutions in Kenya react to different stakeholder pressures, such as those from the government, donors, and communities, in their quest for financing and legitimacy. Hence, this theory provides a platform to analyze the relationship between institutional practices, funding

sources, and organizational outcomes, effectively anchoring all the 4 specific objectives of the study.

Institutional theory is a useful lens for understanding the dynamics of funding and performance in TVET institutions in Kenya. It highlights how organizational behaviour is shaped by external norms, expectations, and pressures. Within the framework of the study objectives, this theory can be used to examine how government policies (objective 1), donor requirements (objective 2), market demands, related to objective 3, and collaborative frameworks (objective 4) can influence TVET institutions' operational strategies and performance. For instance, government funding often has particular regulatory requirements that organizations must follow, and which affects how they allocate resources and carry out their programs. Similarly, donor support may impose reporting requirements and performance measures that change institutional procedures.

The theory also helps in analyzing how an institution's attempt to manage or adapt to the larger institutional environment is reflected in the use of public-private partnerships and self-financing strategies. In objective 5, Institutional Theory is key to understanding how governance structures act as a mediating force, shaping how institutions internalize and respond to the external pressures, and demonstrating how conformity or divergence from established norms affects performance. However, there are also criticisms to the way that Institutional Theory is applied to TVET in Kenya. However, conformity may be overemphasized, possibly at the expense of institutions' ability to innovate and adjust to particular local settings (Simiyu et al., 2024).

Despite the applicability of the theory in explaining the relationship between financing sources and performance of TVET sector in Kenya, it may fall short of fully accounting for the complex interplay between informal norms, political influences, and resource constraints that characterize

the Kenyan educational landscape. For instance, despite government financing dictating certain standards, the actual implementation can be influenced by institutional issues such as corruption or bureaucratic inefficiencies not fully captured by the institutional theory which appears to concentrate on formal rules. Furthermore, while objective 5 focuses on governance, the theory may not be able to address some of the nuanced ways in which informal networks and power dynamics influence the effectiveness of governance structures (Cooper et al., 2022).

Notwithstanding its merits, Institutional Theory has come under criticism for placing too much focus on conformity and isomorphism – the notion that as institutions adopt similar structures in an effort to become legitimate, they will all eventually resemble one another (Roszkowska-Menkes & Aluchna, 2017). This can disregard the ability of institutions to innovate or adjust processes in response to regional demands. For instance, in this study, institutions participating in self-financing programs (Objective 3) might depart from conventional models in order to explore entrepreneurial tactics like creating revenue-generating production units or providing specialized short courses. These kinds of innovation that originate from internal objectives rather than external conformity may be undervalued by institutional theory. Furthermore, the theory frequently ignores performance outcomes, which makes it less accurate in predicting whether institutional conformity actually improves educational or service delivery outcomes.

Nonetheless, the theory is highly relevant to Objective 4, which evaluates the function of PPPs. TVET institutions may participate in PPPs not only to reap financial rewards but also to show that they are aligned to industry demands or government policies. The inclusion of institutional governance as a moderating factor is also supported by institutional theory, as governance structures often act as a mechanism for institutions to understand and react to external pressures.

It is more probable that a TVET institution with sound governance will absorb, adapt, and implement donor or governmental expectations in ways that satisfy both legitimacy and performance. Generally, Institutional Theory provides a valuable framework for understanding how the internal structures and behaviours of TVET institutions are influenced by external expectations from stakeholders, regulators, and funders. Although it might not be able to adequately explain innovation or the impact on actual performance, its focus on organizational behaviour, legitimacy, and conformity provides a solid basis for examining how TVET institutions in Kenya react to various funding sources and the governance mechanisms that moderate these relationships. The limitations of the institutional theory can be addressed by combining it with other theoretical frameworks to provide a more comprehensive understanding of the factors affecting TVET performance in Kenya.

2.2.4 Stakeholder Theory

Stakeholder Theory was developed by R. Edward Freeman in 1984 as a framework for looking at the multiplicity of actors involved in organizational decision-making (Freeman, 1984). This theory is in opposition to the old "shareholder theory," which seems obsessed about how to make profits, claiming that businesses and institutions must act in the interest of all affected stakeholders like employees, customers, governments, suppliers as well as the community. Freeman contended that only balance of these competing interests can lead to long-term organizational success.

Central tenets of the theory involve three basic premises, including stakeholder identification, stakeholder engagement, and value creation for all stakeholders (Kivits et al., 2021). The theory further argues that first, organizations need to identify every person or group that their existence runs on, touches and/or can touch due operations. Second, they must then engage with these

stakeholders so that their interests, needs and expectations are taken into account during decision-making. Third, the theory states that institutions ought to seek to deliver shared value, namely that organizational strategy should build and advance the prosperity of all stakeholders in and those affected by the institution.

Stakeholder theory's relational and inclusive approach to organizational management is one of its main advantages (McGahan, 2021). It acknowledges that TVET institutions must respond to and balance the various demands and expectations of all relevant stakeholders in order to achieve institutional success. For instance, there are significant stakeholders involved in both Objective 1 (government financing) and Objective 2 (donor financing), whose financial priorities have an impact on budgeting, performance metrics, and institutional planning. The notion that TVET institutions must uphold accountability and trust with these external funders while simultaneously attending to the internal demands of employees and students who depend on well-funded facilities and programming is supported by stakeholder theory. Hence, the theory is especially suitable for situations like Kenya, where educational establishments frequently have to balance conflicting demands from several funders.

Additionally, the theory offers a solid foundation for Objective 4, which looks at the function of public-private partnerships. Stakeholder theory clarifies how parties must negotiate mutual benefit in these kinds of agreements, where for example students want employable skills, institutions seek money and industry relevance, and private companies look for a qualified workforce. For the collaboration to be successful, each participant must be actively involved. Similarly, the theory backs the inclusion of institutional governance as a moderating variable since it promotes equitable distribution of institutional advantages, stakeholder engagement, and dispute resolution.

The current research particularly focuses on Stakeholder Theory to understand what role public-private partnerships (PPPs) and institutional governance play in the TVET institutions. PPPs are partnerships among multiple stakeholders, including the government, private sector investors, development partners and educational institutions, among others, with different interests. These collaborations are designed to optimize resource mobilization, increase training quality, and strengthen institutional sustainability when stakeholders are effectively engaged. Additionally, by guaranteeing accountability, openness, and inclusivity in decision-making processes, institutional governance plays a critical role in balancing the interests of stakeholders. Conflicts, financial mismanagement, and inefficiencies that could jeopardize TVET institutions' success are avoided with the use of effective governance procedures.

Stakeholder theory is not without its detractors, though. One weakness is that it might be overly general and challenging to operationalize; it can be challenging to define who is a stakeholder and to balance their frequently divergent interests (Freeman et al., 2023). In a self-financing model (Objective 3), for example, when tuition rates are increased to make up for insufficient public support, the expectations of government funders may clash with the interests of students or staff. In these situations, the theory offers little advice on how to balance conflicting demands or choose priorities (McGahan, 2023). Furthermore, Stakeholder Theory makes the assumption that businesses are capable and independent of managing stakeholder interactions, which may not always be the case in highly regulated industries like Kenya's public education system.

Even though Stakeholder Theory is widely applicable in many sociological studies, it has been criticized for a number of reasons. One of the most important criticisms is that the theory does not offer any defined criteria for prioritizing stakeholders, and so it is hard for organizations to know

what sort of precedence to prevail, for example during conflict. Government priorities, for instance, may overtly conflict with private sector profit-seeking or donor funding conditions in TVET institutions, resulting to governance challenges. Critics further argue that the theory is too vague and lacks an adequate prescriptive model for implementation (McIntyre, 2023). Some scholars however contend that Stakeholder Theory will result in needless inefficiency, since trying to satisfy all stakeholders at the same time could render ineffective an institution's decision-making and focus efforts (Dmytriiev et al., 2021).

Notwithstanding the criticism, Stakeholder Theory can best illustrate how TVET institutions can improve their performance when they work in collaboration with multiple financiers within the framework of close consultations. By integrating multiple stakeholder perspectives, TVET institutions can develop sustainable financing models, strengthen governance practices, and ultimately improve training quality and institutional performance (Freeman, 2023). Notably, like the stakeholder theory seems to suggest, the TVET sector is often dominated by different players, including the colleges, government agencies, learners, and financiers from various categories, with each one of them playing a unique and central role in the success of the industry.

Notwithstanding its weaknesses, stakeholder theory is a useful framework for understanding the multi-actor context in which TVET institutions operate. It promotes a more comprehensive assessment of performance that goes beyond financial measurements by emphasizing responsibility, inclusivity, and long-term institutional legitimacy. According to the theories presented in this study, achieving performance outcomes including infrastructure development, graduate employability, and student access requires involving a variety of funding stakeholders and aligning their interests with institutional objectives. In the end, resource dependence theory,

human capital theory, institutional theory, and stakeholder theory collectively help in the explanation of the social and relational factors that affect the TVET sector's funding decisions and resource utilization.

2.3 Empirical Review

2.3.1 Government Financing and Performance of TVET Institutions

Globally, government support is crucial to the operations and financing of the TVET sector. This is evident in the rules and policies that offer guidelines on how to handle the money at the institutional level. Additionally, there are the elements of capital investment for infrastructure development, grants and subsidies, teacher training and capacity building, and national budget allocations (Okwemba, 2019). TVET institutions are also anticipated to gain from the government in the areas of research and innovation, curriculum development, financial aid and scholarships for deserving students, and monitoring and evaluation systems to measure the success, efficiency, and impact of TVET investments and programs (Abdul et al., 2020). Yet, different dynamics in every institution may inform the level or kind of impact government funding can have on their performance. Furthermore, the government alone may not have the capacity to significantly help the TVET sector in its sustainability.

In China, Postiglione and Tang (2019) studied the role of government in revitalizing the TVET industry in the poorest regions of China. The study used secondary data through literature reviews, with all the search protocols adhered to. The findings indicated that TVET institutions in China's poorest provinces, such as Gansu, were faced with numerous setbacks that dragged their performance. The government's presence was not very strong in helping the colleges acquire financial help, and this led to difficulties in public-private partnerships, enhanced internships,

upgrading of tutors, and quality standards. However, despite the notable insights by this study, it was carried out in China, with possible different socioeconomic dynamics and government operations compared to Kenya where the current study is intended.

Palmer (2019) did a study on financing of Technical and Vocational Skills Development Reform (TVSD) in several countries across the world developing economies. Using quantitative data from 226 employees of TVETs in key positions which were interviewed using a questionnaire, the research revealed that there is intense demand on many low- and middle-income countries to improve the quality and scale of their TVET funding and operational systems. A lot of attention is focused on how much funds is needed to accomplish the task of effective operational systems. This study, however, focused on many different countries, with the possibility of lack of clear scope.

Marzuki et al. (2023) evaluated TVET financial allocation based on the polytechnics and community colleges students' enrolment in Malaysia and noted that financing played a central role in performance of TVET institutions. The TVET students' enrolment under the Ministry of Higher Education are compared with the TVET allocation from 2015-2020. The findings revealed that a significant portion of the workforce in many industrialized nations is highly skilled, with the majority working in technical fields. In Malaysia, the Ministry of Higher Education oversees the nation's largest TVET provider, which is part of Malaysia's structured TVET education system. Over the previous five years, the amount of money allotted to TVET education has increased significantly, and the launch of Malaysia Education Blue Print – Higher Education has rekindled interest in TVET in Malaysia. However, despite the increase in budget, the rate of student enrollment has decreased. The situation was connected to the fact that policy and governance of the TVET sector was not above board. This meant that besides the financial consideration, there

were other factors influencing the TVET sector. These findings may resonate with the current study's design, intending to focus on institutional governance as a moderating variable between financing sources and performance of TVET institutions. However, the setting of the two studies varies, hence the need for the current research in Kenya.

Financing of the TVET sector in Kenya remains challenging, despite government financing. Maina and Muathe (2023) did research on the resuscitation of Technical and Vocational Education and Training (TVET) institutions in Kenya hinges on targeted strategic interventions designed to enhance institutional efficacy and responsiveness to market demands and noted that TVET colleges need to diversify on their funding sources. Michael Porter's generic theory, the strategic leadership theory, and the dynamic capabilities theory all provided support for the resource-based approach that served as the foundation for the study. The study applied descriptive design where three TVET institutions in Kiambu County were the target population. Sample size consisted of 268 respondents that were selected through purposive and stratified sampling methods to obtain the sample. Primary data were gathered using a semi-structured questionnaire, where quantitative data was analyzed using descriptive and inferential statistics. The findings showed that because of limited funding, especially from the government, TVET institutions had challenges of staffing, learning resources, and knowledge management and innovation, with the situation significantly affecting performance. However, this study was limited to only three TVET institutions in Kiambu County, thus limiting generalizability of the findings to other similar populations elsewhere.

Anudo and Orwa (2020) did research on the improving of TVET in Kenya for sustainable development and noted that government funding plays a significant role in enhancing institutional capacity, thereby increasing their chances of performing better. The target population included senior management of TVETs, with the sample selected through stratified random sampling

technique. A structured questionnaire was used for data collection, and the quantitative data analyzed descriptively and inferentially. The study further established that TVET institutions that heavily rely on government funding are susceptible to budgetary allocation uncertainties. This calls for the exploring of alternative funding models and collaborations. These challenges call for a thorough evaluation in order to pinpoint the particular problems and limitations that Kenyan TVET institutions confront, and offer insightful analysis and suggestions for improving their financial viability. These concerns must be addressed in order to support human capital development, strengthen the TVET industry, and promote sustainable economic and social development in Kenya.

Studies have shown that there are limited funding options for students from less fortunate economic backgrounds. These sentiments were expressed by Mahandara (2023), who for instance demonstrated that in Kenya, the Higher Education Loans Board's (HELB) funding has never been completely streamlined to meet the needs of all students. Despite the government's efforts to introduce reforms into HELB funding model for students enrolling in TVET colleges in May 2023, this move has not revolutionized government financing of the TVET industry to cater for equitable distribution of the funds where the most vulnerable in society are expected to receive more money for their schooling needs. Furthermore, there are many questions about whether the new government funding model will adequately address the financial viability of TVET institutions in Kenya.

Governments' inadequate support of the TVET institutions is a problem that affects not just Kenya but all of Africa. Despite South Africa's much larger economy than Kenya's, research by Graham et al. (2019) delineate multifaceted systemic obstructions impeding South African graduates' labor market integration, emphasizing deficits in pertinent experience, informational asymmetries in job

seeking, diminished social capital, and prohibitive work-search costs, collectively exacerbating employment precarity and exclusion found that TVETs' accessibility of government financing continues to be a major concern. The study used a mixed-method data collection methodology where unemployed TVET graduates were questioned about the obstacles they faced using in achieving their academic objectives. The findings demonstrated that the programs provided were adversely impacted by the universities' financial unsustainability. Many TVETs were unsure about how to review, design, and implement their curricula in accordance with emerging demands in the job market because of the government's inconsistent funding of the TVET.

Anyiendah et al. (2023) carried out a study on funding and spending of TVET curriculum for sustainable development in Kenya with specific focus in Vihiga County. The study used a phenomenological research design. Twenty-five managers from the county's licensed and registered TVET facilities participated in the study, where five TVET officers from each of Vihiga's five sub-counties formed the sample for the study. A questionnaire was given out, interviews were done, and pertinent policy documents were carefully examined. Thematic analysis technique was used to analyze data. Despite myriad systemic constraints impeding the sector, appreciable strides have been realized in ameliorating youth unemployability in Vihiga County; however, needs persist in rectifying fiscal inadequacies, expenditure inefficiencies, curricular misalignments, and policy voids to consolidate progress. Despite useful insights by the research, it did not specifically address the influence of financing sources on performance of TVET institutions.

In another study by Kahiga et al. (2024) in Nyeri County on the financial management practices and the competitiveness of TVET institutions in Nyeri County, it was revealed that TVETs are essential for creating a workforce with a variety of skills for the modern labour market. However,

they have been financially challenged, which has affected their competitiveness. Consequently, the Kenyan government has created oversight organizations and supplementary legal frameworks to guarantee the competitiveness of TVET institutions. Despite these reforms, competitiveness of TVET institutions in Kenya remains low, with financial mismanagement largely blamed for this situation. The study involved various key stakeholders in the TVET sector in Nyeri County such as college principals, HODs, and student leaders where a systematic sampling technique was applied for sample selection. Focus groups, interviews, and questionnaires were the tools utilized to gather data. The study's findings showed that moderate financial management techniques were used by different TVET institutions. Furthermore, while most TVETs had procedures in place for financial accountability and transparency, there needed to be more adherence to the established financial regulations. The study comes to the conclusion that the competitiveness of TVETs in Nyeri County is positively and significantly correlated with financial management approaches. It suggests that TVETs adopt sound financial planning by diversifying their revenue streams, strengthening budgetary controls, reducing risk, and providing financial management training to its employees. Despite the study's focus on financial management in TVETs, it did not specifically address the influence of financing sources on institutional performance, which is the intended focus of the current research.

2.3.2 Donor Funding and Performance of TVET Institutions

The long-term financial sustainability of TVET institutions is significantly and intricately impacted by alternative funding sources. By using other funding sources, TVET institutions are encouraged to diversify their revenue streams beyond government funding. These institutions can improve their financial sustainability and stability by reducing their reliance on a single funding source by diversifying their revenue streams, which include tuition fees, industrial partnerships,

research grants, consulting services, donations, and commercial operations (Hanni, 2019). However, a number of additional factors that may be outside the control of specific institutions may influence the degree of funding source diversification. Donor funding is a critical component of the TVET sector financing, but there are a number of challenges that may hamper these efforts.

TVET institutions with dependable alternative financing sources have greater financial planning and decision-making flexibility and adaptability due to additional funding sources, according to Haßler et al. (2020). By tailoring their revenue strategies to institutional priorities, market demands, and new prospects, they are able to promptly adjust to changing economic situations, regulatory standards, and stakeholder needs. This flexibility enhances institutions' ability to meet their learning objectives and sustainably manage their budgets. Although alternative sources, such as donor funding, have many benefits for TVET institutions, most of them are faced with specific challenges (Mumbe, 2020). By focusing on donor funding as one of the alternative financing approaches for the TVET sector, this presents an opportunity to discover new insights on how the institutions can better raise and manage their finances for improved performance.

Mack (2024) did a study on funding sources and their impact on administration and organizational efficiency of TVET institutions in Trinidad and Tobago and established that several factors influence efficient operation of TVETs, including inadequate and inconsistent donor funding. The research used 10 interviews, and 4 focus group discussions with educational experts in the TVET sector. The experts included chief executives of TVET regulatory bodies, instructors, managers, and curriculum developers. Thematic analysis method was used to process data, adopting deductive approach to critically examine the qualitative data to address the research question. The findings indicated that there are many financing challenges in the TVET sector, which tend to cripple administration function, human capital development, and organizational efficiency. The

study concluded that lack of funding can severely impact performance of TVET institutions, with some of them opting to close down for being unable to cope with the situation. The study further emphasized human capital development and training as critical components of TVET institutions directly associated with financing. Lack of sufficient capital directly affected the calibre of teaching staff, hence eventually determining the reputation of the affected institutions. The study was however qualitative in nature, limiting the possibility of generalization of the findings to other similar TVET institutions in other regions or countries.

Mathur et al. (2022) highlight the pivotal role of the TVET sector in supporting India's pursuit of Sustainable Development Goal (SDG) 4, which focuses on fostering an environment that equips learners with employable skills upon completing their education. To achieve this goal, Wahba (2021) underscores the importance of ensuring the financial sustainability of TVET institutions. This can be accomplished by investing in innovative programs, growth-oriented initiatives, and infrastructure renovations that not only enhance financial stability but also boost revenue generation through alternative funding sources, including donor financing. Over time, such measures can strengthen institutions' financial health by attracting more students, securing diverse funding streams, and expanding revenue-generating opportunities through initiatives such as new course development, technological advancements, entrepreneurship programs, and partnerships with industry stakeholders. Nonetheless, these strategies remain challenging for many institutions to adopt, primarily due to insufficient financial resources. Furthermore, donor funding faces some challenges, such as lack of confidence in the recipients due to financial mismanagement and corruption among other factors.

In the Antigua and Barbuda in the Caribbean, Grundall and Mack (2023) carried out research on factors influencing students' career in TVET institutions, with the source of funding having

featuring. This was qualitative research involving document analyses and interviews with teachers as well as college administrators and parents. The findings showed that lack of adequate resources, and parental guidance were challenges and influences of students' choice of TVET, hence some of the determinants of performance of the sector. Uncertainty in donor funding was also another factor that derailed efficient operation of the TVET colleges, leading to the collapse of some of them. Despite these insightful findings about factors that influence performance of TVET institutions, the research was carried out in the Caribbean, with possible different dynamics compared to the Kenyan TVET sector. Furthermore, unlike the current research which adopts a mixed-methods approach, the authors used a purely qualitative approach, limiting generalizability of the findings to other similar populations.

According to Wadia (2021), TVET trainers' insufficient or incorrect training frequently impedes their ability to effectively impart knowledge. This can be due to lack of adequate finances for refresher training, calling for increased donor funding and mobilization of resources from other avenues. Despite reviews of TVET courses to reflect the evolving needs of the labour market, a shortage of skilled teachers may imply that TVET graduates are not adequately prepared for the workplace. It is anticipated that TVETs with active donor financing sources will be able to use these tools to align their income strategies with their educational aims, mission, and values. Such TVET institutions may seek funding from organizations that share their commitment to workforce development, skill training, social impact, and community participation. This will in turn ensure that their efforts to generate their own funds are consistent with their primary objectives and support long-term sustainability and impact. However, the study by Wadia was carried out in India, with possible different dynamics from Kenya's TVET sector.

In Sub-Saharan Africa, Habler et al. (2020) observe that TVET institutions with dependable donor funding sources benefit from enhanced financial planning, greater flexibility in decision-making, and improved adaptability. These funding options enable institutions to respond swiftly to changing economic conditions, regulatory requirements, and stakeholder expectations. By aligning revenue strategies with institutional priorities, market trends, and emerging opportunities, institutions can better achieve their educational objectives while maintaining financial sustainability. However, despite the numerous benefits that donor funding offers to TVET institutions, securing reliable sources remains a significant challenge for many, including those in Kenya, which often face unique obstacles.

Nganda et al. (2021) explored funding avenues in technical, vocational education and training that promote gender equity of students in Uganda. Despite the multiple strategies for achieving gender equity in TVET, financing issues still prevent TVET institutions from implementing these strategies. The data was gathered, examined, and presented using a descriptive survey design that combined quantitative and qualitative methods. This study involved 260 informants, including ministry representatives, students, district leaders, instructors, institutional leaders, and gender activists from civil society. The study informants were chosen using stratified, convenient, and purposeful random sampling approaches. To gather the required data, questionnaires and interview guides were employed. The findings showed that diminishing donor funding untimely and inadequate staff remunerations, delayed bursaries and scholarships, poor public-private partnerships, and lack of affirmative actions were some of the challenges impeding gender equity in TVET institutions. The study recommended that supportive loan programs be put in place for TVET students, and that capital grants be increased for each student, with a slightly higher amount for female students to meet their sanitary needs. Furthermore, capital grants to TVET institutes

should be disbursed prior to the start of new semesters, and gender perspective be incorporated into the distribution of bursaries and scholarships. Despite these recommendations, it was noted that donor funding is slowly decreasing in the TVET institutions.

Maina (2019) did research on the influence of financing sources on performance of TVET programs in Nairobi County and noted that many institutions in the sector are struggling financially. Specifically, the study focused on the influence of HELB financing, self-financing, and donor funding on the performance of TVET programs. The study was guided by human capital, and socialist economies theories. It adopted descriptive survey design, allowing triangulation of both quantitative and qualitative data which was analyzed descriptively, inferentially, and thematically. From the target population of 17,940 learners from 6 TVETs in Nairobi County, a sample of 377 respondents was selected using systematic random sampling method. With a response rate of 90%, the findings showed that HELB financing, with a correlation of 0.426, significantly influenced performance of TVETs. Furthermore, self-financing (0.289), and donor funding (0.358) had significant influence on performance of TVET institutions in Nairobi County. Overall, sufficient and consistent financing of TVETs led to increased enrolment and retention, as well as infrastructure development. Despite the insightful findings on the influence of HELB, self-financing, and donor funding on the performance of TVETs in Nairobi, unlike the proposed research, the study by Maina (2019) did not factor in the moderating influence of institutional governance on the relationship between sources of funding and performance of TVETs.

2.3.3 Self-Financing and Performance of TVET Institutions

Self-financing, sometimes referred to as self-funding or self-sponsorship, is the practice of paying for higher education using personal assets, or for the institutions to rely on their self-generated resources to run their operations (Mack, 2024). TVET institutions that are able to make money on their own without exclusively depending on government or donor support are said to be self-financing. Grundall and Mack (2023) identify self-financing mechanisms as consulting services, industry partnerships, tuition fees for students, and income-generating projects. These strategies support the expansion of educational programs, training infrastructure improvement, and financial sustainability of TVET institutions. Financial uncertainty is decreased by self-financing, which offers a more reliable and institution-controlled revenue source than government or donor support, which can be erratic or politically influenced.

Several students across the world rely on self-financing to take care of the cost of their higher education (Maina, 2019; Mack, 2024; Grundall & Mack, 2023). However, there are still thousands of students that cannot afford to self-finance their post-secondary education, this relying on the government, donors, and other sources of funding. According to Amubi and Kipkirui (2023), despite the important role played by the TVET sector in human resource empowerment and economic development of Kenya and other countries, financing of TVET institutions continues to be a big hindrance to their performance. This is particularly the case due to the increasingly expensive college fees in TVET, where very many students cannot manage on their own without assistance from other funding sources.

A number of studies have been done on the link between TVET institutions' performance and self-financing. According to Nganda et al. (2021), TVET institutions that successfully apply self-

financing techniques benefit from greater infrastructure, increased learning resources, and better service delivery. This is so that institutions can hire talented instructors, create industry-relevant curricula, and invest in state-of-the-art training equipment facilitated by self-financing. Mathur et al. (2022) further noted that self-financing also promotes financial autonomy, allowing institutions to react quickly to market demands without the bureaucratic delays that come with government funding. However, self-financing has its shortcomings as well. According to Mukolo (2023), relying too much on tuition fees as a means of self-financing can restrict educational opportunities, particularly for students from low-income families. Additionally, because of inadequate business plans or a lack of entrepreneurial abilities among institutional management, several TVET institutions find it difficult to make enough money from income-generating operations.

Self-financing has been successfully incorporated into TVET systems worldwide in nations like South Korea, Singapore, and Germany, where educational institutions collaborate with industries to provide demand-driven training programs (Sheth & Shome, 2025). Through these collaborations, TVET institutions can generate income through technology transfer programs, research consulting, and corporate training. On the other hand, institutional and financial constraints frequently restrict the capacity of African TVET institutions, including those in Kenya, to provide their own funding. Torrado (2023) pointed out that although self-finance is a feasible approach in Africa, its full potential is hampered by inadequate institutional governance, a dearth of business-oriented management, and a lack of industrial linkages with TVET institutions.

In Latin America and the Caribbean, Hanni (2019) carried out a study on the influence of financing sources on performance of TVET institutions and revealed that many students failed to access quality education due to lack of reliable source of funding for their fees and upkeep. The study adopted literature review approach, focusing on financing sources of TVET education in Latin

America and the Caribbean where government, households, and corporate financiers strongly featured. The research further emphasized development of human capital through sufficient funding from different reliable financing sources, rather than TVET institutions mainly relying on unsustainable self-funding. With adequate funding from multiple sources, the sector can hope to transform the employment industry due to well qualified graduates for the industry. As the global economy undergoes significant transformation driven by technology, innovation, and globalization, there is high demand for better skilled employees, hence the need for the TVET sector to produce the best. However, the study noted that self-funding alone cannot guarantee desirable TVET training outcomes.

Hondonga and Ramaligela (2020) studied comparison of financing models for vocational education and training in Botswana, South Africa, and Zimbabwe, revealing different dynamics influencing the sector in the three countries. From the findings, comparing the literature on funding methods in Zimbabwe, Botswana, and South Africa indicates similar models. With alternatives enhancing the most widely used systems. In all three countries, public funding and the levy-grant system are the most common source of funding. Additional sources of finance include revenue-generating ventures, donations and corporate sponsorship, student fees, and student grant-loan programs. Some of the challenges with TVET funding include fragmented financing systems, the high cost of financing TVET in general, and a lack of commitment from stakeholders. Others include negative perception of TVET in comparison to other higher academic education, and insufficient public budgetary allocations by the majority of governments. There is also a lack of labour market research and feedback to TVET planners regarding funding models for future skilled labour needs. The study recommended sufficient financing for the TVET institutions to guarantee

that graduates acquire the requisite competencies. The research by Hondonga and Ramaligela (2020), however, used secondary data in south African countries, hence creating a contextual gap.

In the Democratic Republic of Congo (DRC), Mukolo (2023) examined the role of self-financing in promoting performance in institutions of higher learning, including TVET colleges. Based on the academic capitalism theory, the study used a systematic literature review approach to examine the extent to which financial resources can contribute to performance of higher education institutions in general and students in particular. The findings were grouped into three dimensions, including tuition fees, budget and funding model, and financial resources. Financial resources and the performance of higher education institutions are significantly and favorably correlated, according to the study's consistent findings. The study came to the conclusion that higher education system in the DRC requires a significant overhaul and a fundamental rethinking in order to improve budgetary procedures to meet the needs of the institutions, offer loans and scholarships to students, particularly those from underprivileged backgrounds, and create innovative funding and financial models to support their operations. However, the study failed to explicitly point out how self-financing influenced performance of the higher education institutions. Furthermore, it focused on the general higher education rather than specifically on the TVET sector.

Amubi and Kipkirui (2023) carried out a systematic literature review, where the findings indicated that running and maintaining of TVET institutions is too expensive to rely only on students' self-financing of their education. The research further revealed that financing of TVET institutions was one of the most important pillars, as this ensures quality, relevance, access, and effective management of the learning and training processes. In order to improve financing for TVET institutions, the study recommended promoting of research, initiating innovative and development

projects, enhancing and strengthening organizational capacity, and promoting equitable access to TVET, as well as improving learners' engagement with stakeholders. The study comes to the conclusion that HELB funding is essential to the effectiveness of TVET institutions' performance. Funding from donors has a greater impact on students' enrollment and retention and their program completion. Moreover, the impact of self-financing on TVET program performance was found to be minimal. In order to reach more beneficiaries and ensure the sustainability of the TVET sector, the study advised policymakers to reexamine funding for higher education. Furthermore, policymakers and other key stakeholders in the sector should also guarantee students full funding for the programs they want. This will ultimately increase students' equitable access to training, retention in college, and employability in the job market. However, this study used secondary data, with the need for this proposed study using primary data to provide current updates in financing and performance of the TVET institutions.

Research by Okelo et al. (2023) noted that the current TVET institutions are generally experiencing high enrolment rates, which ends up overwhelming their existing infrastructure and eventually affecting their performance. The study was anchored on social theory of transition, and adopted descriptive survey design, with a target population of 5542 respondents. These included principals, trainers, non-teaching staff, education officers and students in Uasin Gishu County TVET institutions. Stratified random sampling method was used to select a sample of 377 respondents comprising of TVET staff and students. Primary data was collected using a structured questionnaire and interview schedule, where it was analyzed descriptively and thematically. The findings indicated that TVET financial resources and financing sources significantly impacted the academic performance of students in Uasin Gishu County. In order to guarantee efficient operation of TVET educational programs, the study suggests that the government should increase the amount

of resources allotted to TVET institutions. Together with implementing cost-cutting and cost-recovery measures, it should maximize the impact of the limited finances available to the TVET industry. The findings further showed that self-financing alone is not sufficient for the TVET institutions and learners to rely on. The current study is expected to address this gap.

In a study in Kenya by Torrado (2023) on the funding of private TVET institutions and students in Kenya, the findings revealed that there is a critical need of funding sources in tertiary colleges in Kenya regardless of whether they are public or private. The research used qualitative research approach, including structured interviews, document analysis, and thematic analysis to gain insights into the challenges facing private tertiary institutions, students, and financial institutions. It was observed that an innovative financing facility uses a collective investment vehicle and blended finance to boost capital, reduce risks, and support vital infrastructure. The findings offer insightful information about how creative finance may help TVET Kenyan and international education sectors realize their full potential. But the primary limitation of the study is its qualitative nature, which adds subjectivity to the analysis and restricts how broadly the results can be applied. However, it also highlights the need for empirical case studies to identify best practices and communicate successes and challenges among many stakeholders, as well as prospects for further research in the subject. Using a mixed-methods approach, the current study is anticipated to address these knowledge gaps within the context of TVET institutions in Kenya.

Existing literature attests that self-financing is essential for increasing TVET institutions' performance since it fosters financial sustainability, raises the caliber of training, and facilitates the development of infrastructure (Torrado, 2023; Sheth & Shome, 2025). However, institutional governance, industry collaborations, and TVET institutions' capacity to create long-term revenue-generating models are all necessary for self-financing to succeed. Further research is needed to

explore best practices in self-financing strategies and how they can be effectively implemented in Kenya's TVET sector to enhance institutional performance. By introducing self-financing strategies, the Kenyan government has urged TVET institutions to diversify their funding sources (Torrado, 2023). Policies that prioritize income generation through industrial collaborations, production units, and training services include the Education Sector Strategic Plan (2018–2022) and the TVET Act (2013). According to Kahiga et al. (2024), a few TVET institutions in Kenya have effectively set up revenue-generating initiatives such technological incubation centers, consulting services, and agribusinesses. However, lack of entrepreneurial skills, poor internal financial management, and reluctance to implement business-oriented approaches in educational settings continue to pull back many institutions.

2.3.4 Public-Private Partnerships and Performance of TVET Institutions

Public-Private Partnerships (PPPs) in TVET institutions refer to cooperative agreements between private sector actors and government agencies to improve the financial sustainability, accessibility, and quality of vocational education (Semali, 2024). According to Olabiyi et al. (2022), PPPs in TVET include industry involvement in curriculum design, infrastructure investment, internship and apprenticeship programs, financial support, and knowledge transfer. PPPs contribution to improving institutional performance is explained by a number of theoretical frameworks. According to Stakeholder Theory (Freeman, 1984), in order to attain sustainable growth and improved educational outcomes, TVET institutions need to involve various stakeholders, including partners in the commercial sector. According to the Resource Dependence Theory Pfeffer and Salancik, (1978), organizations that work with private organizations can obtain critical financial and technological resources, which reduces their reliance on government support. These

viewpoints emphasize how PPPs provide improved job outcomes for graduates, modernized training infrastructure, and financial stability (Olabiyi et al., 2022).

Globally, PPPs have greatly improved TVET institutions' performance. Private sector involvement in Germany's dual training system guarantees that students obtain both classroom education and practical industrial experience (Klaus, 2022). Similarly, in Singapore, TVET graduates have strong employment rates due to the Skills Future initiative, which encourages private sector participation in funding, training, and upskilling activities (Lim et al., 2024). PPPs in TVET institutions in Africa have produced a range of outcomes. Although PPPs have raised the standard of vocational training in South Africa, Ghana, and Nigeria, Awuku et al. (2021) points out that obstacles such as insufficient institutional capacity, policy frameworks, and a mismatch between industry demands and training initiatives prevent the realization of full advantages. Concerns over affordability for low-income students have also often arisen as a result of the private sector's occasionally profit-driven rather than development-oriented involvement (Lim et al., 2024).

In a comparative analysis of funding of TVET institutions in Australia, UK, USA, and Germany, Peters (2021) noted that PPPs are widely used in financing the sector, including infrastructure development, and curriculum design. It was further revealed that TVET is a highly complex, multidimensional global phenomenon with diverse structures and multisectoral players. Furthermore, the roles of a national or even regional TVET system are defined by a wide range of actors. The research issue on whether factors foster or encourage market-based opportunities for the delivery of commercial vocational training services was addressed using a qualitative approach. It was observed that the marketization of VET practices, liberalism, and deregulation of the TVET sectors all provide incentives for expanding TVET offerings internationally. When

considering talents, the type of education system has no bearing. The micro-analysis categories of curriculum, learning location, content, and learning process reflect this, as do liberal market-driven TVET approaches in the UK, USA, and Australia.

In China, according to Cai and Kosaka (2024), there is common agreement that TVET systems have a distinguishing feature of teaching student-specific skills that have immediate value in increasing employability in the workplace. This is despite the fact that there is no standard for evaluating the value of these systems due to their various operational models across different countries. TVET is indispensable for equipping youth with specialized technical proficiencies and competencies, thereby substantially augmenting their labor market marketability and prospects, taking TVET as a platform using service-dominant logic. Additionally, the study found that TVET is unique in that it is student-centered and industry-focused, often involving firms in on-the-job training. Furthermore, it was established that the major industrial players collaborate and contribute significantly through co-creation, which encourages deep engagement among TVET practitioners to reduce TVET challenges and boost the sector's performance in many different ways. The study was however done in China, with possible different dynamics in the TVET industry in Kenya.

PPPs are crucial to the financing of the TVET sector, according to a recent study conducted in Kosovo by Beka and Stublla (2022) on the comparison of public-private partnerships of TVET institutions and centers of competence. This study compares and contrasts the cooperation of public schools, centers of competence, and private businesses. Using a mixed research approach, interviews were conducted with four managers from different firms, as well as career center coordinators from two professional schools and two centers of competence. To offer information for analysis, teachers from both institutions answered a questionnaire with a Likert scale. Data was

thematically analyzed to find out how different TVET colleges collaborate with private businesses to provide their students with better internship opportunities. The study will provide information on how long-term collaboration between institutions in generating job will better collaborate with the labour market for enhanced graduates' absorption in the labour market. It will assist career center coordinators and entrepreneurs in generating new employment prospects for growth. Despite emphasis of the study on PPPs, the findings did not clearly highlight how this can directly impact performance of the TVET institutions.

In Zimbabwe, Muzari (2023) carried out research on integrating PPPs strategy for sustainable students' skills development in the TVET industry. A mixed methods approach was utilized in the study to ascertain whether PPPs were practical for the long-term skill development of TVET. Ten professors, five administrators, and five industry captains were specifically chosen from five TVET institutions utilizing a simple random selection process to take part in the study. Both descriptive and thematic evaluations of the data were performed in order to present a fair assessment of the findings. The results demonstrated that TVET institutions did not consider PPPs as a way to implement sustainable skill development and promote employability. Government policies were also found to be inconsistent, which hindered the possibility of skill development cooperation. The results also show how important PPPs are for skill development through internships, traineeships, and on-the-job training. The study recommended for the government to hasten the PPPs policy framework through the appropriate ministry and agents to incorporate skills development as a stand-alone component. To boost return on investment and, ultimately, economic growth, the government must provide incentives for private sector players to engage in PPPs in sustainable skills development in TVET institutions. However, the study may present a contextual

gap, given that it was conducted in Zimbabwe which may be operating within different dynamics compared to Kenya where the current study is intended.

In Nigeria, Ikenga (2022) explored the role of PPPs in human resource development in TVET. This study also looked at the history of TVET in Nigeria and its current state and argued that Nigeria does not seem to give TVET the right attention. While suggesting that periodic staff and student exchange programs between TVET institutions and the industrial sector be regularly implemented to provide students and staff with relevant and contemporary technical experiences, the study concludes that PPPs should be extended to the expansion of the infrastructure gap and the growing demand for TVET. The academic knowledge of TVET staff will also aid the sectors, and students will gain from practical industry experiences. Despite these insightful findings, the research was carried out in Nigeria, which might be operating under different operational dynamics compared to Kenya where the current study is intended.

According to research conducted in Kakamega County, Kenya by Ayieko et al. (2023) on strengthening TVET institutions through strong partnerships and industry collaborations, it was noted that PPPs are necessary in the TVET sector. The objectives of the study were to identify the various forms of collaboration that were employed to align TVET programs with industry needs, assess the quality of partnerships and industrial collaborations between TVET institutions and industries. The research also examined the challenges these organizations encountered in establishing and maintaining the partnerships and collaborations. The data was collected using a descriptive manner. The study's participants included Industrial Liaison Officers, TVET institution heads, and employers of TVET trainees and graduates. Data analysis was facilitated by SPSS, and the findings were displayed using tables, charts, and graphs. The findings indicated that TVET

institutions collaborated mostly through successful internships. However, the research identified a number of challenges, such as budgetary limitations and differences in industry and TVET graduate expectations. Resolving these challenges is essential to building a strong and long-lasting partnership. TVET colleges can better prepare their students with the abilities, skills, and experience needed to succeed in employment by cultivating close relationships with industries. In spite of these findings, they were only limited to Kakamega county, creating a contextual gap.

2.3.5 Moderating Effect of Institutional Governance on Performance of TVET Institutions

Institutional governance entails to the structures, policies, and processes that guide decision-making, resource allocation, and accountability in organizations (Rijal, 2023). In the context of TVET institutions, effective governance ensures transparency, efficiency, and responsiveness in managing financial resources and implementing training programs. The contrary would imply non-performance of the institutions (Peters, 2021).

A number of theoretical frameworks emphasize how institutional governance affects the relationship between funding sources and performance. According to institutional theory, well-run institutions follow best practices, ensuring that funds are used effectively to fulfill their missions in education (Scott, 1995). According to Resource Dependence Theory, strong governance frameworks enable institutions to efficiently manage external financial dependencies, lowering the risks related to funding volatility (Pfeffer & Salancik, 1978). Additionally, the significance of governance in balancing the interests of several stakeholders, such as government agencies, donors, business partners, and students, is highlighted by Stakeholder Theory (Freeman, 1984).

The efficiency of funding sources in raising TVET institutions' performance is determined by the level of governance of a given institution. Well-run TVET institutions provide transparent distribution of public funding, which improves staff compensation, curriculum development, and infrastructure development (Ayieko et al., 2023). On the other hand, ineffective governance systems lead to corruption, inefficiency, and misallocation, which lessens the effect of financing on performance (Ikenga, 2022). Furthermore, donor funding works better in organizations that have strong accountability systems and adhere to financial reporting guidelines. According to Ayieko et al. (2023), donors choose organizations with transparent governance structures that ensure appropriate resource utilization and reduce the possibility of embezzlement.

Existing body of research indicates that the relationship between funding sources and TVET institutional performance is significantly moderated by institutional governance (Ayieko et al., 2023; Rijal, 2023). Training quality, infrastructure development, and graduate employability are all enhanced by well-governed institutions' effective resource allocation, financial responsibility, and stakeholder confidence. Conversely, the efficacy of funding sources is compromised by inadequate governance, which results in poor educational outcomes, inefficiencies, and poor management. In their study in China, Cai and Kosaka (2024) established that self-financing strategies such as tuition fees and income-generating activities also depend on governance efficiency. Institutions with transparent financial policies and strong management structures effectively reinvest internally generated funds into training programs, infrastructure, and staff development. However, weak institutional governance often leads to mismanagement of self-financed projects, reducing their impact on institutional performance.

In the case of PPPs, governance plays a pivotal role in attracting private sector investment and ensuring sustainable collaboration. Cai and Kosaka (2024) further revealed that TVET institutions with clear governance policies and stakeholder engagement strategies successfully establish long-term partnerships that enhance skills training and employability outcomes. However, poor governance discourages private sector participation, limiting the benefits of PPPs in TVET institutions.

Besides institutional governance, resource is an important element in the relationship between financing sources and performance of TVETs. Training resources refer to the technological, human, and physical resources that help TVET institutions to provide high-quality instruction and training. They consist of learning resources (textbooks, digital resources), human resources (technical personnel, skilled instructors), and infrastructural facilities, such as classrooms, workshops, and laboratories (Mutembei et al., 2024). The relationship between financing sources (government, donor, and self-financing) and the performance of TVET institutions is not always direct. Therefore, in addition to institutional performance, training resources may act as a moderating variable that can influence, either by enhancing or diminishing, the impact of financial investments on institutional performance (Awodiji & Magogodi, 2023).

Studies have shown that ideally, adequacy and quality of resources can enhance the impact of financing on performance of a TVET institution (Amubi & Kipkirui, 2023). High-quality training resources can be upgraded or purchased with financial assistance, which improves student learning outcomes, skill development, and graduate employability. Additionally, schools that make the most of their resources typically see improvements in performance indicators like graduation,

retention, and enrollment rates (Hanni, 2019). However, since all institutions operate under different circumstances, the outcome of performance cannot be uniform.

Even in the presence of adequate funding, the lack of good governance systems, such rampant corruption, poor budgeting, and general resource mismanagement might restrict the institution's capacity to provide high-quality education and training, and thus impact performance (Hondonga & Ramaligela, 2020). Additionally, underutilized or poorly maintained human resource can lead to poor delivery of service, and inefficiencies, reducing the influence of funding on institutional performance. However, the ability to diversify revenue streams is a critical function of finance managers in TVET institutions. According to Mack (2020), well-managed institutions can enhance self-financing efforts by offering short courses, consulting services, and other revenue-generating activities. Additional donor support is more likely to be obtained by institutions with transparent and accountable governance systems (Wadia, 2021). However, making efficient use of the obtained funds can be a completely different matter because human resource capability significantly influences how wisely the money can be used.

In an exploration of entrepreneurship education in TVET in Trinidad and Tobago, Mack (2020) noted that human resource management in the TVET sector enables many countries to effectively align their institutions with the job market needs, thereby producing graduates with high employability skills. The study used concurrent triangulation design, allowing utilization of both quantitative and qualitative data to offer a comprehensive analysis. A sample of 439 respondents was used, comprising of institutions' administrators, teaching staff, and students. Besides descriptive and thematic analysis, inferential statistics were applied through correlation analysis and logistic regression to understand the relationship between training and institutional

performance. The findings indicated that over 81% of the respondents observed that human resource management is a critical component of TVETs' performance. However, it turned out that majority of the TVET institutions did not have adequate infrastructure for management of their operations, including employee capacity building purposes. Lack of the right systems and structures was also a big hindrance to many TVET institutions regarding governance of their processes and systems. The study recommended clear education and training frameworks, rationalization of TVETs, and improved funding of the TVET sector.

In India, Wadia (2021) revealed that over the previous ten years, the country has made tremendous progress in providing TVET the infrastructure needed to deliver short-term training courses, which in turn greatly improved employable skills among the learners. The findings also demonstrated that poor capacity building of TVET trainers tends to impede the efficient dissemination of educational knowledge. Even though TVET courses have been reviewed to reflect the evolving needs of the labour market, a shortage of skilled tutors may imply that TVET graduates are not adequately prepared for the employment market. It is anticipated that TVETs with elaborate financing sources will be able to use these tools to align their income strategies with their educational aims, mission, and values. Such financial capacity may however lack in most TVET institutions, especially in Kenya, thus calling for the current empirical inquiry.

In Kenya, Achuodho and Piko (2024) conducted research on the capacity of TVET trainers to train students through online classes during the Covid-19 period. The study employed 16 focus group discussions carried out in TVETs in Western Kenya region. Additionally, desk-top review data was collected, as well as through unstructured conversations, reports, emails, WhatsApp messages. The study exposed an existing digital divide among different TVET institutions' teaching staff,

which was linked to poor institutional management where the teaching staffs were not regularly facilitated with capacity building training. Nonetheless, some of the institutions had superior systems, infrastructure, and equipment that enabled their faculty members and students to more effectively utilize digital platforms for learning.

In addition to being unsure about the caliber of the resources available to them, trainees were often unable to control their own behaviour and maintained their motivation to learn at home. Recommendations included providing full assistance to trainees, trainers, and other institutions' staff; enhancing online and remote training; guaranteeing policy certainty, implementation, and monitoring; and identifying and putting into practice innovative and successful interventions. However, the study was limited to the Covid-19 period, which might have caught many institutions unawares, including their staff and students. The situation could render the findings ungeneralizable to other contexts, limiting the moderating effect of institutional governance in the relationship between financing sources and performance of TVET institutions.

A study by Indiazzi (2023) investigated the influence of institutional factors on students' participation rates in public technical training institutes in Trans-Nzoia County, Kenya. Specific objectives included how availability and adequacy of physical facilities, government funding and quality control, qualified trainers, and corporate support influence students, influenced participation in technical training institutes. The study used simple random sampling method to select 181 students and 20 trainers from a target population of 1208 students and 68 trainers in Kiminini, Cherangany, and Endebess TTIs. Additionally, principals from the 3 TTIs were included in the study. Questionnaires and interviews were used for data collection, with SPSS version 25 used to analyze quantitative data whereas qualitative data was analyzed using thematic content

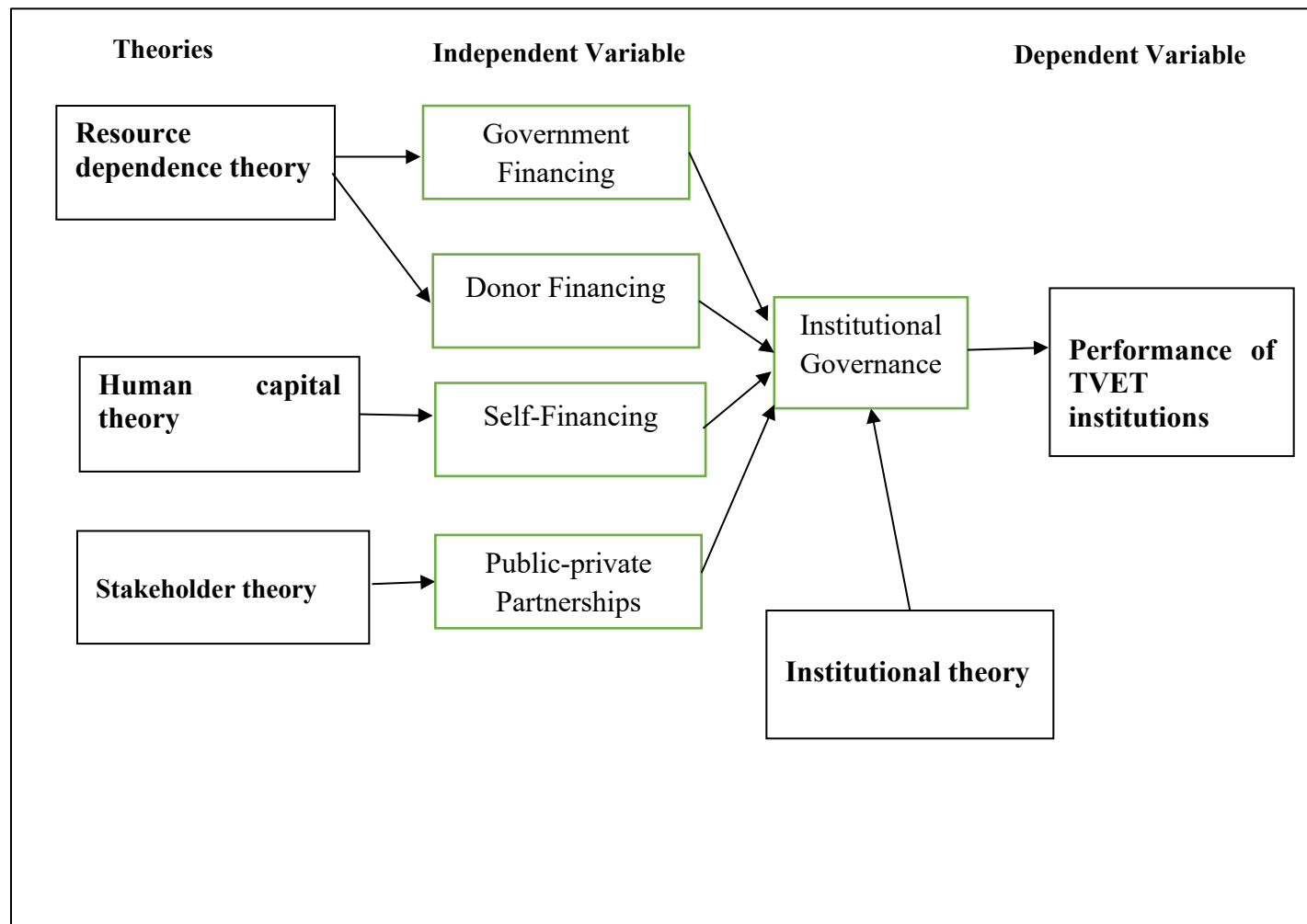
analysis technique. From the findings, institutional factors significantly impacted students' participation in TTIs, as well as the general performance of the institutions. Findings of the regression coefficients of determination revealed that physical facilities ($\beta_1=0.555$; $p=0.000<0.05$), government funding ($\beta_2=0.829$; $p=0.000<0.05$), qualified technical trainers ($\beta_3=0.310$; $p=0.000<0.05$), and corporate support ($\beta_4=0.687$; $p=0.000<0.05$), all had statistically significant influence on students' participation and subsequent institutional performance of TTIs in Trans-Nzoia County. Given the government's delay in disbursement of capitation money to the TTIs, the study recommended expediting efforts in order to save the institutes from debts and other inconveniences caused by the delays. Employment of more and better skilled trainers was needed, especially on pedagogy. All these weaknesses were however generally linked to poor management of the TVET colleges in the county, where priorities were not set right.

2.4 Theoretical Framework

This study was anchored on resource dependency theory, human capital theory, institutional theory, and stakeholder theory. Each of these four theoretical frameworks underpinned specific aspects of the study, based on the study's objectives. Figure 2.1 illustrated the study's theoretical framework.

Figure 2.1

Theoretical Framework



As demonstrated above, this study's theoretical framework was grounded in four complementary theories, including Resource Dependence Theory (RDT), Human Capital Theory (HCT), Institutional Theory, and Stakeholder Theory, with each offering critical insights into how various sources of financing influence the performance of TVET institutions in Kenya. Resource Dependence Theory discusses how TVET institutions rely on external funding sources such as

government, donors, and corporate partners, and how the ability to manage these dependencies influences institutional stability and resource availability. For instance, having access to a variety of funding sources can enhance operational effectiveness and lessen vulnerability. Human capital theory supports the idea that financial investments, especially in infrastructure, student support, and instructor training, improve educational quality and labour readiness as two key determinants of TVET performance.

Institutional Theory supports the notion that in order to preserve their legitimacy and obtain funding, TVET institutions must abide by external standards, regulations, and requirements set forth by funders and accrediting organizations. Therefore, institutional behaviour, policies, and structures can be shaped by donor and governmental conditions, which can then affect performance outcomes. In addition, Stakeholder Theory emphasizes the importance of balancing the interests of various stakeholders in financial decision-making and institutional governance, including students, employees, funders, industry partners, and regulators. The interplay of these theories underpins the relationship between the predictor variables (government financing, donor financing, self-financing, and public-private partnerships) and the dependent variable (performance of TVET institutions). At the same time, institutional governance acted as a moderating factor that determined how effectively financing sources were translated into improved institutional outcomes such as graduation rates, employability, infrastructure quality, and accreditation compliance.

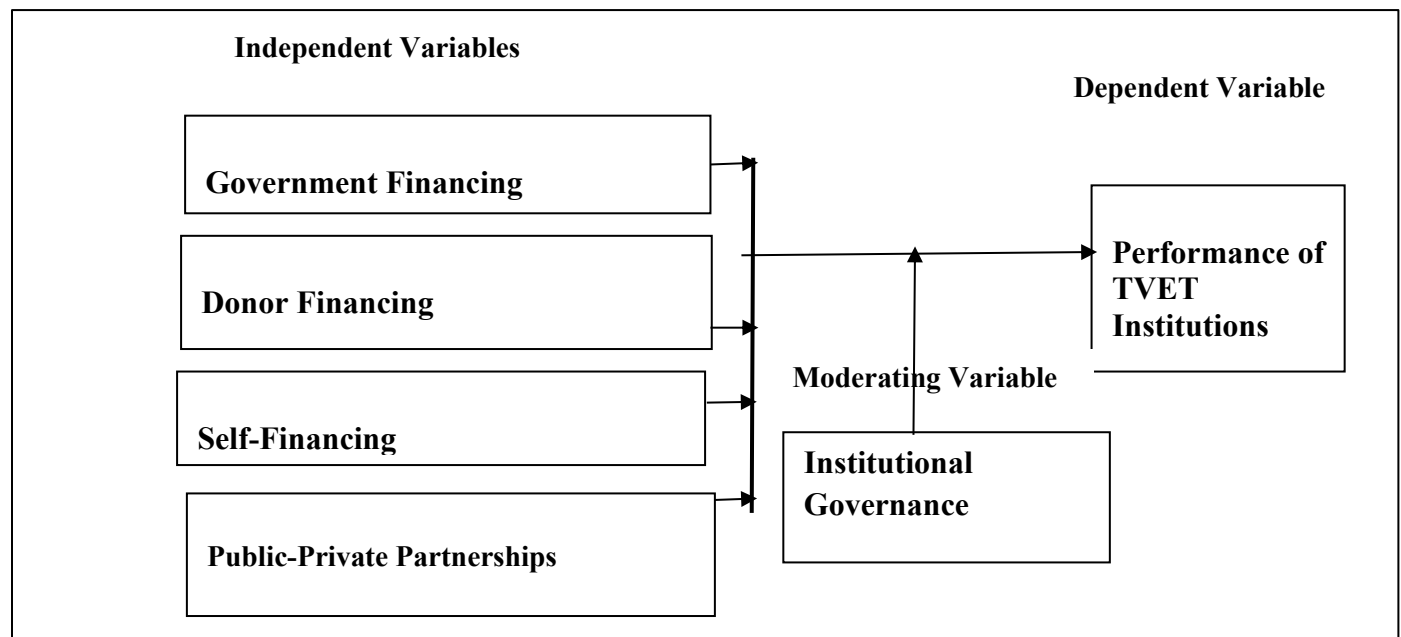
2.5 Conceptual Framework

A conceptual framework is a narrative or graphic structure that outlines the assumed links between the main variables in a study (Salawu et al., 2023). It is constructed using existing theories and

literature in order to give a clear research plan. In addition to providing direction for developing research questions and hypotheses, the framework helps in the selection of suitable procedures and the interpretation of findings. A conceptual framework in empirical research connects the independent variables (the assumed causes) to the dependent variable (the assumed effect), and it also identifies any moderating or mediating variables that might affect the direction or intensity of those relationships. Figure 2.2 presents the study’s conceptual framework.

Figure 2.2

Conceptual Framework



In this study, the conceptual framework was crucial in understanding how funding sources – more especially, government funding, donor funding, self-financing, and public-private partnerships (PPPs) – affect TVET institutions' performance in Kenya. It was expected that government funding affected performance through staff compensation, infrastructure development, and financial support. Donor funding can support institutional capability through scholarships, equipment

funding, and focused programs. Institutions can improve their operational sustainability and financial independence by implementing self-financing initiatives including tuition fees and revenue-generating ventures. Partnerships between the public and private sectors was hypothesized to make it easier for TVET institutions to mobilize resources, match talents, and provide opportunities for hands-on training. It was projected that each of these independent factors would have an impact on the dependent variable, which was TVET institutional performance as determined by indicators such as graduation rates, student enrollment, graduate employability, training quality, and regulatory compliance.

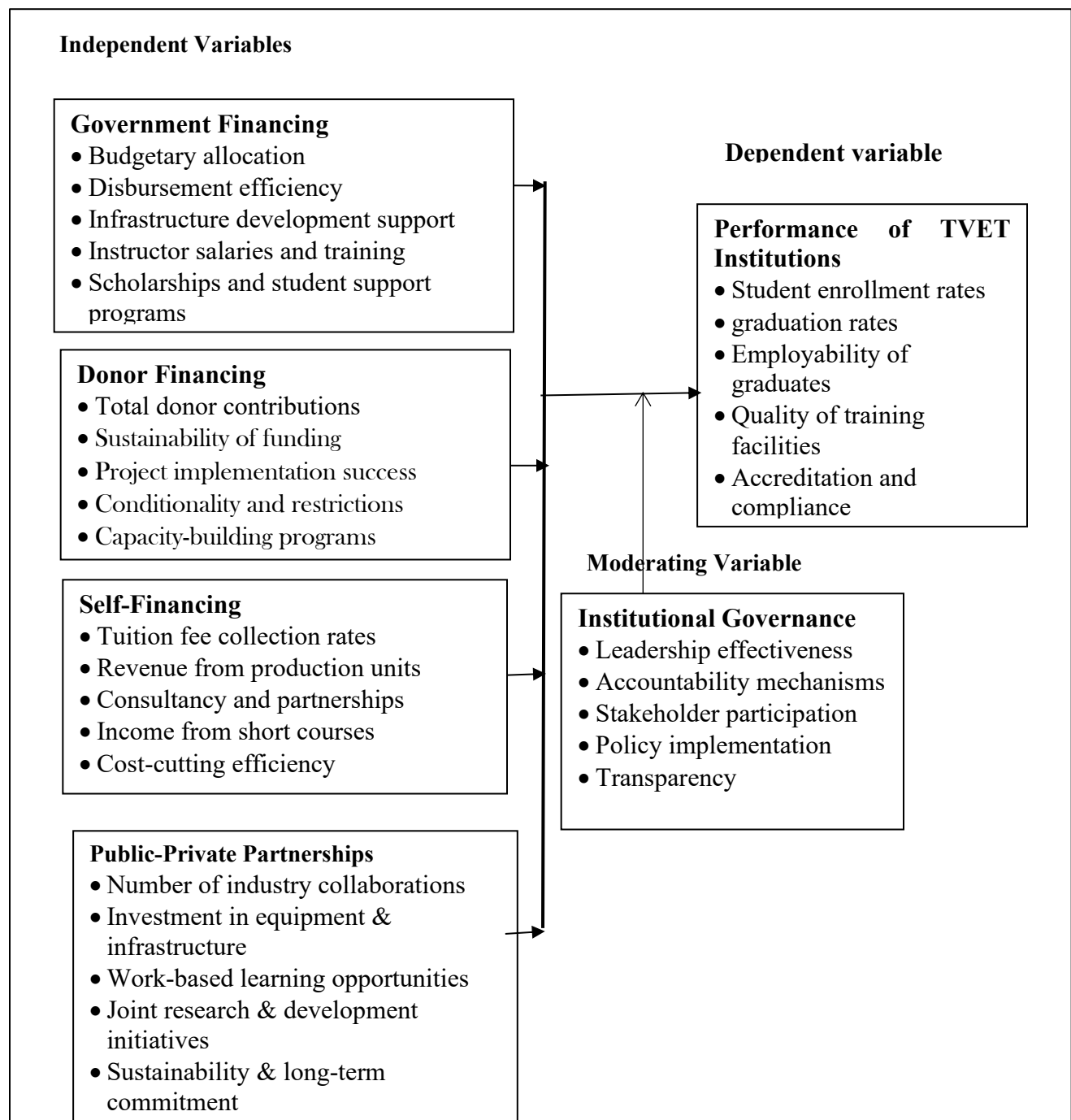
Moreover, the relationship between funding sources and institutional performance may be strengthened or weakened by institutional governance, which was recognized by the framework as a moderating element. The efficient management and strategic deployment of resources from diverse financing sources are guaranteed by effective governance, which is defined by leadership, accountability, transparency, and stakeholder involvement. The conceptual framework in this study highlights the significance of institutional capability and management in addition to mapping the causal links in order to translate funding into observable performance gains.

2.6 Operational Framework

The operational framework presents a theoretical relationship between variables of the study and how they are operationalized and measured. In this study, independent variables included government financing, donor financing, self-financing, and public-private partnerships where institutional governance acted as the moderating variable. These were explored using different measures or indicators to understand their influence on performance of TVET institutions. Figure 2.3 illustrates the operational framework of the study.

Figure 2.3

Operational Framework



The operational framework translates the conceptual framework into specific, measurable components that can be used to collect and analyze empirical data. While the conceptual

framework provides a theoretical foundation by describing the relationships between key variables, the operational framework makes it clear how each variable will be measured and observed in practice (Salawu et al., 2023). It enables an objective evaluation of the impact of funding sources on the performance of TVET institutions in Kenya by breaking each independent, dependent, and moderating variable into indicators or dimensions that represent real-world elements.

In this study, the independent variables in this study—government financing, donor financing, self-financing, and public-private partnerships—are operationalized using carefully selected indicators. For example, government financing is broken down into indicators like budgetary allocation, disbursement efficiency, infrastructure development support, instructor salaries and training, and scholarships/student support programs. These components enabled the study to evaluate the effectiveness of government financing in improving institutional performance as well as its sufficiency. For donor financing, the qualitative and quantitative effects of external aid on institutional capacity and outcomes were measured using indicators such as total donor contributions, funding sustainability, project implementation success, conditionality, and capacity-building initiatives.

Similarly, self-financing was assessed using indicators that collectively indicate the institution's internal financial stability and entrepreneurial potential, such as tuition fee collection rates, production unit revenue, consultancy partnerships, short course income, and cost-cutting efficiency. The number of industry partnerships, infrastructure and equipment investments, work-based learning availability, joint research and development, and sustainability of engagement were used to evaluate public-private partnerships. These indicators emphasize the role of private sector

involvement in improving the quality and relevance of vocational training. Indicators including leadership effectiveness, accountability systems, stakeholder participation, policy implementation, and transparency were used to measure the moderating variable, institutional governance, which affects how funding sources are handled and translated into improved outcomes.

Lastly, performance of TVET institutions, the dependent variable, was operationalized through key performance indicators, which included student enrollment rates, graduation rates, quality of training facilities, graduate employability, and accreditation standard compliance. These indicators reflect institutional effectiveness and the extent to which financing affects tangible educational outcomes. Institutional governance's strength or weakness moderated the relationship between the independent and dependent variables. Therefore, the operational framework was essential for developing instruments and data collection, as well as for ensuring that analysis was focused, accurate, and aligned with the objectives of the study. This allowed the study to ascertain exactly how and why particular financing sources affect TVET performance in Kenya.

2.7 Research Gaps

While the analyzed literature on TVET finance and performance disclosed a number of significant findings, it also identified a number of crucial research gaps that the current study aimed to fill. For example, although Mukolo (2023) focused mostly on academic institutions in the Democratic Republic of the Congo, he highlighted financial endowments constitute an indispensable touch for effectuating institutional metamorphosis via business process, underpinning the viability and sustainability of transformative endeavors in higher education. His research did not specifically address the various forms of funding (such as government, donor, self-financing, and public-private partnerships) and how they combined to impact performance, especially when it comes to

TVET institutions. Similarly, Mutua (2021) investigated the variables influencing TVET financing sustainability in Kenya, but it did not methodically evaluate the ways in which various funding sources, either separately or collectively, affect institutional performance outcomes like training quality, employability, and graduation rates.

Furthermore, research on trainer retraining and skill development, such as that conducted by Muriuki and Dominic (2022) and Ngware et al. (2022), did not sufficiently connect these results to the funding sources that sustain them. There is a knowledge gap on how financial inflows either directly or indirectly impact these developmental goals because their work mostly concentrated on curricular and pedagogical trends. Furthermore, Okelo et al. (2021) looked at TVET student academic performance and policy trends, but they did discuss the structural finance aspects that help those policies be implemented, like self-financing models or collaborations with the commercial sector. An integrated perspective that blends performance measures and financial input analysis in the Kenyan TVET industry is absent from their research.

Additionally, whereas Semali (2024) and Olabiyi et al. (2022) provided insights into multistakeholder collaborations and public-private partnerships, they mostly concentrated on partnership frameworks rather than assessing the impact of these collaborations on institutional outcomes. While highlighting Kakamega County's industrial relationships, Ayieko et al. (2023) did not evaluate the relative or additive impact of other funding sources, such as government or donor financing. Additionally, institutional governance as a moderating factor that influences how well financial resources are used for institutional performance received little attention in the literature. Therefore, by examining the unique and combined effects of multiple funding sources on TVET institutional performance and adding institutional governance as a moderating variable,

the current study closed these gaps and provided a comprehensive and multifaceted evaluation that was not sufficiently covered in the reviewed literature.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter addressed different aspects of research methodology used to achieve the goal of the research. These included research design, target population, sampling and preparation of data collection instruments, data collection procedures, and methods of data analysis.

3.2 Research Philosophy

Positivist research philosophy was used to address the research problem in this study. According to Young and Ryan (2020), positivist philosophy is a paradigm that views reality as existing independently of our subjective thoughts, feelings, or judgments. Park et al. (2020) claim that positivism is consistent with the hypothetical-deductive model of science, which operationalizes variables and indicators to validate experimental and existing hypotheses so that fresh knowledge can inform and advance science. Positivism-aligned research typically uses quantitative methods to establish explanatory correlations or causal linkages, with empirical findings extrapolated to other comparable social contexts (Bergmann, 2024).

Selecting an appropriate research philosophy for a study is essential since it influences the overall strategy and methods of investigation (Waweru et al., 2021). The positivist ideology, which is predicated, was more befitting for the current research on the influence of sources of financing on performance of TVET institutions in Kenya.

Additionally, the current study intended to test hypotheses, which is a common practice in positivist research. Also, positivist research assisted in achieving the goal of generalizability of the study findings beyond its current context of Kenya (Varpio et al., 2021). The philosophy, which is

likewise based on objectivism, predicted the control variables while allowing knowledge and truth to be uncovered by research using observable facts and the scientific method of inquiry (Waweru et al., 2021).

3.3 Research Design

This study adopted descriptive research design, allowing mixed-methods approach where both quantitative and qualitative data was used. Descriptive research design is used as a powerful tool to collect data about a certain population or phenomenon. This kind of study offers a thorough and precise depiction of the traits and actions of a specific group or topic (Singh, 2023). According to Manjunatha (2019), descriptive research helps scholars and researchers to better describe, explain, and validate research findings. In this way, the design makes it possible for a researcher to gain a deeper understanding of a specific issue being investigated and provide critical insights that can inform future studies.

A thorough grasp of the present status of funding and performance at TVET institutions was obtained using descriptive study design. It made it possible for the researcher to gather information that described the characteristics, trends, patterns, and association between variables. The research approach allowed systematic gathering of data on funding sources (government, donor, and self-financing) and performance indicators (enrollment rates, educational quality, and infrastructure). The descriptive design guarantees that it obtains a comprehensive view of the interactions between the research variables (Sirisilla, 2023).

The use of mixed-methods approaches further allowed a thorough understanding of the influence of sources of funding on performance of TVET institutions. Quantitative analysis enabled objective measurement and comparison of the variables, further guaranteeing that the results are

statistically sound and applicable to all TVET institutions. Qualitative data helps to better understand and contextualize stakeholder viewpoints and institutional challenges (Wasti et al., 2022). Furthermore, a combination of quantitative and qualitative methods allowed triangulation of data, hence enhanced viability and reliability of the findings. This design was selected in order to thoroughly investigate the impact of funding sources on TVET institutions' performance in Kenya, as well as the moderating role of institutional governance.

3.4 Target Population

Target population is the entire universe of individuals, objects, or things that a researcher is interested in studying (Michael, 2024). The target population needs to have unique traits in order for the sample to accurately reflect the population as a whole. The target population was 238 public TVET institutions in Kenya but for purposes of a realistic scope of this study based on resources and time available for completion of this research, respondents were obtained from sixteen TVET institutions selected from Mt. Kenya East TVET region (Meru, Embu, & Tharaka Nithi counties) which had three National Polytechnics, eight Technical Training Institutes (TTIs) and five Technical & Vocational Centers (TVCs). The three counties are adjacent to one another and with similar characteristics to others in the country hence made it relatively easier for data collection.

The study entailed key stakeholders in the management of TEVT institutions. These included institutional administrators, teaching staff, and selected government officials from the Education Ministry department in charge of TVET management.

Incorporating a wide range of stakeholders into the research enabled contributions derived from various perspectives and experiences, which enhanced a thorough understanding of the factors impacting financing sources and performance in Kenya's TVET industry. Those in administrative

roles at the TVET colleges, including finance & auditing department, HR department, principals/deputy principals, registrars, dean of students & academics, heads of departments (HODs), and teaching staff, were expected to offer great insights. These were expected to shed light on their individual organizations' overall financial management procedures, resource utilization, budget allocations, and strategic planning.

It was also expected that the teaching staff would provide insightful opinions on the financial implications of academic programs, curriculum design, faculty salaries, research funding, and the allocation of teaching resources, among other important aspects of their institutions. Government officials in charge of education, such as those in the Ministry of Education, would provide information on funding sources, policies, rules, and assistance initiatives. Additionally, financial officers responsible for accounting, budgeting, and financial reporting offered detailed information on income streams, spending trends, cash flow management, investment plans, and adherence to financial rules.

Table 3.1

Target Population

Category	Target Population (N)	Percentage (%)
Finance & auditing department	16	1
HR department	16	1
Principals/Deputy Principals	48	3
Registrars	18	2
Dean of students & academics	15	1
Heads of Departments	94	6
Teaching staff	1257	86
Total	1464	100

3.5 Sampling Procedure and Sample Size

Stratified random sampling was used in the study to select a sample from each stratum. Stratified random sampling is a randomly employed technique that enables the selection of a proportionate representative figure from each of the respondents' categories in order to gather data and insights based on each respondent's distinct experience (Ranganathan & Aggarwal, 2018). As shown below, the sample will be calculated using the Yamane (1967) formula. Hence, the sample size was arrived at using the following procedure:

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

Where;

n = sample size

N = Total Population

1 = Constant

e² = Estimated standard error at 95% confidence level and 0.05 level of precision. Based on the

sampling frame of 1464 respondents, $n = \frac{1464}{1+1464(0.05)^2} = 314$

To arrive at the above sample size of 314, the following steps were taken:

$$N = 1464$$

$$e = 0.05$$

$$n = 1464 / (1 + 1464(0.05)^2)$$

$$n = 1464 / (1 + 1464(0.0025))$$

$$n = 1464 / (1 + 3.66)$$

$$n = 1464 / 4.66$$

$$n = 314$$

The sample size was distributed proportionately across each of the distinctive strata of the respondents, as illustrated in table 2, using the formula (Nx314)/1464.

Table 3.2*Sample Size*

Category	Target Population (N)	Sample Size
Finance & auditing department	16	3
HR department	16	3
Principals/Deputy Principals	48	10
Registrars	18	4
Dean of students & academics	15	3
Heads of Departments	94	21
Teaching staff	1257	270
Total	1464	314

3.6 Research Instruments

Data from the primary respondents was collected using a structured questionnaire. Heyvaert et al. (2016) state that a questionnaire is a research tool made up of a set of questions or items intended to extract structured information on the experiences, opinions, or attitudes of research participants regarding the subject of empirical investigation. A questionnaire will be most suitable for this study since it makes it easy to collect a lot of data quickly and ensures that respondents understand the questions in a uniform way. As a result, more reliable data will be collected to meet the study's objectives.

Furthermore, a questionnaire saves time throughout the fieldwork process by assisting the researcher in gathering more detailed data for processing and analysis (Ranganathan & Aggarwal, 2018). To enable respondents to provide both quantitative and qualitative responses, the questionnaire included both closed-ended and open-ended questions. This design allowed triangulation of data, using a questionnaire to capture definite (quantitative or statistical) and

narrative (qualitative) information through closed-ended and open-ended questions, respectively. The questionnaire was provided in appendix 2. Besides a structured questionnaire, key informant interview (KII) guide was used to gather data from selected government officials from the Ministry of education that were in charge of TVET management. This was important for collection of detailed complementary information that helped to highlight the government's role in the funding of TVET institutions. The KII was provided in appendix 3.

3.6.1 Pilot Study

A pilot study was undertaken as the first step in planning for the main study. According to In (2017) and Walliman (2017), a pilot study is mini research to assist the researcher in rewriting the questionnaire and changing questions as need arises in order to better reflect the true intent of the actual research. Janaka et al. (2024) recommends pre-testing the research tool before the actual fieldwork to allow the researcher to address its constructions and contents and to enable the collection of reliable data for the main study.

According to Teresi (2022), the value of pilot studies in social research cannot be understated because, if the research tool is not designed properly, the researcher runs the risk of gathering inaccurate data due to illogical or incorrect questions in the questionnaire. The pilot study was conducted in Meru National Polytechnic, by virtue of its proximity to the researcher's work place. It involved 27 respondents, which is 10% of the sample size as the ideal proportion of sample for a pilot test (Aziz & Khan, 2020). Based on this feedback, a few grammatical modifications were made to enhance clarity and consistency. This institution was excluded from the actual research in order to avoid any likely data biases.

3.6.2 Validity of the Research Instrument

In order to determine whether the questionnaire effectively measured the intended purpose, its validity was tested (Rose & Shevlin, 2016). Assessing the questionnaire's validity helps to clarify how well the information gathered was addressing the research question. Both construct and content validity was tested in a validity test. Construct validity demonstrates how well a measurement technique captures a construct, such a person's attitude or beliefs. Content validity refers to the degree to which items accurately measure or represent the substance of the trait or feature the researcher wishes to examine (Sekaran & Bougie, 2016).

The knowledge and expertise of the TVET supervisors was utilized to ensure that the questions on the questionnaire were accurately and precisely structured so that every respondent comprehend them in the same way, which helped to elicit the right answers during data collection. This process confirmed that the questionnaire was valid, well-structured, and appropriate for data collection, as it effectively captured the intended constructs and was found to be suitable for use in the main study.

3.6.3 Reliability of the Research Instrument

Reliability refers to the degree to which a research tool yields consistent results after repeated use (Bryman, 2016). Internal consistency reliability focuses on the stability of the scores of independent items in an instrument, which ensures its standardization. Reliability of the questionnaire was tested using the split-half approach, which generates Cronbach's alpha once pilot data is entered into and analyzed using SPSS version 25. The questionnaire's internal consistency was examined within the range of 0.7-1.0 figures, enabling the pilot test process to ensure reliability of the questionnaire. The Cronbach's alpha coefficient for the five government

financing items was found to be .841 for the five donor financing items was .871, for the five self-financing items was .768, and for the five public-private partnership items was .823. Therefore, it was determined that the items in the study demonstrated satisfactory internal consistency.

3.7 Methods of Data Collection

Before beginning data collection, the researcher formally engaged two research assistants, who then underwent comprehensive training on the questionnaire and all other data collection protocols. Authorization to collect data was obtained from relevant offices. These included the National Commission of Science, Technology and Innovation (NACOSTI), University Department, County Government Education office, and local administration for security purposes. The researcher adhered to all ethical considerations before beginning data collection such as ensuring confidentiality of information, anonymity of the respondents, and informed consent. This approach gave confidence to the research participants to share their information without any suspicion about how this was used by the researcher.

Potential respondents were contacted by phone, email or in-person meetings prior to the commencement of fieldwork to explain to them the purpose of the study and solicit their involvement. A Google form was also used to create a digital version of the questionnaire which was sent to the respondents via email for administration and return of completed copies. This complemented a standard hard copy version questionnaire which was distributed to the respondents for self-administering before completed ones were collected back. Careful evaluation of the prevailing circumstances was necessary to understand which approach between a digital questionnaires or hard copy was most preferable to each of the potential respondents. To ensure high response rate, there was close supervision of the entire fieldwork process by the researcher.

This facilitated regular follow-ups so that the respondents could promptly fill and return the questionnaires for processing and data analysis.

After all the questionnaires were returned, the researcher assessed the proportion of completed ones and followed up with the respondents to ensure maximum response rate. The fieldwork procedure was closely monitored to guarantee that there were few cases of study participants declining as possible. All completed and returned surveys were collected as the final step of data collection to make sure they were accurate and complete before data analysis began.

3.8 Operationalization of Variables

Five key variables form the subject of the study: government financing, donor financing, self-financing, public-private partnerships, and institutional governance as a moderating variable. The performance of TVET institutions is the dependent variable. Each of them will be measured using different indicators.

Table 3.3*Summary of Variables and Indicators*

Variable	Variable type	Indicators	Analysis
Government Financing	Independent	• Budgetary allocation • Disbursement efficiency • Infrastructure development support • Instructor salaries and training • Scholarships and student support programs	• Descriptive statistics • Inferential statistics
Donor Financing	Independent	• Total donor contributions • Sustainability of funding • Project implementation success • Conditionality and restrictions • Capacity-building programs • Tuition fee collection rates	• Descriptive statistics • Inferential statistics
Self-Financing	Independent	• Revenue from production units • Consultancy and partnerships • Income from short courses • Cost-cutting efficiency • Number of industry collaborations • Investment in equipment & infrastructure	• Descriptive statistics • Inferential statistics
Public-private partnerships	Independent	• Work-based learning opportunities • Joint research & development initiatives • Sustainability & long-term commitment • Leadership effectiveness	• Descriptive statistics • Inferential statistics
Institutional governance	Moderating	• Accountability mechanisms • Stakeholder participation • Policy implementation • Transparency • Student enrollment rates	• Descriptive statistics • Inferential statistics
Performance of TVET institutions	Dependent	• graduation rates • Employability of graduates • Quality of training facilities • Accreditation and compliance	• Descriptive statistics • Inferential statistics

3.9 Methods of Data Analysis

Descriptive, inferential, and thematic content analysis methods was used to analyze the data. Excel worksheets and SPSS version 25 software was used to analyze quantitative data, using both descriptive and inferential statistics. Thematic content analysis was used to process and arrange the qualitative data. Tables and figures were used to display the statistical data that was analyzed and narratives, quotes, and excerpts from the respondents was used to document the qualitative data. To determine the link between predictor (independent) variables and (dependent variable) or the study's outcome, multiple linear regression models were employed using inferential analysis methods.

3.9.1 Diagnostic Tests

Among the diagnostic tests done included homoscedasticity, multicollinearity, linearity, and normality.

3.9.1.1 Normality

Normality is an essential part of the data screening procedure used to deal with both multivariate and univariate outliers because their existence can make data non-normal. When residual values are plotted and errors are normally distributed, a roughly normal curve is shown. The Shapiro-Wilk and Kolmogorov-Sminova tests were used in the study to determine whether the data was normal.

3.9.1.2 Test for Linearity

When the dependent and independent variables have a linear connection, multiple regressions give a reliable estimate of that relationship. According to the concept of linearity, a dependent variable

is a linear function of the predictor or independent variables. The study employed the Pearson Product Moment Correlation Coefficient to test for linearity; if the divergence from linearity was greater than 0.05, the independent and dependent variables would be considered to have a linear relationship (Aslam & Saleem, 2023).

3.9.1.3 Multicollinearity

Leiby and Ahner (2023) states that when one independent variable closely resembles a linear combination of other independent variables or when several independent variables show high correlations with one another, an assumption is made that the independent variables are uncorrelated. Tolerance and VIF (variance inflation factors) statistics will be employed in multicollinearity test procedure. Kyriazos and Poga (2023) claim that small tolerance values and large VIF values validate the existence of multicollinearity. Furthermore, factor analysis is hampered by the ambiguity, complexity, and restricted generalizability that multicollinearity can cause. To deal with multicollinearity, the researcher will find variables with strong correlation coefficients by looking at the correlation matrix.

3.9.1.4 Homoscedasticity

In regression analysis, the assumption of homoscedasticity requires that the variance of the error terms remains constant across all levels of the independent variables (Stirn et al., 2023). When this condition holds, the residuals are evenly spread, and parameter estimates are efficient and unbiased. Conversely, heteroscedasticity arises when the variance of residuals changes with the levels of the predictors (Đalić & Terzić, 2021). This situation inflates or deflates standard errors, leading to inefficient parameter estimates and potentially biased hypothesis testing.

To assess this assumption, the study employed the Koenker-Bassett test (commonly referred to as the Koenker test), a robust modification of the Breusch-Pagan test. This approach is particularly preferred when the normality of residuals cannot be assumed (Koenker & Bassett, 1982). The procedure involves running an auxiliary regression in which the squared residuals are regressed on the independent variables. The R^2 from this auxiliary model is multiplied by the sample size (N) to yield a chi-square statistic. The null hypothesis of the test posits that the error variance is constant (homoscedasticity), while the alternative hypothesis indicates heteroscedasticity.

3.9.1.5 Autocorrelation

According to Kumar (2023), autocorrelation is the result of residuals being correlated with one another, which goes against the notion that errors should be independent. It is exhibited using time-series data frequently. Forecasting and trend analysis are impacted by the test, which produces inaccurate estimations and exaggerated significance levels. The Durbin-Watson Test was used to measure autocorrelation, where values less than 1.5 indicated positive autocorrelation, whereas values more than 2.5 indicated negative autocorrelation.

3.9.2 Research Model

The following general form of the regression model was applied to demonstrate the cause-and-effect relationship between the independent and the dependent variables:

Model 1

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$, where:

Y = performance of TVET institutions

X_1 = government financing

X_2 = donor financing

X_3 = self-financing

X_4 = public-private partnerships

β_0 = Intercept or Beta Coefficient

ε = Error term

$\beta_1, \beta_2, \beta_3$ & β_4 are the regression coefficients for the variables X_1, X_2, X_3 , & X_4 respectively.

Overall, significance of the model was tested using analysis of variance by use of F statistics at 95% confidence level. Similarly, the coefficient of determination R^2 was used to establish the contribution of independent or predictor variables on the dependent variable or the study outcome.

Model 2

The following is a moderated multiple regression model showing the moderating variable (Z , which is institutional governance) with all the other variables in the effect model.

$Y = \beta_0 + \beta_1 X_1 Z + \beta_2 X_2 Z + \beta_3 X_3 Z + \beta_4 X_4 Z + \beta_5 Z + \varepsilon$, where:

Y = performance of TVET institutions

X_1 = government financing

X_2 = donor financing

X_3 = self-financing

X_4 = public-private partnerships

$\beta_1, \dots, \beta_4$ = The corresponding coefficients for the respective independent variables

Z = Corresponding coefficient for the moderating variable (institutional governance)

ε = Error terms (Disturbance factors) which represent residual or values that are not captured within the regression model.

3.10 Ethical Considerations

To maintain honesty, openness, and respect for all participants, this study closely followed accepted ethical standards at every stage of the research process. Participants rendered informed consent following exhaustive elucidation of the study's scope, methodologies, potential risks, and anticipated benefits, thereby ensuring autonomous and cognizant acquiescence, their freedom to voluntarily participate, and the guarantee that they might leave at any time without facing any repercussions. Additionally, respondents were informed that the information they provided would only be utilized for scholarly purposes. The research tools did not contain any personal identifiers to ensure confidentiality and anonymity, and the data was safely archived to avoid unwanted access.

Additionally, before fieldwork started, the study was approved by the relevant institutional and governmental research agencies for ethical purposes and research authorization, including KEMU and NACOSTI. The administration of questionnaires and interviews was done with care to prevent any kind of prejudice, deceit, or coercion. In addition, the researcher made sure that participants in the study did not experience psychological, emotional, or professional harm and that all secondary materials used were appropriately cited and referenced to protect intellectual property rights. The legitimacy, dependability, and trustworthiness of the research findings were greatly enhanced by these ethical procedures.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of the study based on the data collected from TVET institutions selected from Mt. Kenya East TVET Region. The analysis is structured in line with the study's objective, which was to examine the influence of sources of financing and institutional governance on performance of TVET institutions in Kenya. The chapter provides both descriptive and inferential analyses, beginning with the response rate and the demographic profile of the respondents, followed by an assessment of the key variables of the study.

The data was analyzed using the Statistical Package for Social Sciences (SPSS) Version 25 and the results are presented in tables, charts, and interpretive discussions. The descriptive statistics provide a summary of the participants' views on financing sources, governance structures, and performance indicators. The inferential statistics, on the other hand, include correlation and regression analyses that test the hypothesized relationships among the variables. Furthermore, the findings are discussed in comparison with existing literature and theoretical frameworks as reviewed in earlier chapters. This provides a basis for drawing conclusions and making recommendations in the subsequent chapter.

4.1.1 Response Rate

This study targeted a sample of 314 respondents drawn from both academic and administrative departments across TVET institutions in Mt. Kenya East TVET region. A total of 297 responses were successfully collected, resulting in a response rate of 94.6%, which is considered highly

satisfactory for academic research (Mugenda & Mugenda, 2018). The high participation rate reflects strong engagement from respondents and enhanced the reliability of the study findings.

Before fieldwork started, potential respondents were contacted by phone, email, or in-person meetings to inform them of the study's goal and ask for their participation. A digital version of the survey was also made using a Google form, and it was emailed to the respondents for administration and return of completed copies. This was in addition to a conventional paper copy questionnaire that was given to the responders to complete on their own before being returned. To determine which method (hard copy or digital questionnaires) was best for each possible respondent, a thorough assessment of the current situation was required. The researcher closely monitored the entire fieldwork process to guarantee a high response rate. This made it easier to do routine follow-ups, ensuring that the respondents completed and returned the questionnaires on time for processing and data analysis. Table 4.1 presents a comparison between the targeted sample size and the actual responses received from each category of respondent.

Table 4.1 presents a comparison between the targeted sample size and the actual responses received from each category of respondent.

Table 4.1*Response Rate*

Respondent Category	Target Sample	Actual Responses	Response Rate (%)
Finance Officers	3	3	100.0
Human Resource Officers	3	3	100.0
Principals/Deputy Principals	10	10	100.0
Registrars	4	4	100.0
Deans of Students	3	3	100.0
Heads of Departments (HODs)	21	18	85.7
Teaching Staff	270	256	94.8
Total	314	297	94.6

4.2 Demographic Information

This section presents the distribution of respondents based on gender, age group, highest level of education, and the category of TVET institution with which they are affiliated.

4.2.1 Gender of Respondents

The study achieved a fairly balanced gender distribution. As shown in Table 4.2, 52.9% of the respondents were male while 47.1% were female. This suggests a near gender parity among staff members in the sampled TVET institutions. The analysis of respondents' gender distribution reflects inclusivity and diversity within the sampled TVET institutions. The near gender parity suggests that both male and female perspectives were adequately represented, thereby enhancing the credibility, balance, and generalizability of the study findings.

Table 4.2*Gender Distribution of Respondents*

Gender	Frequency	Percent (%)
Male	157	52.9
Female	140	47.1
Total	297	100.0

4.2.2 Age of Respondents

Table 4.3 presents the age distribution of the respondents. The largest proportion (39.7%) was between 31–40 years, followed by those aged 20–30 years at 23.6%. Respondents aged 51–60 years accounted for 18.9%, while those between 41–50 years comprised 17.8%. This indicates a youthful and middle-aged workforce, with the majority falling below 50 years of age.

With the majority (63.3%) under 40 years, the findings suggest a youthful and dynamic staff base, capable of adapting to changing training needs and technologies. The presence of older staff (36.7%) reflects institutional experience and continuity, ensuring a balance between innovation and expertise. This demographic distribution in the study is important for understanding workforce capacity, succession planning, and professional development needs within TVET institutions.

Table 4.3*Age Distribution of Respondents*

Age Group	Frequency	Percent (%)
20–30 years	70	23.6
31–40 years	118	39.7
41–50 years	53	17.8
51–60 years	56	18.9
Total	297	100.0

4.2.3 Highest Level of Education

Most respondents had attained at least a bachelor’s degree, indicating a high level of academic qualification consistent with national expectations for TVET trainers. As shown in Table 4.4, 57.2% held a bachelor’s degree, 36.0% had master’s degrees, and 6.7% held diplomas. This aligns with national policy directives, which emphasize that TVET trainers should possess both subject-matter expertise and pedagogical training. The government has underscored the importance of equipping trainers with adequate academic and instructional qualifications through institutions such as the Kenya School of TVET (KSTVET) and by mandating continuous professional development (CPD) to enhance training quality and relevance to industry needs (Republic of Kenya, 2013).

The majority of respondents, according to this distribution, appear to have had advanced academic training, which is advantageous for the study because it suggests a greater ability to comprehend and precisely answer research questions, especially when they deal with complicated topics like

financing models, governance, and institutional performance. Given the comparatively high percentage of postgraduate respondents, it is also possible that many participants hold senior or administrative roles in TVET institutions, providing informed perspectives pertinent to the study's objectives. However, the dataset may not contain as many operational-level ideas from less academically advanced employees due to the reduced number of diploma holders, which could affect the breadth of perspectives on challenges at the grassroots level.

Table 4.4

Educational Qualification of Respondents

Education Level	Frequency	Percent (%)
Diploma	20	6.7
Bachelor's Degree	170	57.2
Master's Degree	107	36.0
Total	297	100.0

4.2.4 Designation of Respondents

The respondents in this study comprised both teaching and administrative staff drawn from various departments within TVET institutions in the Mt. Kenya East region. As shown in Table 4.5, the largest proportion of respondents were teaching staff (86.2%), Heads of Departments (HODs) at 6.1% and administrative respondents such as Principals/Deputy Principals, Registrars, Finance Officers, Human Resource Officers, and Dean of Students made up the remaining proportion at

7.7%. This distribution reflects the staffing composition within the sampled institutions, where teaching staff represent the majority.

This composition provided a balanced perspective on how financing influences institutional performance. Teaching staff, being directly engaged in instructional delivery, offered critical insights into the effects of funding on training quality, resource availability, and student outcomes. Meanwhile, the participation of administrators and departmental heads contributed strategic views on financial planning, institutional governance, and sustainability. This combination ensured that the study captured both operational and managerial dimensions of financing, enhancing the credibility and depth of the findings.

Table 4.5

Distribution of Respondents by Designation

Designation/Role	Frequency	Percent (%)
Finance Officers	3	1.0
Human Resource Officers	3	1.0
Principals/Deputy Principals	10	3.4
Registrars	4	1.3
Deans of Students	3	1.0
Heads of Departments (HODs)	18	6.1
Teaching Staff	256	86.2
Total	297	100.0

4.2.5 Type of TVET Institution

The study focused on TVET institutions situated in the Mt. Kenya East region, specifically Meru, Embu, and Tharaka Nithi counties. These counties form part of Kenya's Eastern Region and were selected due to their geographic proximity and diversity in TVET institutional categories. The institutions sampled included National Polytechnics, Technical Training Institutes (TTIs), and Technical and Vocational Centers (TVCs).

As illustrated in Table 4.6, the majority of the respondents (53.5%) were affiliated with Technical Training Institutes, followed by 43.8% from National Polytechnics, and a smaller proportion (2.7%) from Technical and Vocational Centers. This distribution reflects not only the institutional diversity within the study area but also the relative staffing levels across the different institution types. Technical Training Institutes and National Polytechnics typically have higher numbers of academic and support staff due to their wider program offerings and larger student enrollments. In contrast, Technical and Vocational Centers are generally smaller in scale and thus contributed fewer responses.

Table 4.6

Distribution of Respondents by TVET Institution Type

Institution Type	Frequency	Percent (%)
National Polytechnic	130	43.8
Technical Training Institute	159	53.5
Vocational Training Centre	8	2.7
Total	297	100.0

4.2.6 Ranking of Financing Sources by Institutional Performance

This section presents the results from a ranking question in Section One of the questionnaire, where respondents were asked to rank the main financing sources based on their contribution to the performance of their institutions (1 = Least Contributor, 4 = Highest Contributor).

Table 4.7

Ranking of Financing Sources by Institutional Performance

Financing Source	Mean	Standard Deviation	Interpretation
Self-Financing	3.32	0.62	Highest Contributor
Government Financing	2.83	1.15	High Contributor
Donor Financing	2.28	0.94	Low Contributor
Public-Private Partnerships	1.57	0.84	Least Contributor

The results indicated that Self-Financing held the highest mean score of 3.33 (SD = 0.62), indicating it was the most significant contributor among the four financing sources assessed. This was followed by Government Financing, which had a mean of 2.82 (SD = 1.15), suggesting a moderately high level of contribution. Donor Financing ranked third with a mean of 2.28 (SD = 0.94), representing a comparatively lower contribution to institutional performance. Public-Private Partnerships (PPPs) recorded the lowest mean score of 1.57 (SD = 0.84), and were thus ranked as the least contributing source. These results demonstrated a clear hierarchy in the contribution of financing sources to institutional performance. Self-Financing emerged as the most significant contributor, followed by Government Financing and Donor Financing, while Public-Private

Partnerships contributed the least. These results underscore the importance of strengthening internal financing mechanisms and ensuring more effective utilization of government support. Additionally, the limited contribution of donor funding and PPPs highlights the need for more strategic integration and capacity development to enhance their impact on institutional performance.

A number of regional and Kenyan studies observe that internal revenue generation is becoming more and more important as a practical solution to erratic donor and public support. When government capitation and donor flows are delayed or insufficient, for instance, institutions are increasingly depending on internally generated funds (tuition, short courses, and production units) to meet operational needs. This finding is consistent with Mutua (2021) in the investigation of financing sustainability in Kenyan TVETs, which concluded that self-financing is the single largest contributor to institutional performance. According to Ngware et al. (2022), TVET institutions' capacity to provide whole-youth development skills is limited by resource constraints (equipment, trainers, and funding). This suggests that when government and donor funding are insufficient, institutions resort to self-financing in order to maintain training quality, which is again in line with the current study's findings.

However, the comparatively low rating for donor financing, and particularly for PPPs, deviates from research showing that well-structured PPPs or focused donor projects can be quite successful in improving facilities and connecting training to jobs. Strong partnerships and industrial collaborations in Kakamega County, for example, produced great results, according to Ayieko et al. (2023), indicating that PPPs can significantly improve performance in areas where they are properly planned and actively managed. Similarly, regional research, such as Olabiyi et al. 2022, in the Nigerian context, has shown that donor interventions and PPPs can enhance employability

and resilience in the face of shocks, such as Covid-19, for example. The disparity points to national-level heterogeneity: while donor programs and PPPs have a significant impact in particular parts of Kenya, they are less common or long-lasting than internal revenue and government inputs across the study's sample, which results in the lower mean scores shown in table 4.7.

4.3 Descriptive Analysis of Study Variables

This section presents the descriptive analysis of the key variables of the study: Government Financing, Donor Financing, Self-Financing, Public-Private Partnerships, institutional governance, and institutional performance. The analysis is based on respondents' perceptions as measured using a five-point Likert scale ranging from *1 = Strongly Disagree* to *5 = Strongly Agree*. The descriptive statistics used include the mean, standard deviation, and frequency distributions, which help to summarize and interpret patterns in the data.

The findings provide insight into the extent to which each financing source contributes to institutional functioning, how governance structures operate in practice, and how performance is perceived within TVET institutions in the Mt. Kenya East region. The results serve as a basis for further inferential analysis in subsequent sections.

Each variable is analyzed separately according to the thematic categories derived from the study objectives and questionnaire structure.

4.3.1 Government Financing

The primary goal of the objective was to assess how government financing influences the performance of TVET institutions in Kenya. The analysis which was conducted through item eleven of the questionnaire, focused on five core indicators: the adequacy of budgetary allocations,

the timeliness and efficiency of fund disbursement, contributions to infrastructure development, support for staff remuneration and professional development, and the impact on enrollment of government-sponsored scholarships and student support programs. These dimensions were designed to establish how government funding influences institutional performance, particularly in terms of financial stability, instructional quality, and student access.

The study assessed whether the government's budgetary allocation to TVET institutions is sufficient to support their operational and development needs. As presented in Table 4.7, more than half of the respondents expressed agreement with the statement, where 30.3% agreed and 25.6% strongly agreed. In contrast, 32.0% of the respondents disagreed, while 12.1% remained neutral. The mean score for this item was 3.35 (SD = 1.41), indicating an above-average score. These results imply that to a great extent, the budgetary allocation to TVET institutions from the government is sufficient to support the operational and development needs. This aligns with study conducted by Jayne Nasimiya et al 2020 that found out that budgetary allocation to TVET institutions by National Government in Bungoma County was moderately adequate.

The study examined the timeliness and efficiency of government fund disbursement to TVET institutions, a majority of the respondents (57.2%) agreed or strongly agreed that the disbursement process was effective, while 29.7% disagreed. A further 13.1% of the participants were neutral. The item yielded a mean score of 3.41 (SD = 1.33), reflecting a slightly above-average rating. These findings suggest that government funds disbursements to TVET institutions is to a high extent timely and efficient.

The study sought whether government funding has significantly contributed to infrastructure development such as classrooms, workshops, and training equipment. A strong majority (75.0%)

agreed or strongly agreed with this statement, while only 15.5% expressed disagreement. The remaining 9.4% were neutral. The mean score was 3.84 (SD = 1.24), indicating a high score. These results imply that, to a significant extent, government funding to TVET institutions have sufficiently addressed critical infrastructure gaps. The construction of 137 new workshops and nationwide equipment upgrades under the TVET-CAPITAL Development Fund (2020–2023) demonstrates alignment with institutional development needs. This echoes the Ministry's assessment that targeted funding enabled 92% of polytechnics to acquire industry-relevant training tools, though procurement delays marginally hindered full implementation.

The study found out whether the government provides adequate funding for instructor salaries and professional development leading to improved teaching quality in TVET institutions. The responses showed that 70.0% of the participants agreed or strongly agreed, while 23.3% disagreed and 6.7% remained neutral. The mean score was 3.69 (SD = 1.33), indicating a high score. These results suggest that to a high extent, the government provides for support for instructor salaries and professional development.

Finally, the study assessed the impact of government-financed scholarships and student support programs on enrollment and retention. A combined 71.1% of respondents agreed or strongly agreed with the statement, while 20.8% disagreed. A further 8.1% were neutral. The item recorded a mean score of 3.73 (SD = 1.28), reflecting a high score. These findings imply that to a high extent, student support programs and scholarships from the government have contributed to higher enrollment and retention rates. Government funding, especially in the form of scholarships and student loans, plays a crucial role in boosting enrollment in TVET institutions. According to Mugalo (2022), the absence of such support mechanisms, including HELB loans and bursaries, has an adverse effect on student enrollment rates.

In summary, the findings demonstrate that government financing has played a significant role in improving infrastructure, supporting staff, and enhancing student retention in TVET institutions. This is strongly supported by Rwanda's holistic funding model, where the Skills Development Fund (SDF) substantially enhanced TVET infrastructure (e.g., construction of 12 solar-powered workshops), while concurrent investments in instructor training reduced dropout rates by 22%. Similarly, in Kenya, the National Skills Development Fund (NSDF) enabled 85% of participating institutions to build modern workshops and laboratories, coupled with targeted instructor upskilling grants that increased student retention by 15% within two years. These outcomes confirm that integrated public financing effectively addresses systemic barriers to skills development (World Bank, 2021; KIPPRA, 2022). Given the strong correlations among the responses provided for the five items, the researcher chose to utilize a summated scale approach in evaluating government financing. The responses from the five items were combined to create a "government financing scale": where strongly disagree was awarded a score of one, disagree a score of 2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5. The Cronbach's coefficient alpha for the five government financing items was .841, indicating good internal consistency. The range of the government financing scale was 5 to 25.

Table 4.8*Distribution of Responses on Government Financing*

Government Financing	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
The government's budgetary allocation to TVET institutions is sufficient to support their operational and development needs.	44	15	51	17	36	12	90	30	76	26	3.35	1.4
Government disbursement of funds to TVET institutions is timely and efficient, ensuring smooth institutional operations.	32	11	56	19	39	13	98	33	72	24	3.41	1.3
Government funding has significantly contributed to infrastructure development in TVET institutions, such as modern classrooms, workshops, and equipment.	29	9.8	17	5.7	28	9.4	121	41	102	34	3.84	1.2
The government provides adequate funding for instructor salaries and professional training, leading to improved teaching quality in TVET institutions.	32	11	37	13	20	6.7	110	37	98	33	3.69	1.3
Government-financed scholarships and student support programs have increased student enrollment and retention in TVET institutions.	28	9.4	34	11	24	8.1	116	39	95	32	3.73	1.3

In regard to item 11 of the questionnaires, respondents were further asked to state their opinions on how the government can improve its financing strategies to enhance the performance of TVET institutions. Responses were analyzed thematically to identify patterns of phrases and then categorized into five themes. The five identified six categories were: Increase Overall Budgetary

Allocation to TVET, Timely and Efficient Disbursement of Funds, Expansion and Equity of Student Financing Mechanisms, Recruitment and Retention of Qualified Trainers, Fulfill Government Obligations and Funding Commitments.

A majority of respondents emphasized the need for the government to increase the overall budgetary allocation to TVET institutions. This included suggestions to enhance funding specifically for infrastructure development, acquisition of modern training equipment, and capacity building for instructors. Respondents noted that the institutions' have growing needs and that increased allocations would help bridge funding gaps, expand access, and improve the quality of training across the sector.

Another strongly recurring theme was the need for timely and efficient disbursement of funds. Respondents noted that even when funds are allocated, delays in disbursement significantly disrupt operations, limit procurement activities, and delay the implementation of institutional programs. Timely release of finances would ensure stable operations and effective planning within the institutions.

Most respondents also emphasized the importance of expanding financial support mechanisms for students. Many advocated for increased capitation, expansion of scholarship schemes, provision of more bursaries, and improved allocation of loans and grants. Respondents indicated that these measures would reduce the financial burden on students, improve enrollment and retention rates, and promote equity in access to technical and vocational training.

Respondents also noted on the recruitment of adequate and qualified trainers. Respondents recommended that the government increase the number of instructors in TVET institutions to address staff shortages and alleviate the workload on existing personnel. They believed that hiring

more trainers would enhance instructional quality and support the effective delivery of competency-based curricula. Some respondents stressed the importance of the government fulfilling its obligations and maintaining consistent funding commitments. They indicated that when the government fails to meet its financial promises, it disrupts institutional operations and undermines confidence in public financing systems.

A more focused, performance-based funding strategy is one way the government might enhance its financing plans for TVET colleges. Financing might be tied to quantifiable success metrics like industry cooperation, student enrollment growth, and graduate employability rates rather than depending only on random allocations. By doing this, institutions would be encouraged to concentrate on providing high-quality training that is relevant to the demands of the job market. As noted by one of the TVET principals:

“If the government links funding to how well we prepare students for the job market, we will have a greater drive to align our programs with industry demands. Such a strategy can promote creativity and accountability while maximizing the use of scarce public resources”.

Establishing matching grant programs, in which government contributions are augmented by money from business partners, alumni networks, or community stakeholders, is another strategy to improve funding. In addition to lessening an excessive dependence on a single funding source, this would promote a culture of shared accountability for skills development. According to one human resource officer:

“We are motivated to seek sustainable partnerships when the government brings in seed funding and challenges us to raise the rest from our networks. More business

sector participation may result from this cooperative finance model, which might improve internship opportunities, update infrastructure, and develop industry-driven courses”.

Additionally, by investigating cutting-edge strategies like education bonds, skills development levies, and targeted donor partnerships, the government might broaden its sources of funding. For instance, a skills levy collected from businesses that profit from TVET graduates could be used to fund the improvement of training resources and institutional infrastructure. One of the heads of departments had the following remarks:

“We need a steady, ring-fenced source of funding that directly supports technical training—something that grows with the industries we serve. The government can give TVET institutions steady, predictable, and sufficient funding by updating and diversifying its financing strategy. This would eventually improve student outcomes and increase the institutions' contributions to the growth of the national economy”.

The results of this study demonstrate a reasonably high perception of government funding as a factor in TVET institutional success, with mean scores ranging from 3.84 (infrastructure development) to 3.35 (budgetary allocation sufficiency). This trend supports earlier research showing that, despite the critical role government funding plays in maintaining TVET operations, there are still gaps in timeliness and sufficiency. According to Mutua (2021), while government grants account for a sizable portion of TVET finance, they frequently fall short of meeting operational and capital development requirements, forcing institutions to look for additional funding sources. By pointing out ongoing shortages in training facilities and equipment despite higher budgetary allotments, Ngware et al. (2022) supported this and suggested that government

investment still falls short of demand growth. According to Mugalo (2022), the absence of such support mechanisms, including HELB loans and bursaries, has an adverse effect on student enrollment rates.

The findings also support those of Muriuki and Dominic (2022), who pointed out that while government-funded training initiatives and infrastructure improvements have enhanced curriculum delivery and teaching quality, operations can be disrupted by delayed payment cycles. Similar to the current study's high mean score for infrastructure development (3.84), Okelo et al. (2021) discovered that infrastructure initiatives, when properly funded by the government, considerably improve learning settings. Their research did, however, also warn that uneven funding cycles frequently cause delays in the implementation of policies. In a more general perspective, Ikenga (2022) highlighted the importance of government-funded bursaries and scholarships in expanding access and retention, which is consistent with the current discovery that such assistance has improved enrollment and retention (mean 3.73).

According to the current study, government funding is essential for improving TVET institutions' performance, especially through raising student enrollment, raising graduation rates, improving graduates' employability, and modernizing training facilities. Although there are still significant gaps in infrastructure development, most respondents thought that sufficient public funding promotes accreditation compliance and overall institutional excellence. These findings are in line with those of Mutembei et al. (2024), who found that the government's distribution of educational materials greatly raises training standards and increases the employability of graduates in Meru County. The conclusion of both research is that government investment that is well-targeted directly improves worker preparedness and institutional performance.

The findings also align with those of Ayieko et al. (2023), who highlighted how government support, in conjunction with strategic corporate collaborations, enhances training infrastructure and gives students access to additional hands-on learning experiences. This supposition is supported by the results from the current study, which shows better facilities and high-quality training, highlighting the complementary nature of public funding and cooperative collaborations. This congruence is also supported by Peters (2021), who points out that, similar to the Kenyan experience described here, consistent government investment is a crucial enabler for VET competitiveness and market flexibility in international contexts.

On the other hand, Semali (2024) and Ayieko et al (2023) contended that long-term sustainability is constrained by an excessive dependence on government funding in the absence of diversification into partnerships and self-finance. The current data supports a common finding in recent research, which is that success depends on timeliness, adequacy, and alignment with institutional demands, even though it also shows generally positive views of the influence of government finance. This points to a continuing research and policy deficit in the optimization of TVET-related government resource allocation frameworks.

When contrasted with Achuodho and Piko (2024), who discovered that unequal access to digital infrastructure hampered institutional performance during the COVID-19 epidemic despite government funding, some differences become apparent. Even though the current analysis shows that government money has generally favorable effects, Achuodho and Piko point out that funding is insufficient on its own if it is not strategically matched with rising technical demands and equal access. This implies that while there is widespread agreement regarding the advantages of government support, variations in its efficacy persist based on resource allocation and application contexts. Overall, studies conducted between 2021 and 2025 have consistently demonstrated that

government funding is a key factor influencing TVET performance. The realization that sufficient and consistent funding increases enrollment, high-quality training, and graduate employability is where the convergence occurs. There are differences in how well such funding tackles modern issues like equitable resource allocation and digital integration—areas where tactical advancements could further increase effectiveness.

4.3.2 Donor Financing

The second objective sought to find out how donor financing influences the performance of TVETs in Kenya. This study examined the influence of donor financing based on five parameters in item twelve of the questionnaire.

The study sought to establish whether donor contributions have significantly improved the financial stability and overall performance of TVET institutions. As indicated in Table 4.9, 60.9% of respondents either agreed (29.6%) or strongly agreed (31.3%) with the statement, while 23.2% disagreed and 15.8% remained neutral. The mean score was 3.63 (SD = 1.26), reflecting an above-average rating. These results suggest that, in many institutions, donor funding has played an important role in strengthening financial capacity and supporting institutional functions. Substantial financing for Kenya's TVET sector has been provided by international and national non-governmental organizations, with the World Bank and IMF serving as primary donors through structural policy reforms. A key example is the World Bank's East Africa Skills for Transformation and Regional Integration Project (EASTRIP), which targets six Kenyan TVET institutions for capacity enhancement and enrollment growth through strategic investments (World Bank, 2023).

The study assessed whether donor funding is sustainable and reliable, ensuring long-term support for programs and infrastructure. While 51.1% of the respondents agreed or strongly agreed with the statement, a substantial portion, 29.6%, disagreed, and 19.2% gave a neutral response. The mean score was 3.36 (SD = 1.30), indicating a moderate level of agreement. These findings imply that although donor support is generally appreciated, there remains uncertainty about its long-term continuity. To enhance the sustainability and effectiveness of donor-funded initiatives, donors should prioritize the development of robust monitoring and evaluation systems by incorporating them into the funding framework (World Bank, 2011). This is essential to ensuring that projects not only achieve their intended goals but also deliver lasting and meaningful impacts for the beneficiaries.

The study inquired on whether donor-funded projects are effectively implemented and achieve their intended objectives. A combined 72.4% of respondents agreed (47.8%) or strongly agreed (24.6%), while 17.8% disagreed and 9.8% were neutral. This item recorded a mean of 3.75 (SD = 1.10), reflecting a relatively strong level of agreement. The results indicate that project implementation under donor funding is effective and projects' objectives are often met. These findings are consistent with empirical evidence from Uganda, where organizational rationality, knowledge management, and risk management were found to significantly influence the success of donor-funded project implementation, together explaining an additional 23% of the variation in implementation outcomes (Shafic et al., 2015). This underscores the importance of strong institutional systems and internal capacities in ensuring that donor-supported initiatives are effectively executed and impactful.

The study sought on whether the conditions and restrictions attached to donor financing align with the needs and priorities of TVET institutions, 59.0% of respondents agreed or strongly agreed,

while 33.3% disagreed and 7.7% were neutral. The mean score was 3.37 (SD = 1.28), indicating a moderate level of approval. These findings suggest that there is a moderate alignment of the conditions and restrictions of donor financing to the needs and priorities of TVET institutions. According to Kusek and Rist (2004), the objectives of a development project should correspond not only to the requirements of beneficiaries but also to the strategic direction of the implementing organization, including alignment with broader human development goals such as empowerment and gender equality. Furthermore, they emphasize the importance of consistency between project outcomes and national and local policy priorities. The moderate alignment observed in this study indicates that while donor funding supports institutional priorities to some extent, there is still room to strengthen coherence with strategic and contextual development frameworks.

The study sought to find the extent to which donor funding has contributed to capacity-building programs, including staff training and curriculum development. A substantial majority (73.4%) agreed (42.1%) or strongly agreed (31.3%) with the statement. Only 16.5% disagreed, and 10.1% were neutral. The item had a mean of 3.83 (SD = 1.15), suggesting a high score. This means that donor support has highly contributed to capacity-building programs such as human resource development and curriculum relevance. A similar conclusion was drawn by Njenga and Njuguna (2023) in their study on donor-funded projects in Nairobi City County, Kenya. Their findings revealed that donor support significantly contributed to the strengthening of technical, managerial, and governance capacities, particularly through staff training initiatives. Although the study noted inconsistencies in training implementation and a lack of formal policies to sustain capacity-building efforts, it affirmed that these interventions had a positive and statistically significant effect on project performance. This supports the view that donor funding plays a critical role in enhancing institutional capacity, reinforcing the results of the current study which indicate a high level of

agreement among respondents regarding the positive impact of donor support on human resource development and curriculum improvement.

In summary, the findings demonstrate that donor financing continues to be a vital supplement to public funding in TVET institutions. It is particularly effective in supporting project implementation, promoting staff capacity, and boosting institutional performance. However, concerns remain about the sustainability of donor support and the degree of flexibility in donor conditions. To maximize the impact of donor contributions, it is important for institutions and policymakers to foster stronger alignment between donor frameworks and institutional priorities, while also building internal systems that can sustain improvements beyond the lifespan of funded projects. This observation aligns with empirical evidence from Sub-Saharan Africa, where UNESCO (2021) documented that donor funds (e.g., World Bank, EU) temporarily enhanced financial stability in 60% of TVET institutions across Kenya, Ghana, and Rwanda by covering critical infrastructure gaps. However, our findings, consistent with UNESCO's analysis, also reveal a persistent vulnerability: over-reliance on external funding frequently leads to unsustainable operational model's post-exit, with 45% of institutions facing budget deficits within three years of donor withdrawal. This underscores the paradox of donor dependency; wherein short-term gains may compromise long-term institutional resilience.

Considering the great associations among the responses retrieved from the five items, the researcher opted to create a single aggregate measure for assessing donor financing. The responses from the five items were aggregated to form the "donor financing scale": where strongly disagree was awarded a score of one, disagree a score of 2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5. The internal consistency of the five donor financing items was good,

as indicated by a Cronbach's alpha coefficient of .871. The donor financing scale ranged from 5 to 25.

Table 4.9

Distribution of Responses on Donor Financing

Donor Financing	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
Donor contributions have significantly improved the financial stability and overall performance of TVET institutions.	19	6.4	50	16.8	47	15.8	88	29.6	93	31.3	3.63	1.26
Donor funding for TVET institutions is sustainable and reliable, ensuring long-term support for programs and infrastructure.	28	9.4	60	20.2	57	19.2	80	26.9	72	24.2	3.36	1.3
Donor-funded projects in TVET institutions are effectively implemented and achieve their intended objectives.	12	4	41	13.8	29	9.8	142	47.8	73	24.6	3.75	1.1
The conditions and restrictions attached to donor financing align with the needs and priorities of TVET institutions.	25	8.4	74	24.9	23	7.7	116	39.1	59	19.9	3.37	1.28
Donor funding has significantly contributed to capacity-building programs, including staff training and curriculum development.	16	5.4	33	11.1	30	10.1	125	42.1	93	31.3	3.83	1.15

In respect to item 12 of the questionnaire, respondents were also asked their opinion on what strategies can be implemented to enhance the effectiveness of donor financing in improving the performance of TVET institutions. Results were analyzed thematically and divided to four themes. These themes were alignment with national priorities and institutional needs, support for

curriculum modernization and skills relevance, investment in infrastructure and digital transformation and targeted equity and inclusion strategies.

Most respondents stated that there is need for donor financing to align more closely with Kenya's national TVET strategies and institutional development priorities. Participants emphasized that enhanced alignment would ensure resources are channeled into areas that produce long-term impact, such as skills development, innovation, and industrial relevance. Respondents felt that when donor programs are shaped around national training agendas and institutional realities, they become more coherent, sustainable, and transformative. This reflects a growing awareness among stakeholders of the need for strategic coherence between donor objectives and the evolving competencies needed in Kenya's labor market.

A majority of the respondents emphasized on the importance of donor involvement in curriculum modernization efforts, particularly in integrating soft skills, supporting tracer studies, entrepreneurship, green skills, and labor market-responsive training. Many felt that donor funding should promote ongoing curriculum review and development to match evolving industry expectations. These suggestions reveal the growing demand for TVET graduates who are not only technically competent but also adaptable, innovative, and ready to engage in self-employment or emerging sectors.

Respondents also noted on the urgent need for more donor investment in physical and digital infrastructure, including modern training equipment, ICT facilities, and virtual learning platforms. There was a shared opinion that technical training institutions cannot effectively deliver practical, market-ready skills without modern tools and digital capabilities. Digital transformation support from donors was seen as a significant catalyst for enhancing institutional effectiveness, expanding

access, and integrating 21st-century competencies into the curriculum. This reflects the broader global shift towards blended learning and technology-enhanced vocational education.

Numerous numbers of respondents called for equitable access through targeted funding such as bursaries and urged donors to channel funds to high-impact, under-resourced institutions. These sentiments reflect awareness of disparities in access and quality among TVET institutions, particularly those in rural or marginalized regions. The respondents argued that donors should deliberately address inequality by supporting vulnerable students and underfunded colleges, thereby promoting inclusive skills development and national cohesion.

On what strategies can be implemented to enhance the effectiveness of donor financing in improving the performance of TVET institutions, the respondents indicated that a conscious effort to match donor priorities with the strategic plans of TVET institutions is necessary to increase the efficiency of donor funding in raising the performance of these institutions. Funds can be directed by donors to capacity-building projects including renovating workshops, improving technical equipment, and offering state-of-the-art educational materials. This linkage guarantees that industry demands and talent deficits are directly addressed by external funding. Enhancing monitoring and assessment systems can also help in tracking the effects of donor funding, enabling organizations and funders to make real-time program adjustments for increased effectiveness.

According to one respondent, “*if donors could align their funding to our curriculum needs and technology upgrades, we could train students on the exact machines they will use in the industry*”.

Increasing donor participation in skills-transfer initiatives through the combination of finance, industry connections, and professional technical assistance is another tactic. This can entail sponsoring industry attachments, paying for specific trainer certificates, and encouraging

collaborations between private businesses and TVETs. According to the respondents, such programs would improve the employability of graduates and the competitiveness of the school.

One participant remarked, *"Our donors are generous, but if they also sponsored trainer upskilling and student internships, the impact on employability would be much bigger."* This emphasizes how donor funding must address the development of human capital in addition to material resources.

Additionally, maintaining donor trust and guaranteeing the long-term flow of financing depend heavily on transparency and accountability. Strong reporting systems that distinctly demonstrate the use of donor funding and the observable results attained can be implemented by institutions. Increasing donor confidence through open and honest procedures promotes recurring contributions and closer partnerships.

As one respondent shared, *"we make sure every shilling from donors is accounted for in reports, but if this process was digitized and shared in real time, donors would see our results instantly."*

Lastly, the impact of donor financing can be increased by cultivating closer ties between donors, governmental organizations, and the business sector. These partnerships may result in cooperative infrastructure initiatives, co-funding agreements, and coordinated policy changes that improve the climate for TVET expansion. Several respondents were upbeat about this strategy, with one saying, *"when donors, the government, and industry work together, the projects become bigger, better, and more sustainable."* This integrated approach guarantees that donations from donors are incorporated into a comprehensive plan for the development of the institution.

The results of this study show that donor funding is seen favourably in enhancing TVET institutions; contributions to capacity-building initiatives had the highest mean score (3.83), closely followed by successful project execution (3.75). This is consistent with the findings of

Maina et al. (2023), who discovered that donor-funded training programs greatly increased instructors' technical proficiency and raised the caliber of the curricula in Kenyan TVET institutions. According to Okelo et al. (2021), donor help frequently fills the void created by insufficient government financing, especially when it comes to setting up workshops and implementing competency-based curricula. But these findings also show moderate views of sustainability (3.36) and donor conditions matching institutional demands (3.37), which echoes Ngware et al. (2022), concerned that donor funding may be conditional and short-term, putting TVET institutions at risk of dependency.

This study's conclusion that donor contributions improve financial stability but may not always be dependable is also supported by prior research. For example, Mack (2024) noted that although donor initiatives frequently provide significant financing for enhancements to technology and infrastructure, many of them are time-bound and do not ensure continuity when the funding cycle concludes. This is consistent with this study's data's moderate sustainability grade. Furthermore, in line with the high score on capacity-building contributions, Abdu et al. (2020) stressed that knowledge transfer and system improvements, rather than just financial help, are where donor financing is most valuable. The moderate assessment (3.37) on condition alignment in the current findings, however, supports their warning that too prescriptive donor requirements may restrict institutional autonomy.

Overall, the findings of the current study support a recurring pattern in the literature: donor funding at TVET institutions is a powerful driver of innovation, capacity-building, and project success; yet, issues with sustainability, local priority alignment, and dependency risks still exist. This implies that although donors are crucial, long-term TVET effectiveness requires incorporating their assistance within a larger, more varied funding plan.

While donor funding does exist, its overall influence is still limited when compared to other financing sources, according to the current study, which indicated that donor financing contributed very little to TVET institutions' performance (Mean = 2.28, SD = 0.94). According to the respondents, donor funding was frequently linked to certain short-term initiatives rather than the long-term viability of the organization. This result is consistent with the findings of Mutembei et al. (2024), who noted that while donor support in TVETs in Meru County greatly enhanced training resources, it was not adequately incorporated into the main institutional funding structures, resulting in gaps once donor initiatives concluded. Likewise, Indiazzi (2023) pointed out that donor support in Trans-Nzoia County frequently focused on specialized programs rather than comprehensive institutional development, which limited its wider influence on enrollment and graduate employability.

Achuodho and Piko (2024), on the other hand, found that donor-driven online training programs during the COVID-19 pandemic had a significant and immediate impact on TVET accessibility and performance, particularly in the acquisition of digital skills. These findings, however, differ somewhat from those of their study. In contrast to the more modest contribution seen in our study under typical operating settings, their findings indicated a stronger relative impact of donor help in certain crisis contexts. The current study evaluated donor money in a more comprehensive, long-term institutional performance framework, whereas Achuodho and Piko concentrated on focused e-learning interventions. This discrepancy may be the result of scope differences.

Additionally, the current results are consistent with Peters (2021), who highlighted that donor contributions work best in international contexts when combined with industry and government partnerships rather than functioning independently. Therefore, it is possible that Kenyan TVET institutions are underutilizing these collaborative frameworks, as evidenced by the study's

comparatively low donor contribution score. This suggests that policies need to be aligned so that donor contributions are carefully linked with government priorities and the private sector may increase their efficacy.

4.3.3 Self Financing

The analysis presented in this subsection reveals responses regarding the influence of Self-Financing on performance of TVET institutions in Kenya. The self-financing dimension in this study included tuition fee collection, income from production units, consultancy and partnerships, short courses, and cost-cutting measures.

The study assessed whether tuition fee collection at the institution is sufficient to support operational and developmental activities. As shown in Table 4.10, a majority of respondents expressed agreement, with 37.7% agreeing and 25.3% strongly agreeing. A smaller proportion—12.5% strongly disagreed and 6.1% disagreed while 18.5% were neutral. The mean score was 3.57 (SD = 1.27), indicating a relatively positive outlook. These results suggest that tuition fees are a significant source of internal revenue for most institutions. These findings are in line with Jane et al. 2020, findings on budgetary allocation by households through Fees payment which indicated that much of the TVET Institutions' budget was financed through fees payment.

The study ought to examine whether revenue from production units contributes significantly to financial sustainability. The results revealed a strong level of support, with 36.4% agreeing and 20.9% strongly agreeing. However, 33.3% of respondents disagreed, while 9.4% remained neutral. The mean score was 3.32 (SD = 1.35), indicating an above average level of agreement. These findings imply that production units such as workshops, farms and service centers can supplement income generation to the institution which contributes to financial sustainability. These results

resonate with findings from a study by Chukwu et al. (2019) that examined the role of production units and consultancy services within TVET institutions. The study observed that, although often underutilized or neglected, production units hold considerable potential for enhancing institutional sustainability. Specifically, such units contribute to income generation while simultaneously serving pedagogical purposes offering trainees practical, hands-on experience that aligns with industry expectations. Additionally, the study emphasized that when effectively managed, production units not only reduce dependence on government funding but also help improve graduate quality and minimize the need for retraining, particularly in technical fields where skills relevance is critical. This dual role supporting both financial and academic objectives underscores the strategic importance of investing in and strengthening production units within TVET institutions.

The study sought to find out on whether institutions effectively engage in consultancy services and partnerships to generate additional income that improves performance. The responses were more varied. About 36.7% of respondents agreed or strongly agreed, while a slightly larger group (38.4%) disagreed or strongly disagreed. A notable 24.9% of respondents remained neutral. The mean score was 2.99 (SD = 1.20), reflecting an average position. These findings suggest that some institutions have explored consultancy opportunities; however, others have not yet developed strong frameworks or networks to fully capitalize on this potential income stream. Similar patterns were observed in a case study by Jehonga et al. (2016), which examined the extent of institutional engagement with industry through industrial attachment, joint research, continuing professional development, and consultancy services. The study revealed that while a majority of institutions had established some form of collaboration, a notable lacked such partnerships, indicating that consultancy and partnership activities are far from universal. This suggests that while the potential

for generating additional income through consultancy services exists, its realization is contingent upon institutional capacity, the strength of existing industry linkages, and the ability to develop sustainable collaboration models.

The study investigated the role of income from short courses in enhancing institutional financial sustainability. A combined 59.3% of respondents agreed or strongly agreed, while 20.6% disagreed and 20.2% were neutral. The mean score was 3.55 (SD = 1.19), reflecting an above average score. These results indicate that short courses are recognized as a viable and increasingly important revenue source for institutions. These findings align with insights from a South African university of technology, where a diversified revenue model incorporating income from short courses emerged as a critical strategy for financial sustainability amid reduced government funding and uncertain student fee collection Ngcobo et al. (2024). This supports the conclusion that, even when short courses are not the sole source of revenue, they play a pivotal role in strengthening an institution's financial position.

The study assessed whether institutions implement effective cost-cutting measures to optimize resource use. A total of 44.1% of respondents agreed or strongly agreed with the statement, while 33.7% disagreed and 22.2% were neutral. The mean score was 3.08 (SD = 1.17), indicating a slightly above-average response. These results suggest that although cost-optimization practices are in place in most institutions, broader implementation and institutional readiness, especially for advanced solutions, remain uneven. These findings are mirrored by research on Malaysian public higher education institutions by Siraj (2016), which found that while many institutions have implemented short-term cost-cutting strategies like consolidating redundant departments, pursuing inter-institutional collaborations, and utilizing technology for efficiency, long-term measures, such

as strategic reviews of academic services, energy-saving investments, and optimization of facility usage, are less consistently applied.

In summary, the findings indicate that TVET institutions are making use of several self-financing strategies, particularly tuition fees and short courses, which are seen as reliable revenue streams. Income from production units also plays a supplementary role, although effectiveness varies. Consultancy services and cost-cutting measures appear to be underutilized or inconsistently applied. These findings point to the need for institutions to diversify their internal income generation efforts further and strengthen financial management strategies to enhance sustainability. This aligns with Mack (2020), who stated that self-financing efforts by institutions who offer short courses, consultancy services and other activities that generate revenue can be enhanced by adequately managed institutions.

Due to the strong associations observed among the responses to the five items, the researcher made the decision to employ a composite score approach to examine self-financing. The responses from the five items were summed to create a "self-financing scale": where strongly disagree was awarded a score of one, disagree a score of 2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5. The Cronbach's coefficient Alpha for the five items related to self-financing was .768, indicating good internal consistency. The range of the self-financing scale was 5 to 25.

Table 4.10*Distribution of Responses on Self Financing*

Self-Financing	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
Tuition fee collection rates at the institution are sufficient to support operational and developmental activities.	37	12.5	18	6.1	55	18.5	112	37.7	75	25.3	3.57	1.27
Revenue generated from production units (e.g., workshops, agricultural projects) contributes significantly to the financial sustainability of the institution.	38	12.8	61	20.5	28	9.4	108	36.4	62	20.9	3.32	1.35
The institution effectively engages in consultancy and partnerships to generate additional income and improve performance.	32	10.8	82	27.6	74	24.9	74	24.9	35	11.8	2.99	1.2
Income from short courses plays a key role in enhancing the institution's financial sustainability.	21	7.1	40	13.5	60	20.2	106	35.7	70	23.6	3.55	1.19
The institution implements effective cost-cutting measures to optimize resources and improve financial performance.	33	11.1	67	22.6	66	22.2	106	35.7	25	8.4	3.08	1.17

Respondents were asked their opinion on what additional income-generating activities that their institutions could adopt to enhance self-financing and improve overall performance. Responses were analyzed thematically and divided into four themes.

A number of respondents emphasized the utilization of existing facilities for commercial services. Respondents suggested that institutions open facilities such as workshops, garages, bakeries, or media studios to the public on a fee-paying basis. For example, driving schools, automotive repair

shops, tailoring units, and even ICT labs could provide services while offering trainees real-world practice. Making such facilities available commercially was viewed as a way to both generate income and enhance practical training.

Most respondents highlighted the importance of promoting research, innovation, and commercialization of products developed within the institutions. They suggested that institutions should establish structured research and innovation programs aimed at creating marketable products and services. These innovations, once developed, could be monetized through commercial ventures, product sales, or licensing arrangements. Some participants specifically proposed setting up innovation or incubation hubs, where individuals or start-ups could access resources and mentorship for a fee, further generating institutional revenue while supporting entrepreneurship.

The respondents also noted that expanding course offerings especially short-term, market-driven, or professional certification courses could significantly boost revenue. These could be tailored for working professionals, community groups, or industry staff seeking to upskill.

Finally, some respondents recommended that institutions could develop consultancy and outreach services in areas of technical expertise, such as industrial processes, ICT support, or education planning. By leveraging the knowledge and experience of staff, institutions could provide paid consultancy to local industries, governments, or community organizations.

Overall, the insights suggest that there is significant untapped potential in TVET institutions to generate additional income through innovation, entrepreneurship, community engagement, and better utilization of internal resources and expertise.

The results of the study show that self-financing has the biggest impact on TVET institutions' performance (Mean = 3.32, SD = 0.62). Institutions should expand into revenue-generating activities including renting out space for training or events, producing short professional certification courses, and commercializing workshops and labs for external clients in order to further strengthen this source. Workshops for carpentry workshops and auto repair, for instance, might provide the local community with furniture and repair services, bringing in money and giving students real-world experience. This method not only augments institutional finances but also improves trainees' practical skills.

The advantages of this kind of diversification were previously acknowledged by a few respondents. According to one administrator: *"we get fabrication jobs from local businesses, and students get practical experience in the process, so our welding workshop has been a steady source of income. We've begun renting our conference hall to groups for meetings and seminars, and the revenue supports our library and internet services."* These programs show how revenue-generating endeavors can immediately improve training quality and resource availability.

For TVETs situated in rural locations with adequate land, institutions could potentially create agricultural enterprises like dairy production, poultry keeping, or greenhouse farming. In addition to making money, such endeavors would provide students enrolled in agricultural courses with real-world training environments. One deputy principal remarked that: *"our poultry project has reduced our dependence on government capitation because we sell eggs to the local market and to staff on a weekly basis."* This illustrates how agriculture may promote sustainability and be integrated into the institutional income strategy.

Last but not least, industry-based partnerships may offer a steady source of income. For instance, providing customized corporate training programs or working with construction firms to create building materials could open up new markets for TVET services. *"The returns are helping us upgrade our ICT lab, and we've signed a deal with a local manufacturing firm to provide them with custom machining services,"* one official from the Ministry emphasized. These collaborations provide a win-win approach that strengthens financial independence and enhances institutional performance by fusing institutional knowledge with market need.

In the current study, with a mean score of 3.32, self-financing outperformed donor financing, government funding, and public-private partnerships as the largest contributor to TVET institutions' success. Indicators like tuition fee collection rates, production unit revenue, short course revenue, and consultancy/partnership earnings were thought to be essential for improving the financial sustainability, operational flexibility, and capacity to promptly address new training requirements of the institution. According to this research, self-generated revenue is essential to maintaining institutional effectiveness on a daily basis and investing in high-quality training facilities, in addition to serving as a supplement to outside funding.

Furthermore, these findings are consistent with those of Mack (2024), who discovered that TVET institutions that self-finance had increased organizational effectiveness and administrative autonomy, enabling them to give priority to local needs without the bureaucratic hold-ups that come with government or donor funding. Similar to this, Nganda et al. (2021) noted that self-generated money demonstrated flexibility in addressing specific institutional goals by enabling Ugandan TVET institutions to establish gender-equity-focused programs and scholarships. This argument is further supported by Mukolo (2023), who pointed out that DRC institutions that used

internally generated funding had greater success rates with business process re-engineering, which in turn led to better academic achievement.

The present results, however, differ somewhat from those of Okelo et al. (2021) and Maina (2019). While self-financing increases institutional independence, an excessive reliance on tuition fees might make access unfair for low-income students, which could lead to a decrease in enrollment, according to Maina's study conducted in Nairobi County. Similar to this, Okelo et al. (2021) warned that an aggressive self-financing strategy would cause institutions to shift their attention away from long-term curriculum development and toward short courses that generate income. Despite these disclaimers, the majority of the research and the current study agree that self-finance is still essential to TVET institutional performance and resilience when it is matched with equitable access regulations.

According to Eicker et al. (2017), self-financing strategies including commercializing training results and establishing local business partnerships greatly improve training quality and institutional sustainability in Sub-Saharan African TVETs. These results are consistent with the current study, which demonstrates that self-financing improves resource availability and student outcomes and is a key driver of TVET performance in Kenya. Both studies emphasize the need for creative revenue streams and the inadequacy of depending just on government support. While Eicker et al. (2017) also stresses systemic policy frameworks to assist self-financing at the national and regional levels, the current study concentrates primarily on locally driven, small-scale revenue production activities.

In his analysis of UK TVET regulations, Hasanah (2023) observed that when institutions are given the freedom to establish fees, create courses that are relevant to the market, and sign business

contracts, self-finance flourishes. The results of this study, which show that TVETs that make their own money through short courses and facility rentals have higher performance outcomes, are in line with the current findings. The primary distinction is that, in the Kenyan setting examined in this study, self-finance emerged as a result of insufficient state support, whereas the UK works in a more regulated and well-resourced environment.

Like the current study in the Kenyan context, Ikenga (2022) emphasized the value of a comprehensive strategy in Nigeria, where public and private organizations work together to increase TVETs' revenue-generating prospects. This argument supports the findings of the current study, which show that collaborations with business, like joint production ventures, increase income and the employability of graduates. The two research agree that skills development and self-finance work well together. However, while the results of the current study are based on institution-led initiatives within a more fragmented policy landscape, Ikenga's work places a greater emphasis on coordinated national strategy.

Strong financial management techniques, including budgeting, reinvesting excess, and accountability, have been shown to improve TVET competitiveness in Nyeri County (Kahiga et al., 2024). The current study's finding that self-finance works best when it is handled purposefully and transparently is directly supported by these previous findings. Both conclusions agree that without careful financial management, revenue production is insufficient on its own. The focus of the two studies differs, however, in the sense that Kahiga et al. (2024) looked at financial controls and governance, whereas the current study emphasizes the character and extent of income-generating activities.

In their research of Uganda's TVET system using Chinese lessons, Kidega et al. (2023) discovered that organized self-finance enhances institutional performance and promotes socioeconomic development, particularly through training-related productive firms. This was consistent with the findings of the current study, which indicated that TVETs that rely on production units (such as farms or workshops) for revenue perform better. While the Kenyan setting demonstrates more ad hoc and locally tailored efforts to enhance revenue generation, Kidega et al. (2023) lay more focus on integrating these businesses into national industrial strategies.

4.3.4 Public-Private Partnerships

This subsection presents the analysis of public-private partnerships (PPPs) in TVET institutions, focusing on their influence on performance of TVET institutions in Kenya. The analysis is based on five key indicators: the sufficient number of industry collaborations, contribution to infrastructure and equipment investment, availability of work-based learning opportunities, engagement in joint research and innovation, and the long-term sustainability of partnerships.

The study evaluated whether the institution has established a sufficient number of industry collaborations that enhance training quality and job placement for graduates. As shown in Table 4.11, more than half of the respondents expressed agreement with the statement, where 34.0% agreed and 20.2% strongly agreed. However, 21.9% disagreed, while 23.9% remained neutral. The mean score was 3.43 (SD = 1.21), indicating an above average response. These results suggest that many institutions have formed meaningful collaborations with industry that contribute to training quality and job placements. This finding aligns with broader research on TVET–industry linkages. For instance, a comparative study found that industry partnerships exert a profound impact on curriculum development, enabling educational institutions to incorporate emerging technologies and labor-market practices, which in turn makes graduates more competitive upon entering the

workforce Mariah et al. (2025) Strengthening these types of partnerships therefore appears to be a key strategy for enhancing both the relevance and effectiveness of TVET programs.

The study examined whether public-private partnerships have contributed significantly to investment in equipment and infrastructure. A total of 53.6% of the respondents agreed or strongly agreed, while 26.2% disagreed and 20.2% remained neutral. The mean score was 3.44 (SD = 1.16), suggesting an above average score. These findings reflect that PPPs have led to substantial improvements in learning facilities especially in flagship institutions benefiting from collaborations with companies like Huawei, Toyota Kenya, and others. This aligns with Edokpolor (2017) research showing that PPPs play a highly influential role in optimizing financial resources and securing modern infrastructure, thereby substantially improving TVET program delivery

The study focused on whether institutions provide work-based learning opportunities through private sector collaborations. A notable 40.7% respondents agreed and 29.6% strongly agreed. Only 19.2% disagreed, and 10.4% were neutral. The mean score was 3.72 (SD = 1.24), indicating a high score. This aligns closely with research conducted in the North Rift Region of Kenya, where industry–TVET collaborations significantly contributed to practical skill acquisition over 70% of students reported benefits in hands-on skills resulting from these partnerships, an outcome confirmed by educators and workplace supervisors (Mulati et al., 2019). These findings underscore that effective engagement between TVET institutions and industry partners is instrumental in equipping graduates with the competencies needed for the job market.

The study assessed whether joint research and development initiatives between institutions and industry partners have contributed to innovation and improved training programs. A substantial majority of respondents (69.4%) agreed or strongly agreed with the statement. Only 12.4%

expressed disagreement, and 18.2% were neutral. The mean score in this section was 3.90 (SD = 1.12), demonstrating a high score. These findings suggest that such partnerships are seen as a valuable mechanism for promoting institutional research and innovation. This aligns with research on college–industry collaborations by Njengele et al. (2024), which demonstrates that effective partnerships enable institutions to remain technologically relevant, update their curricula, and support transformative practices that benefit both students and industry stakeholders

The study examined whether public-private partnerships are sustainable and demonstrate long-term commitment. A total of 54.2% participants agreed or strongly agreed with the statement, 21.8% disagreeing, and 23.9% remaining neutral. The mean score was 3.42 (SD = 1.26), indicating an above average score. These findings suggest that many partnerships have demonstrated sustainability while some many remain project-based or time-bound. These results suggest that while many partnerships appear sustainable, some may still be short-term or project-bound. This aligns with broader evidence on PPPs implementation in education, where strong commitment and cooperative practice among all stakeholders are recognized as critical to achieving PPPs that are both effective and sustainable over time (Sajida 2023).

These findings align with evidence from Kenyan case studies which demonstrate that PPPs have significantly contributed to the upgrading of workshops, provision of modern equipment, and enhancement of practical training in TVET institutions, particularly where collaborations involve active industry partners such as manufacturing associations and multinational companies. Such initiatives have improved institutional capacity to deliver competency-based training and strengthened linkages between training curricula and industry skill demands. However, as highlighted by a national analysis of PPPs in the Kenyan TVET sector, these benefits are unevenly distributed, with flagship institutions and urban-based colleges often benefiting more than smaller

or rural institutions. Lawrence and Jane (2020) emphasized the importance of strong policy frameworks, effective coordination mechanisms, and sustained funding models to ensure that partnerships move beyond ad-hoc projects and achieve sector-wide transformation.

Similarly, a regional review by the Asian Development Bank on PPPs in education and training reported that across multiple developing countries, PPPs arrangements have enhanced infrastructure, enriched teacher training, and fostered innovation in curriculum design through direct industry participation. Yet, the report cautions that the long-term impact of these partnerships is contingent on the administrative capacity of institutions, clarity of governance structures, and the presence of enabling policies that institutionalize partnership models. Without these conditions, partnerships risk remaining short-lived and concentrated in a few high-profile institutions rather than producing equitable and sustainable improvements across the sector (Asian Development Bank, 2017). Both of these studies reinforce the need for a strategic, policy-driven approach to PPPs development in Kenya, ensuring that all categories of institutions, regardless of size or location, can benefit from such collaborations in a sustainable and scalable manner.

To analyze the public-private partnerships, the researcher reviewed the high correlations among the responses from the five items. Consequently, a summated scale called the "public-private partnerships scale" was created by summing the responses from the five items. Strongly disagree was awarded a score of one, disagree a score of 2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5. The Cronbach's coefficient Alpha for the public-private partnerships items was .823, indicating good internal consistency. The public-private partnerships scale ranged from 5 to 25.

Table 4.11*Distribution of Responses on Public-Private Partnerships*

Public-private Financing	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
The institution has established a sufficient number of industry collaborations that enhance training quality and job placement for graduates.	28	9.4	37	12.5	71	23.9	101	34	60	20.2	3.43	1.21
Public-private partnerships have contributed significantly to investment in equipment and infrastructure, improving learning facilities.	12	4	66	22.2	60	20.2	97	32.7	62	20.9	3.44	1.16
The institution provides work-based learning opportunities through private sector collaborations, enhancing students' practical skills.	26	8.8	31	10.4	31	10.4	121	40.7	88	29.6	3.72	1.24
Joint research and development initiatives between the institution and industry partners have contributed to innovation and improved training programs.	12	4	25	8.4	54	18.2	95	32	111	37.4	3.9	1.12
The institution's public-private partnerships are sustainable and demonstrate long-term commitment, ensuring continued benefits for training and institutional development.	34	11	31	10.4	71	23.9	97	32.7	64	21.5	3.42	1.26

Respondents were also asked their opinion on how they thought public-private partnerships influence TVET institutions' overall performance. Based on their responses, several thematic insights emerged on how public-private partnerships (PPPs) influence the overall performance of TVET institutions. Thematic analysis revealed that these partnerships play multifaceted roles in

enhancing institutional development, improving training quality, and aligning institutions with industry needs.

Most respondents pointed out that public-private partnerships enhance workplace integration and job market readiness. Through internships, apprenticeships, mentorships, and on-the-job training, learners are exposed to real work environments, increasing their employability and aligning training outcomes with labor market expectations. Partnerships were also seen to create structured pathways into industry sectors, providing students with practical experiences that ease the transition from school to work.

Majority of respondents emphasized that PPPs catalyze technological advancement and digital transformation in institutions. Through joint investments, equipment donations, and access to digital platforms, institutions gain access to modern tools and technologies. This has been instrumental in helping TVET colleges adopt emerging technologies, including green and digital skills training, and participate in Industry 4.0 practices. Additionally, partnerships facilitate benchmarking with global standards and encourage technological innovation within training environments.

Participants also noted the critical role of PPPs in improving curriculum development and skills alignment. Collaborations allow for the co-creation of competency-based curricula that reflect real-world demands. Private sector partners help institutions revise and update training content based on evolving industry needs. This alignment helps reduce the skills mismatch and ensures graduates are more prepared for employment. Support for soft skills training, innovation hubs, and entrepreneurship exposure further enriches the learning experience. In summary, participants

recognized PPPs as essential to enhancing TVET performance by bridging the gap between institutional capabilities and industry expectations.

According to the results of this study, public-private partnerships (PPPs) that are currently in place in the Kenyan TVET sector have supported institutional growth to a limited but growing extent. Even though some colleges have profited from working with business leaders, especially through equipment donations, internships, and the occasional co-creation of courses, these alliances are still mostly informal and infrequent. The majority of significant capital projects still rely significantly on government funding; hence PPPs have only made a little contribution to the development of infrastructure. This argument is in line with earlier research, like that of Ayieko et al. (2023), which discovered that although PPPs are conceptually supported by policy, their operationalization is hampered by inadequate legal frameworks, low levels of trust between partners, and a lack of channels for ongoing participation.

Certain collaborations have effectively implemented industry-specific modules in curriculum development to guarantee that graduates are prepared for the workforce. However, rather than being incorporated into the national TVET curriculum structure, these are frequently experimental projects funded by donors or corporate social responsibility (CSR) activities. Although there are employment links, including graduate placement programs, in industries like construction, hotels, and ICT, their reach is limited, leaving many TVET colleges without solid industry ties. This is in line with Peters (2021), who noted that countries with strong PPPs frameworks frequently incorporate industry players directly into curriculum review and governance, which is a practice that is currently uncommon in Kenya.

The study also discovered that asymmetry in expectations limits the efficacy of PPPs: public institutions need long-term commitments, whereas private partners frequently look for quick profits or branding advantages. Uncertain agreements or changing goals have caused collaborations to end in a number of occasions after their initial stages. This implies that the durability of PPPs projects is still unknown in the absence of defined frameworks, accountability provisions, and common goals. After considering the actual state of PPPs involvement in their organization, one respondent said:

"We have a partnership with a local manufacturing company, but it is not as active as we had hoped. We received some equipment from them two years ago, but there hasn't been much collaborative training or follow-up assistance. Working with local hotels has helped our hospitality program, but it's primarily for internships. There is not more in-depth cooperation on facility improvements or curricula. Although PPPs are a promising source of funding and capacity-building, there are indications that their present effects on TVET infrastructure, curriculum development, and job connections are still far from being fully realized".

The respondents were also asked about what policy frameworks are in place to promote or regulate PPPs in the TVET sector. It was noted that a number of frameworks are available in Kenya's policy environment to encourage and oversee Public-Private Partnerships (PPPs) in the TVET industry. The main piece of legislation controlling PPPs in the country is the Public Private Partnerships Act, 2021, which provides rules for project selection, contracting, procurement, and performance evaluation. The TVET Act, 2013 (as amended in 2018) specifies that TVET colleges must interact with industry stakeholders to establish curricula, improve infrastructure, and implement workplace-based learning. Furthermore, the Big Four Agenda and Kenya Vision 2030 place a

strong emphasis on industry-led partnerships for skill development, with TVETs being recognized as a crucial component in creating a skilled labor force. In order to close the skills gap and match training with labor market demands, complementary policies like the National Skills Development Policy and the Kenya National Education Sector Strategic Plan (NESSP) 2018–2022 specifically promote organized interaction between public institutions and private sector participants.

However, in reality, these frameworks frequently encounter implementation difficulties, especially when it comes to translating national policy goals into institutionally-level operational agreements. In order to properly negotiate and manage partnerships, many TVET institutions lack specialized PPPs units or legal knowledge. Additionally, even though the frameworks promote cooperation, they do not necessarily offer private partners the explicit incentives that may maintain long-term involvement, such tax discounts, intellectual property protections, or revenue-sharing arrangements. While Kenya's PPPs laws appear to be progressive on paper, sector-specific TVET adaptations are still lacking, which results in uneven implementation across countries and institutions, according to studies like Ayieko et al. (2023).

Additionally, there is a lack of regulatory control. Smaller, institution-level partnerships sometimes function without thorough monitoring or evaluation, even if national PPPs programs are supervised by the Public Private Partnerships Committee. This raises the possibility of impromptu partnerships that fall short of their goals. A more focused regulatory strategy, perhaps implemented by the TVET Authority (TVETA), could improve accountability and quality control in these interactions. The discrepancy between policy and practice was pointed up by one TVET principal as follows:

“The government says we should partner with the private sector, but there is no step-by-step guidance or even legal support when drafting agreements. We end up depending on kindness, which is unsustainable. The PPPs Act is there, but it feels too general for TVET. Something more targeted that takes into account the realities of the industry and our training requirements is required. These opinions highlight the fact that although there are policy frameworks in place to encourage PPPs in the TVET sector, solid implementation procedures, sector-specific laws, and institutional capacity building are necessary for them to be effective”.

Compared to government, donor, and self-financing, public-private partnerships (PPPs) were ranked as the least contributing source of funding overall in the current study; however, their qualitative influence on performance metrics like training quality, graduate employability, innovation, and infrastructure development was noteworthy. The PPPs dimension with the highest rating was cooperative research and development activities (Mean = 3.90), closely followed by possibilities for work-based learning (Mean = 3.72). Although there may not be much direct financial input from PPPs, their impact on curricular innovation, skills alignment with industry demands, and capacity building seemed to be substantial. In this case, PPPs serve more as strategic facilitators than as primary financiers.

These findings closely align with those of Olabiyi et al. (2022), who discovered that Nigerian TVET–industry partnerships greatly improved the employability of graduates and the provision of practical training, particularly during the COVID-19 epidemic when conventional funding sources were limited. Similar to the current study's findings on practical skill enhancement, Ayieko et al. (2023) noted in Kakamega County, Kenya, that strong industry partnerships enhanced access to modern equipment, increased internship opportunities, and facilitated curriculum modernization.

This perspective is further supported by Cai and Kosaka (2024), who contended that PPPs in TVET are most successful when they are thought of as service ecosystems as opposed to just funding channels, providing knowledge, technology transfer, and innovation support that increase the impact of already-existing institutional resources.

In contrast to the current findings, which show that PPPs ranked lowest in terms of direct financial contribution, Lim et al. (2024) showed in their review of Singapore's Skills-Future program that sustained PPPs engagement can deliver significant long-term financing alongside training collaboration. In line with the very modest financial role shown in the current study, Ikenga (2022) further highlights that PPPs in many African contexts fail to deliver sustainable finance because of poor legislative frameworks and inadequate private sector incentives. In comparison to high-performing models in other countries, the results indicate that although PPPs in the study setting excel in qualitative contributions like training quality, employability, and innovation, their potential as reliable financial contributors are still untapped.

4.3.5 Moderating effect of institutional governance on the relationship between sources of financing and performance of TVET institutions in Kenya

This subsection presents an analysis of institutional governance and its role in influencing the performance of TVET institutions in Kenya. Institutional governance was assessed using five items that explored the influence of governance structures, the presence of accountability mechanisms, stakeholder participation in decision-making, the effectiveness of policy implementation, and adherence to transparency. Each item was measured on a five-point Likert scale to determine the extent to which respondents agreed or disagreed with governance-related statements. The analysis aimed to provide insight into how governance practices shape institutional

efficiency, accountability, and responsiveness to national training objectives. The results are presented using frequencies, mean scores, and standard deviations.

The study assessed whether institutional governance has a moderate influence on the performance of TVET institutions. As shown in Table 4.12, the majority of respondents supported the statement, with 39.4% agreeing and 30.6% strongly agreeing. In contrast, 16.8% of the respondents disagreed or strongly disagreed, and 13.1% were neutral. The mean score was 3.77 (SD = 1.18), indicating a generally favorable view. These findings suggest that respondents recognize the importance of governance structures and leadership in shaping institutional outcomes such as efficiency, responsiveness, and staff performance. This is corroborated by Florah et al. (2020) research in Kenya's Nyanza region, which found that board effectiveness explains up to 62% of the variance in institutional performance, demonstrating a statistically significant and robust governance–performance link. Likewise, Mugo and Kiboss (2023) reported that transformational leadership, a governance facet, has a strong, positive influence on the quality of vocational training in youth polytechnics, reinforcing the critical role of effective leadership in institutional outcomes.

The study focused on whether effective accountability mechanisms are in place to guide institutional performance. A significant majority of the respondents (71.4%) either agreed (35.4%) or strongly agreed (36.0%) with the statement, while only 9.5% disagreed or strongly disagreed. A further 19.2% were neutral. The item recorded a mean score of 3.94 (SD = 1.07). These results indicate that accountability frameworks such as audits, performance contracts, and internal evaluation systems are generally well established and are seen as instrumental in upholding transparency and performance. Similarly, a study by Katana and Atandi (2025) focusing on TVET colleges in Kenya investigated the impact of forensic audit practices such as fraud detection, financial investigations, and risk assessments on financial accountability. While financial

mismanagement and procurement irregularities persist, the study suggests that implementing robust auditing protocols can significantly enhance accountability. However, it also acknowledges that adoption of such practices remains uneven across institutions.

The study evaluated the extent of stakeholder participation in institutional decision-making. A combined 69.4% of the respondents either agreed (35.4%) or strongly agreed (34.0%), whereas 15.8% disagreed and 14.8% were neutral. The mean score was 3.81 (SD = 1.19), suggesting that stakeholder involvement is valued and relatively well-practiced in most institutions. These findings support the notion that inclusive governance through participation of boards, industry partners, and staff can improve ownership and effectiveness of institutional policies and programs. This finding is echoed in the Ethiopian context, where a study on stakeholder engagement in TVET policy development revealed that 17% of key actors such as ministries, industry, and regional agencies were actually involved in shaping policy and strategy. The authors advocated for structured engagement mechanisms and awareness initiatives to strengthen inclusive governance (Tekle and Habtamu, 2024).

The study examined whether policies within the institution are effectively implemented and enforced. The majority of respondents (65.3%) agreed or strongly agreed, while 16.9% disagreed and 17.8% were neutral. The item recorded a mean score of 3.72 (SD = 1.22), reflecting a positive response. These results indicate that while most institutions have structured policy implementation frameworks, there may still be inconsistencies or capacity gaps that limit the full enforcement of institutional policies across departments or campuses. In line with this, Okoli et al. (2021) highlight a similar pattern in TVET institutions: despite having formal policies, effective implementation is undermined by weak political commitment, lack of enabling legislation, inadequate funding, and insufficient institutional capacity factors that hinder the translation of policy into action.

The study explored whether the institution upholds high values of transparency in its operations. This statement received the strongest positive response, with 78.8% of respondents either agreeing (39.7%) or strongly agreeing (39.1%). Only 9.1% disagreed, and 12.1% were neutral. The mean score was 4.03 (SD = 1.08), the highest in this section. These findings suggest that transparency is a highly regarded and actively practiced value in TVET institutions, and it contributes to a culture of trust and performance accountability. This finding mirrors key aspects of a study by Edokpolor and Imafidon (2019), which highlighted transparency as a critical governance principle alongside integrity and accountability central to institutional credibility and effectiveness, even when overall governance practice remains uneven. Thus, across diverse contexts, transparency consistently emerges as essential for reinforcing trust and enabling effective institutional performance.

In summary, the findings indicate that institutional governance is widely recognized as a key enabler of performance in TVET institutions. The presence of accountability systems, inclusive stakeholder engagement, effective policy enforcement, and operational transparency are seen as critical components of governance. These results highlight the importance of strengthening governance frameworks to support institutional development, enhance service delivery, and align with national TVET reform goals. This aligns closely with Mange (2021), whose analysis of TVET colleges reveals that good corporate governance encompassing integrity, accountability, transparency, and fair governance practices is foundational for institutional performance. The study underscores that, despite existing challenges such as fund misappropriation and weak leadership, implementing governance codes and developing institutional governance guidelines can reinforce equitable treatment, enhance accountability, and invigorate TVET performance.

To analyze the Moderating effect of institutional governance, the researcher reviewed the high correlations among the responses from the five items. Consequently, a summated scale called the "Moderating effect of institutional governance scale" was created by summing the responses from the five items where strongly disagree was awarded a score of one, disagree a score of 2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5. The Cronbach's coefficient Alpha for the Moderating effect of institutional governance items was .833, indicating good internal consistency. The scale ranged from 5 to 25.

Table 4.12

Distribution of Responses Moderating effect of institutional governance

Moderating effect of institutional governance	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
The institution's leadership effectiveness ensures that financial resources are well managed to improve overall performance.	20	6.7	30	10.1	39	13.1	117	39.4	91	30.6	3.77	1.18
Strong accountability mechanisms are in place to track and ensure the proper utilization of funds from various financing sources.	13	4.4	15	5.1	57	19.2	105	35.4	107	36	3.94	1.07
Stakeholder participation, including input from government, private sector, and donors, enhances the effective use of financial resources in the institution.	19	6.4	28	9.4	44	14.8	105	35.4	101	34	3.81	1.19
Effective policy implementation within the institution strengthens the impact of financing sources on institutional performance.	24	8.1	26	8.8	53	17.8	100	33.7	94	31.6	3.72	1.22
High levels of transparency in financial management positively influence the relationship between funding sources and the institution's success.	17	5.7	10	3.4	36	12.1	118	39.7	116	39.1	4.03	1.08

In respect to item 15 of the questionnaire, respondents were asked to give their opinions regarding how institutional governance can be optimized to enhance the impact of financing on the performance of TVET institutions. Several key themes emerged. These themes focus on promoting accountability, ensuring transparency, strengthening financial oversight, and improving leadership capacity.

Most respondents emphasized the importance of accountability and transparency in the management of institutional finances. Participants noted that fighting corruption and enforcing strict procurement processes are vital measures that ensure resources are used effectively and in line with institutional priorities. Transparent use of funds not only improves stakeholder confidence but also ensures that financial support leads to tangible improvements in training and infrastructure.

Additionally, there was a strong call for capacity building of institutional leadership and management teams, particularly in areas of financial planning, budgeting, and institutional development. Training programs in financial governance, monitoring and evaluation, and strategic planning were identified as necessary interventions to enhance managerial competence, which in turn would lead to more impactful use of funding.

The management and use of funding in TVET institutions is greatly influenced by institutional governance frameworks. The procedures of decision-making, priorities for allocation, and accountability systems that affect how effectively financial resources are used to enhance infrastructure, training quality, and student outcomes are determined by governance. Clear governance hierarchies, effective boards of management, and open financial policies are characteristics of institutions that strategically deploy resources, coordinating expenditures with

their performance goals and strategic plans. On the other hand, ineffective governance frameworks sometimes lead to disjointed budgeting, lengthy financial distribution periods, and a mismatch between institutional priorities and resource allocation.

Financing outcomes are also influenced by the degree of autonomy given to TVET colleges. Organizations that have more control over their spending plans and sources of income are better equipped to adapt to changing demands, such modernizing training tools or expanding their programs in fields with strong demand. On the other hand, highly centralized governance can impede decision-making, particularly when government bureaucracy is involved in the approval procedures for expenditures. According to research by Kahiga et al. (2024), governance systems that prioritize participatory budgeting, frequent audits, and stakeholder engagement, including feedback from alumni networks and industry partners, have a strong correlation with efficient financial management at TVETs.

In governance structures, accountability and transparency also influence the effect of funding. Organizations are better equipped to prevent poor management or resource waste when they have robust internal auditing, transparent procurement policies, and regular financial reporting. On the other hand, there is a greater chance that money will be wasted on administrative overheads rather than essential training activities in areas with less government supervision. Performance gains may be restricted in these situations, even when funding levels are sufficient. One deputy principal had the following to observe:

“Money is allocated where it matters most, such as on workshops and student support services, if the board of management is involved and aware of our training objectives. Ineffective governance, however, causes funds to be invested in

pointless ventures. The leadership's vision and the degree to which they involve personnel in budget planning determine how successfully we can use finances. Without it, even well-funded projects cannot produce positive outcomes”.

These observations serve as further evidence that funding in TVET institutions involves more than just the quantity of funds available; it also involves the governance frameworks that determine how those funds are allocated. Regarding how leadership, transparency, and stakeholder involvement impact institutional performance, the respondents had varied views. In TVET institutions, stakeholder involvement, leadership, and transparency are important factors that influence institutional performance. Effective leadership creates a culture of accountability and creativity, guarantees that resources are in line with institutional objectives, and offers strategic direction. Building trust between employees, students, and outside partners through transparent decision-making processes, especially in budgeting, procurement, and performance evaluation, helps to minimize conflicts and increase group commitment to institutional goals. Institutions gain from varied viewpoints, more robust collaborations, and programs that are more sensitive to the demands of the labour market when stakeholders such as tutors, students, industry partners, and the community are actively involved in planning and evaluation.

These components function best when combined. For instance, policies and programs that are widely supported and successfully implemented are more likely to be developed by dedicated leadership that values openness and promotes stakeholder input. Performance is eventually hampered by poor leadership, unclear procedures, and low stakeholder participation, which can lead to misplaced priorities, wasteful resource utilization, and low morale. Effective leadership essentially establishes the vision, transparency fosters trust, and stakeholder involvement

guarantees relevance—all of which work together to create a basis for long-term improvements in TVET institutional outcomes.

The performance of TVET institutions in Kenya and funding sources were found to be strongly moderated by institutional governance in the current study. Transparency in financial management received the highest rating (Mean = 4.03), followed by accountability procedures (Mean = 3.94). Stakeholder participation (Mean = 3.81) and leadership effectiveness (Mean = 3.77) were also highly evaluated, suggesting that governance structures are essential to ensuring that government, donor, self-financing, and PPPs finances are used efficiently to enhance institutional performance. These findings imply that when governance frameworks prioritize transparency, responsibility, stakeholder participation, and efficient policy implementation, the influence of funding sources is increased.

Moreover, this study's results are consistent with those of Mutembei et al. (2024), who discovered that strong governance procedures and leadership commitment had a direct impact on the efficient use of teaching-learning resources, which improved graduate employability in Meru County. Similarly, Indiazzi (2023) highlighted governance as a multiplier of finance effectiveness by highlighting how governance components including transparency, policy enforcement, and stakeholder involvement greatly increased student participation rates in technical training institutions. Regardless of the financing source, Peters (2021) also noted that in international environments, the effectiveness of governance, particularly in terms of accountability and transparency, was a critical component in the success of VET providers.

The current findings, however, somewhat deviated from those of Achuodho and Piko (2024), who observed that many Kenyan TVET institutions' governance systems were not sufficiently

adaptable during the COVID-19 epidemic, which resulted in inefficient use of funds for online training. This stands in contrast to the current study's comparatively high governance evaluations. However, both studies concur that institutional governance can either increase or decrease the efficacy of funding sources; the distinction is in how strong and adaptable governance mechanisms are to new challenges. Overall, the data from previous and ongoing research supports the idea that governance is a crucial facilitator of financial influence on institutional performance rather than just an administrative task.

4.3.6 Performance of TVET Institutions in Kenya

The responses on the overall performance of TVET institutions was analyzed. The performance indicators assessed included institutional efficiency, quality of training delivery, graduate employability, innovation in program implementation, and responsiveness to industry needs. Each item was rated using a five-point Likert scale, and the results are summarized through frequencies, mean scores, and standard deviations. This analysis serves to establish the general performance profile of TVET institutions and forms the basis for examining how various financing sources and governance mechanisms influence institutional outcomes.

The study assessed whether TVET institutions in Kenya have experienced increased student enrollment over the years. As indicated in Table 4.12, a significant majority of respondents (77.1%) either agreed (40.7%) or strongly agreed (36.4%) with the statement. Only 14.9% disagreed or strongly disagreed, while 8.1% remained neutral. The item recorded a high mean score of 3.90 (SD = 1.21), suggesting that most institutions have witnessed positive trends in enrollment. This growth may be attributed to enhanced access initiatives, government-sponsored financial support, and increased demand for technical skills in the labor market. These perceptions are substantiated by national data: public TVET enrollment rose from 297,505 in 2021/22 to

406,649 in 2023/24, a notable 36.7% increase with drivers including new and expanded institutions, boosted funding, and distance learning models according to Education News (2024). Furthermore, between 2018 and 2023, enrollment in technical colleges grew from 217,440 to 265,095, the largest upward swing in five years underscoring a sustained upward trajectory in TVET participation nationwide (National Commission for Science, Technology and Innovation [NACOSTI], 2023).

The study evaluated whether there has been an improvement in graduation rates. A combined 72.7% of respondents agreed or strongly agreed, while 15.5% disagreed and 11.8% were neutral. The mean score was 3.78 (SD = 1.14), reflecting favorable perceptions. These findings imply that institutions are not only enrolling more students but are also increasingly successful in retaining them through to completion, possibly due to strengthened academic support systems, improved training quality, and targeted student services. Comparable trends are visible in a recent study of Kenya's TVET system, which reports that national polytechnics have adopted regular graduation cycles often with annual ceremonies and large numbers of graduates whereas other TVET institutions graduate less frequently, often due to constraints in institutional capacity and organizational processes (Mujuri & Kathomi 2025)

The study explored whether the institution produces employable graduates due to the quality of training provided. This item received one of the highest levels of agreement, with 74.4% of respondents agreeing (43.8%) or strongly agreeing (30.6%). A relatively small portion, 11.1% disagreed or strongly disagreed, and 14.5% were neutral. The mean score was 3.89 (SD = 1.08). These results suggest that stakeholders are confident in the relevance and effectiveness of the training programs offered, which aligns with national TVET reforms focused on competency-based education and industry responsiveness. This is supported by Mujuri and Kathomi's (2025)

findings, which show that Kenyan youth with a TVET background have markedly improved employment prospects relative to their peers without such training, largely due to the acquisition of practical, industry-relevant competencies and the strengthening of work-readiness skills. Their research underscores that the combination of technical proficiency and soft skills cultivated through competency-based training equips graduates to meet labor market demands more effectively, thereby enhancing both individual career outcomes and broader economic productivity.

The study addressed whether the quality of training has improved significantly. While 58.9% of respondents agreed or strongly agreed, a notable proportion 24.9% disagreed, and 16.2% remained neutral. The mean score was 3.53 (SD = 1.30), indicating a moderately positive outlook. The mixed responses suggest that although many institutions have improved training standards, others may still face challenges such as outdated curricula, limited equipment, or insufficient instructor development. This perspective is supported by findings from a TVET research study by Habler and Haseloff (2022), which showed that robust instructional design processes when thoughtfully implemented can enhance training quality. This underscores the importance of investing in pedagogical systems that align with competency-based frameworks to ensure consistent improvements across TVET institutions.

The study assessed whether the institution meets required accreditation standards. A majority of respondents (61.6%) either agreed (30.0%) or strongly agreed (31.6%) with the statement. However, 21.2% disagreed or strongly disagreed, and 17.2% were neutral. The item had a mean score of 3.62 (SD = 1.30), reflecting generally positive views with some reservations. These findings imply that while many institutions strive to maintain accreditation and quality assurance, gaps may still exist in meeting certain regulatory or infrastructural benchmarks. This aligns with

the structure provided by the Kenya National TVET Quality Assurance Framework, which establishes processes for institutional and program accreditation, inspections, curriculum review, and trainer registration. While the framework is intended to standardize and elevate quality, its effective implementation likely varies across institutions, explaining the mixed perceptions observed (Reinsch & Nyangweta 2023)

The findings indicate that TVET institutions in Kenya are performing well in key areas such as student enrollment, graduation rates, and employability outcomes. While improvements in training quality and accreditation compliance are recognized, continued efforts are needed to ensure uniform progress across institutions. Strengthening internal quality assurance systems, enhancing curriculum relevance, and expanding industry linkages will be critical to sustaining and elevating institutional performance. Waweru and Njoroge (2023), found out that revitalizing the performance of Kenyan TVET institutions requires targeted reforms, including strengthening governance structures, aligning training programs with labor market demands, and enhancing the public image of institutions to attract more students. Likewise, Nyaga et al. (2022), in a multi-country study on quality assurance in workplace-based TVET and industrial attachments, emphasized that sustained improvements in employability and institutional credibility are contingent on robust internal quality mechanisms, closer industry partnerships, and continuous curriculum review. These studies underscore that institutional performance gains are best achieved through a holistic approach that couples quality assurance with industry engagement and strategic capacity building.

The researcher reviewed the high correlations among the responses from the five items of Performance of TVET Institutions. Additionally, a summated scale called the " Performance of TVET Institutions scale": where strongly disagree was awarded a score of one, disagree a score of

2, neutral a score of 3, agree a score of 4 and strongly agree a score of 5 was created by summing the responses from the five items. The Cronbach's coefficient Alpha for the Performance of TVET Institutions items was .868, indicating good internal consistency. The scale ranged from 5 to 25.

Table 4.13

Distribution of Responses on Performance of TVET Institutions in Kenya

Performance of TVET Institutions in Kenya	SD		D		N		A		SA		Mean	SD
	N	%	N	%	N	%	N	%	N	%		
Adequate financing sources have contributed to increased student enrollment rates at the institution.	26	8.8	18	6.1	24	8.1	121	40.7	108	36.4	3.9	1.21
The availability of financial resources has led to improved graduation rates among students.	20	6.7	26	8.8	35	11.8	134	45.1	82	27.6	3.78	1.14
The institution's financing sources have significantly enhanced the employability of graduates by supporting quality training programs.	16	5.4	17	5.7	43	14.5	130	43.8	91	30.6	3.89	1.08
Funding from various sources has played a crucial role in improving the quality of training facilities such as classrooms, workshops, and laboratories.	27	9.1	47	16	48	16.2	91	30.6	84	28.3	3.53	1.3
Sufficient financial support ensures that the institution meets the required accreditation and compliance standards set by regulatory bodies.	29	9.8	34	11	51	17.2	89	30	94	31.6	3.62	1.3

The results of the current study show that sufficient funding sources have improved TVET institutions' overall performance in Kenya, especially in terms of raising student enrollment (Mean = 3.90), raising graduation rates (Mean = 3.78), and improving graduate employability through high-quality training programs (Mean = 3.89). Better training facilities (Mean = 3.53) and

adherence to certification requirements (Mean = 3.62) have also been facilitated by funding. These findings demonstrate a robust perceived relationship between financial resources and key performance outcomes, highlighting the vital role that various financing sources play in bolstering institutional production and capacity. In regard to item 16 of the questionnaire, Respondents were asked to state their opinions on what factors contributed to the overall performance of the institution and how these could be improved. Several recurring themes were identified as key factors influencing the overall performance of TVET institutions.

A key theme that emerged was adequate and timely funding. Many respondents emphasized the importance of increased budget allocations and financial support from both government and development partners. Timely disbursement of funds was also seen as crucial in facilitating uninterrupted operations and supporting essential activities such as infrastructure development, procurement of learning materials, and staff remuneration. Furthermore, prudent and strategic use of financial resources, including prioritization of institutional projects, was highlighted as a way to enhance operational efficiency and maximize returns on investment.

The importance of investment in infrastructure and modern technologies was another dominant theme. Respondents pointed out that the availability of functional workshops, digital platforms, and up-to-date equipment plays a central role in the delivery of quality, hands-on training. Institutions that are well-equipped are better positioned to prepare learners for the demands of the modern job market.

According to the respondents, the most reliable performance indicators in TVET institutions relate to combining quantitative and qualitative indicators that together show how well the organization is performing its mission. Enrollment rates, which show how well the institution can attract

students, graduation rates, which show how well students complete their programs, and the employability of graduates, which shows how well and relevant training is in meeting the demands of the labour market, are important quantitative indicators. These metrics give a clear picture of how successfully the institution fulfills its main objective, which is to prepare competent employees for the workforce.

Furthermore, because training facilities like workshops, labs, and classrooms affect the learning environment and the acquisition of practical skills, their quality is a crucial performance measure. In order to ensure that an institution satisfies national and international quality standards, accreditation and regulatory compliance are equally crucial. Good accreditation status is frequently maintained by institutions with good curricula, skilled faculty, and efficient administration systems, with all these leading to improved performance.

Qualitative aspects are also very important. Deeper insights into institutional success can be gained, for example, from business partnerships, student satisfaction, and the capacity to adapt courses in response to changing economic and technological trends. These metrics show how sensitive the college is to the demands of students and the market, which is essential for success and relevance over the long run. The following was observed by one principal:

“The ultimate test is employability. If our graduates can find employment or launch their own businesses, it shows we are doing our job right. However, we need modern facilities, which can only be possible if we have adequate finances. Even the best instructors cannot provide high-quality training without modern facilities.”

These perspectives support the idea that performance evaluation in TVET must take into account the larger context of training quality and market relevance, even when statistics only provide a portion of the picture.

Regarding the policy or operational reforms that would improve financing mechanisms and governance in the TVET sector, the respondents had varied views. This included putting in place more decentralized financial management systems that provide institutions more control over budget allocation and utilization in order to enhance finance mechanisms and governance in the TVET sector. Instead of waiting for central government clearances, which frequently cause delays, TVET institutions would be able to respond more swiftly and efficiently to their specific operating needs, such as extending course programs or replacing equipment. Furthermore, by directly linking funds to quantifiable performance indicators, performance-based funding models might encourage institutions to enhance outcomes like graduation rates and graduate employment.

Regarding governance, there was need for strengthening frameworks for accountability and transparency by requiring frequent financial audits, budget and expenditure disclosure to the public, and strong monitoring and evaluation systems. This will guarantee that resources are allocated to priority areas that improve training quality and help prevent financial mismanagement. Furthermore, policy relevance and institutional responsiveness can be enhanced by promoting inclusive governance systems that actively involve stakeholders in decision-making, including local communities, student organizations, and industry representatives. By ensuring that TVET programs are in line with community and labour market demands, this kind of interaction raises the sector's overall efficacy. One government official from the Ministry of Education had the following opinions:

“Giving organizations financial autonomy supported by transparent accountability guidelines would expedite decision-making and boost productivity. Designing programs that genuinely result in employment is made easier when industry and students are involved in governance”.

These findings demonstrate that increasing the sustainability and impact of the TVET sector requires a combination of strong governance, budgetary flexibility, and stakeholder participation. These results are consistent with those of Ayieko et al. (2023), who showed that training quality and graduate employability in TVET institutions in Kakamega County were greatly enhanced by strong partnerships and industrial collaborations. Similarly, Mutembei et al. (2024) discovered in their study in Meru County that appropriate teaching-learning resources—which frequently rely on adequate funding—are essential for giving TVET graduates skills that are relevant to the market and improving their employment opportunities. Olabiyi et al. (2022) also noted that, in spite of financial difficulties, public-private partnerships in Nigeria during the COVID-19 epidemic supported student learning outcomes by preserving and enhancing training quality.

A more integrated and strategic approach to maintaining TVET performance beyond immediate financial inputs was demonstrated by lifelong learning and government-led funding models in the review by Lim et al. (2024) on Singapore's Skills Future initiative, which somewhat differs from the current findings. Additionally, Peters (2021) pointed out that in more developed markets like Australia and Germany, systemic elements like robust regulatory frameworks and industry involvement influence TVET performance in addition to financing levels. According to Ikenga (2022), in order to maximize TVET results in Nigeria, a comprehensive strategy integrating institutional, financial, and community aspects was recommended. According to cross-country comparisons, the effectiveness of funding is increased when paired with systematic policy and

partnership frameworks, even though the Kenyan context clearly demonstrated the beneficial influence of funding on TVET performance.

4.4 Preliminary Analysis

An initial examination to confirm the assumption of normality, linearity, multicollinearity and homoscedasticity was not violated, was carried out. This was necessary so as to meet the requirements of performing regression analysis, which would be used for hypothesis testing.

4.4.1 Test of Normality

After conducting a Shapiro-Wilk's test (with a P-value $> .05$) and visually analyzing the histograms, normal Q-Q graphs, and box plots, financial performance data was noted to follow an approximately normal distribution. The data displayed a skewness of $-.007$ (S.E = $.141$) and a kurtosis of $-.137$ (S.E = $.282$).

In addition to visual examinations of histograms, Q-Q plots, and box plots, the Shapiro-Wilk test result with a p-value greater than 0.05 suggests that the financial performance data was normally distributed. The data appeared to be symmetrical, as indicated by the skewness value of -0.007 , which is very close to zero, and the kurtosis of -0.137 , which is also near zero and suggests a distribution with tails that resemble a normal distribution. These findings have important implications for the statistical analysis of the study since parametric tests, which typically have higher statistical power and validity, can be used because of the normality assumption.

Additionally, it guaranteed that the results of financial performance regression or correlation analysis were more reliable and broadly applicable. Further details can be found in Tables 4.14 and 4.15, as well as Figures 4.1, 4.2, and 4.3.

Descriptive Test of Normality.

The skewness and kurtosis statistics suggest no significant deviation from normality. The Z-values for skewness and kurtosis are -.0496 and -.486 respectively, falling within the range of -1.96 to 1.96 (as shown in Table 4.14). These Z-scores are obtained by dividing the skewness and kurtosis statistics by their respective standard errors. Thus, the performance of TVET institutions data can be regarded as normally distributed in relation to skewness and kurtosis.

Table 4.14

Financial Performance Test of Normality: Descriptive statistics

			Statistic	Std. Error
Performance of TVET institutions	Mean		16.9865	.17058
	95% Confidence Interval for Mean	Lower Bound	16.6508	
		Upper Bound	17.3222	
	5% Trimmed Mean		16.9850	
	Median		17.0000	
	Variance		8.642	
	Std. Deviation		2.93968	
	Minimum		9.00	
	Maximum		25.00	
	Range		16.00	
	Interquartile Range		4.00	
	Skewness		-.007	.141
	Kurtosis		-.137	.282

Shapiro-Wilk Test of Normality

The Shapiro-Wilk test is used to assess whether data follows a normal distribution, with the null hypothesis stating that it does. As shown in Table 4.15, the resulting p-value exceeds .05, meaning there is insufficient evidence to reject the null hypothesis. This suggests that the financial performance data is approximately normally distributed. The findings of the normality tests for TVET institutions' performance were contradictory: the Shapiro-Wilk test was not significant ($p = 0.65$), indicating that the data was normally distributed, while the Kolmogorov-Smirnov test was significant ($p = 0.070$), indicating normalcy. This suggested that parametric statistical techniques could be used effectively to analyze TVET institutions' performance, increasing the study's inferential tests' validity and robustness.

Table 4.15

Tests of Normality

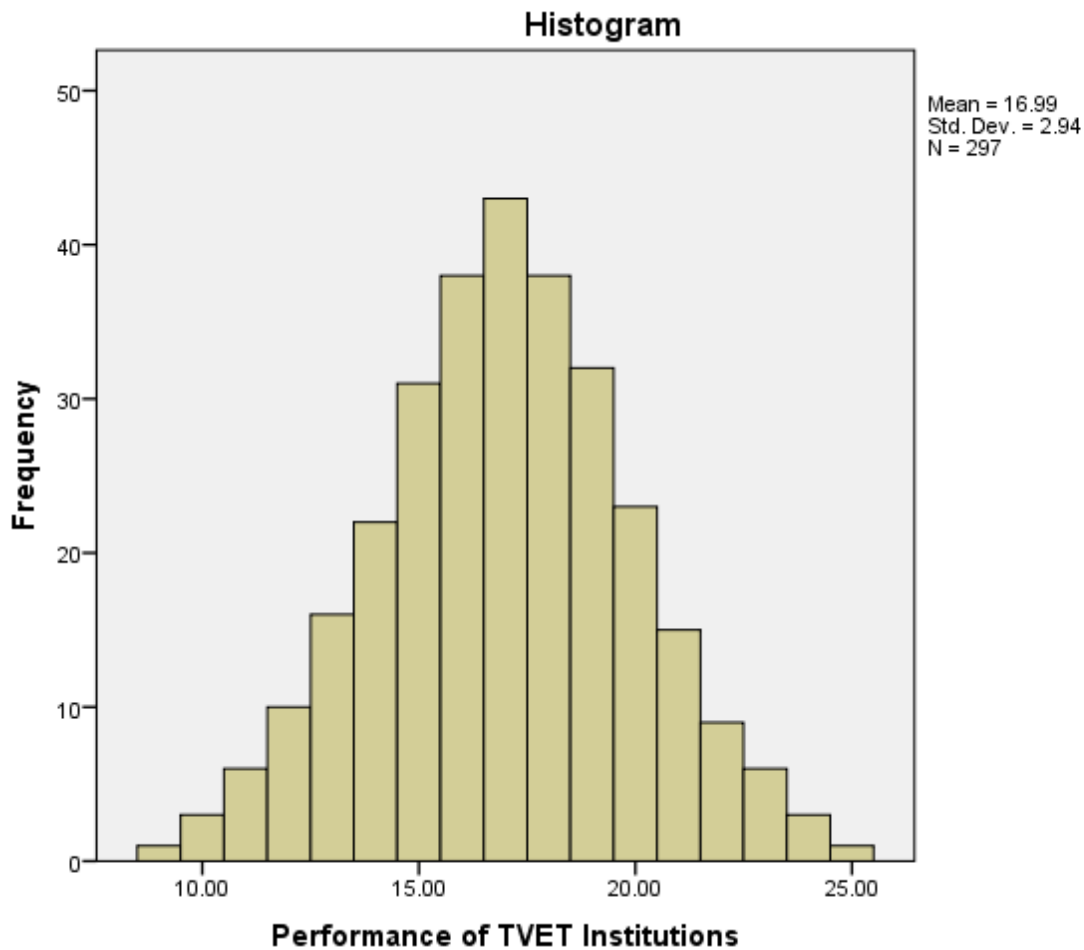
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Performance of TVET institutions	.074	297	.070	.989	297	0.65

Distribution of Financial Performance Scores: Histogram

Figure 4.1 suggests that the performance data of TVET institutions is approximately normally distributed. This is evident from the concentration of most values around the central point, with fewer observations appearing at the lower and upper ends. As such, the histogram indicates that the distribution of performance approximately depicts a normal distribution.

Figure 4.1

Performance of TVET Institutions Scores Histogram

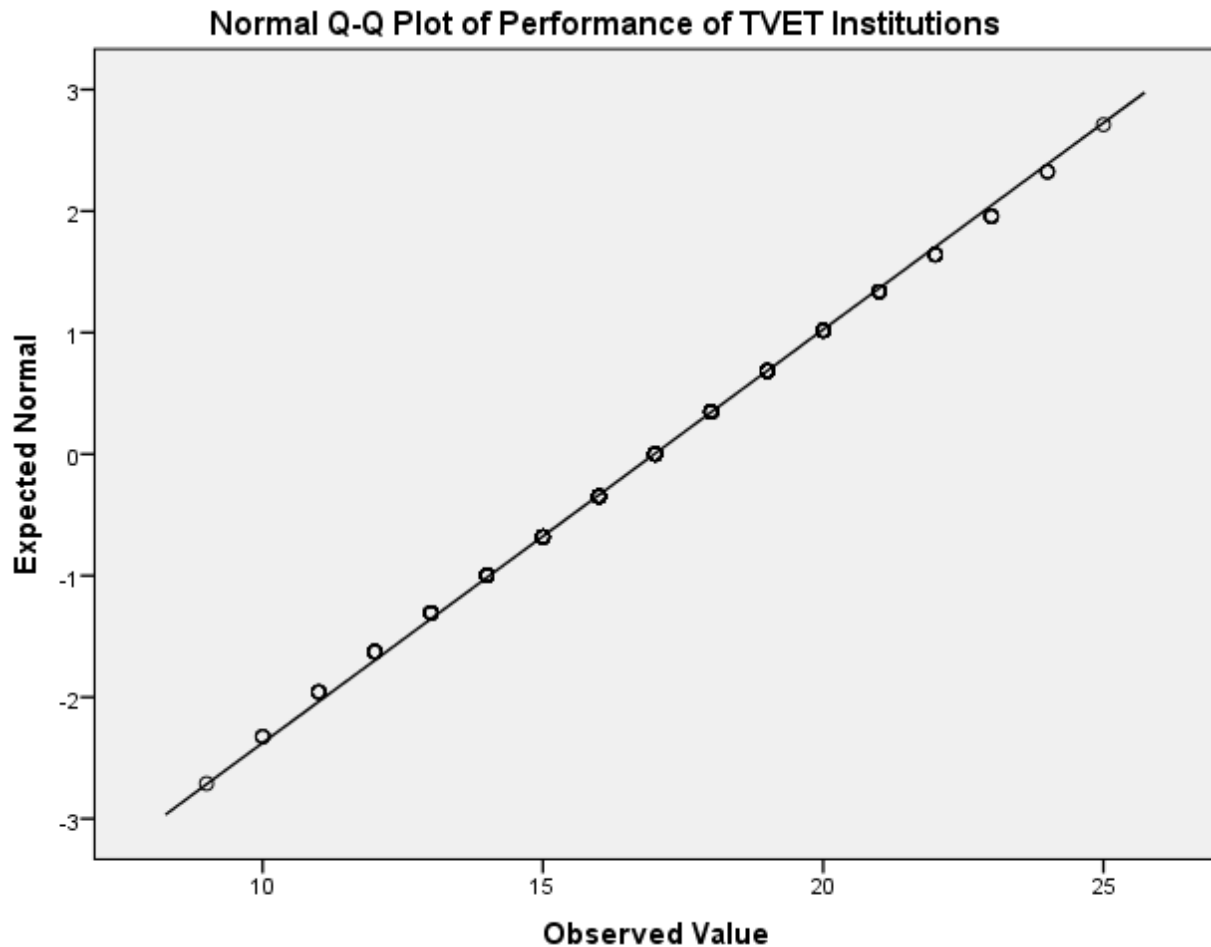


Q – Q Plot for Financial Performance Scores

Figure 4.2 demonstrates that the data points in the normal Q–Q plot are along a line, suggesting that the performance data of TVET institutions is approximately normally distributed. Therefore, the alignment of the points in the plot provides further evidence supporting the assumption of normality.

Figure 4.2

Performance of TVET Institution Scores Normal Q – Q Plot

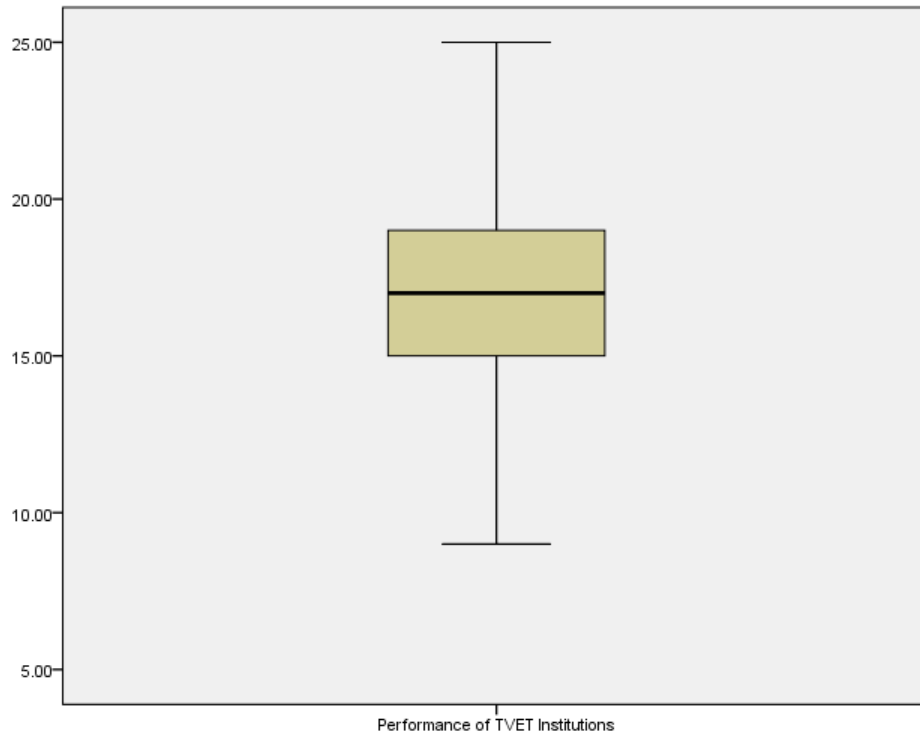


Box Plots for Performance of TVET Institutions Score

The box plots are approximately symmetrical indicating the data on performance of TVET institutions is approximately normally distributed (Figure 4.3). Hence, in terms of the box plots, the performance data is approximately normally distributed.

Figure 4.3

Performance of TVET institutions scores Normal Box Plot



4.4.2 Linearity Tests

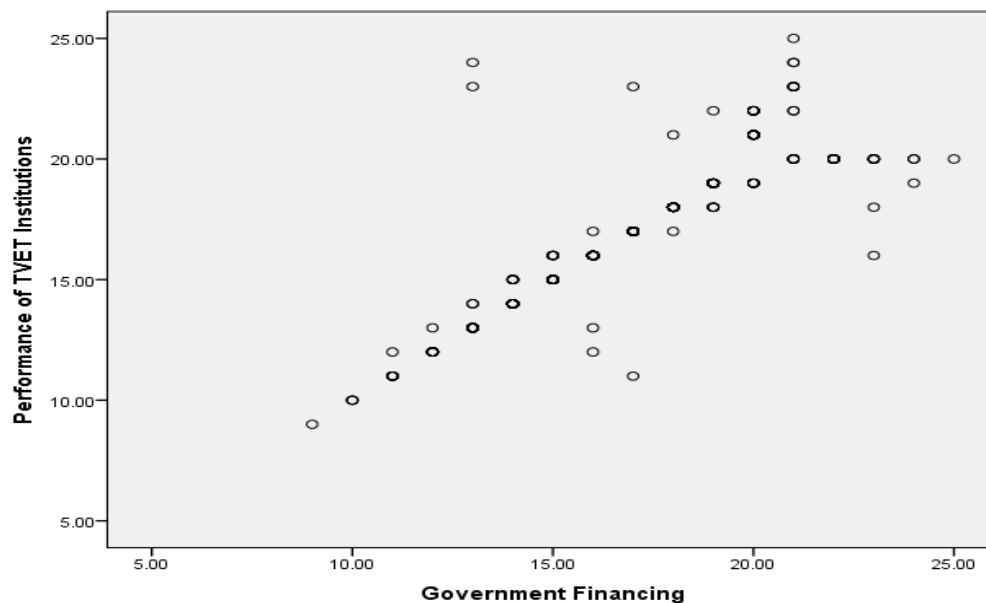
Scatter plots were employed to assess the presence of any potential non-linear relationships between performance of TVET institutions and each of the four independent variables.

Scatter Plot Performance of TVET institutions and Government Financing

The scatter plot in figure 4.4 indicates a clear linear relationship between government financing and the performance of TVET institutions since the data points display a clear upward trend indicating a positive linear association. Therefore, the assumption of linearity was satisfied.

Figure 4.4

Scatter Plot for Performance of TVET Institutions and Government Financing



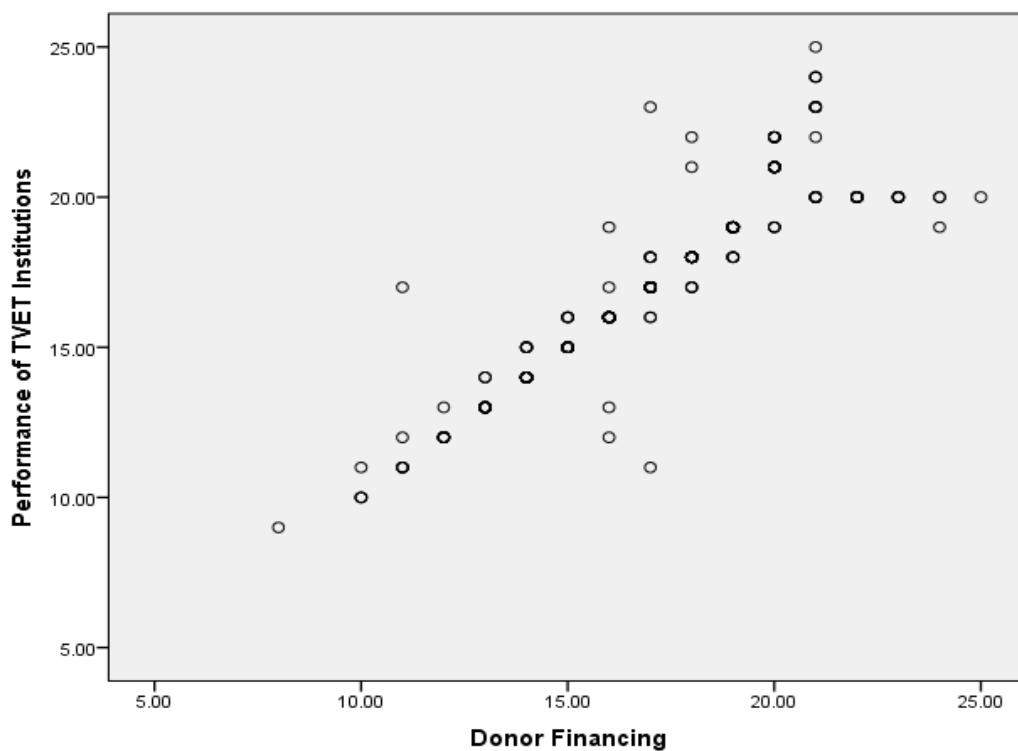
Scatter Plot Performance of TVET institutions and Donor Financing

A scatter plot was used to assess the linearity between donor financing and the performance of TVET institutions. As shown in figure 4.5, the distribution of data points generally follows an upward trend, suggesting a positive linear relationship. Institutions receiving higher levels of donor funding tend to exhibit better performance outcomes. A positive linear association between the variables under investigation was indicated by the scatter plot's finding that data points typically

followed an upward trend. This indicated that the performance of TVET institutions, the dependent variable, tends to improve when the independent variable or variables, such as funding sources, increase. The study's implications are noteworthy because they strengthen the idea that financing sources have a favourable impact on performance by indicating that higher financing levels are linked to improved institutional outcomes. This visual proof supports the application of regression and correlation analysis to measure the magnitude and importance of this relationship, laying the groundwork for inferences regarding the influence of financial inputs on TVET institutional performance.

Figure 4.5

Scatter Plot for Performance of TVET Institutions and Donor Financing

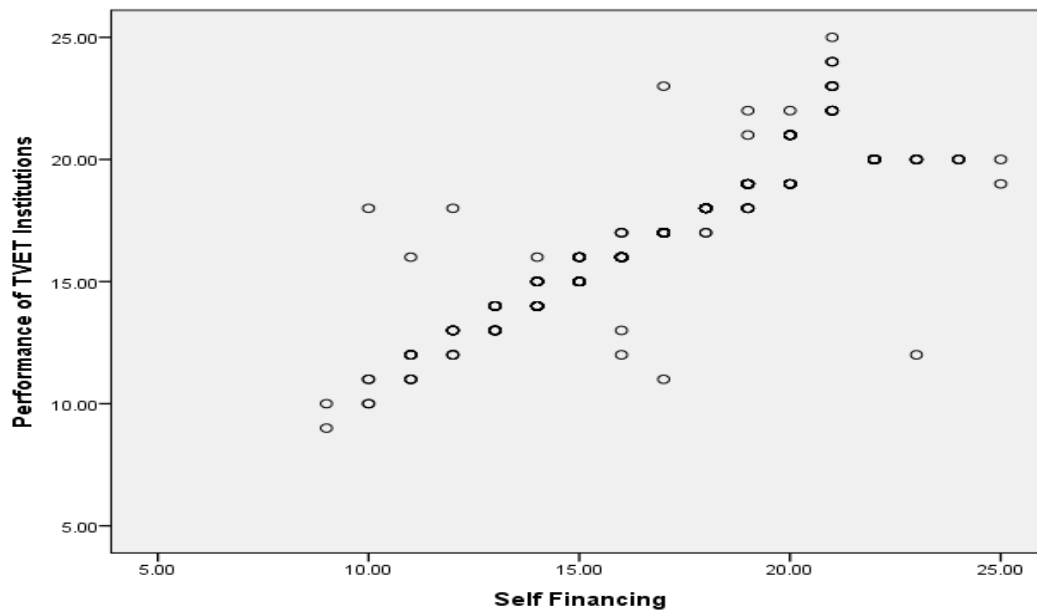


Scatter Plot Performance of TVET institutions and Self Financing

The visual representation of the scatter plot in figure 4.6 reveals a positive linear pattern, where increases in self-generated income are associated with improved performance. The spread of points is relatively consistent around an implied upward trend pattern. The scatter plot, which shows a positive linear pattern, suggests that TVET institutions' performance tends to improve in tandem with a rise in self-generated income. With minimal outliers or anomalies, the steady distribution of data points around the rising trend alluded to a solid and reliable relationship between these variables. This research suggests that self-financing is a major factor in improving institutional outcomes, supporting the notion that funds raised internally lead to better facilities, resources, and eventually higher student achievement. This validates the inclusion of self-finance as a significant predictor variable in the study and supports additional statistical analysis to measure its effect on performance. This further supports the assumption that self-financing has a linear influence on performance.

Figure 4.6

Scatter Plot for Performance of TVET Institutions and Self Financing

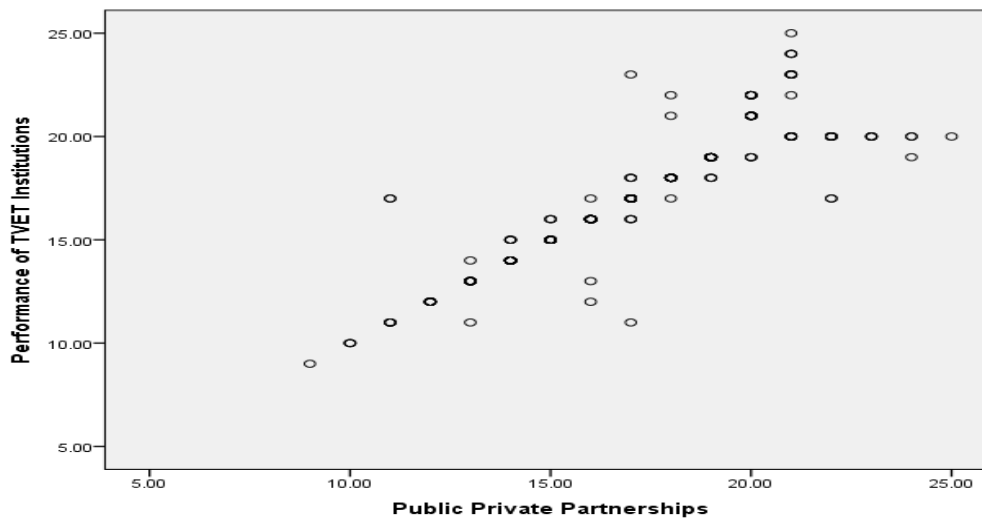


Scatter Plot Performance of TVET institutions and Public-Private Partnerships

A visual inspection of figure 4.7 shows that the data points align closely with a linear trend, indicating the linearity assumption is met. Institutions that reported stronger or more numerous partnerships with industry stakeholders tend to perform better.

Figure 4.7

Scatter Plot for Performance of TVET Institutions and Public Private Partnerships

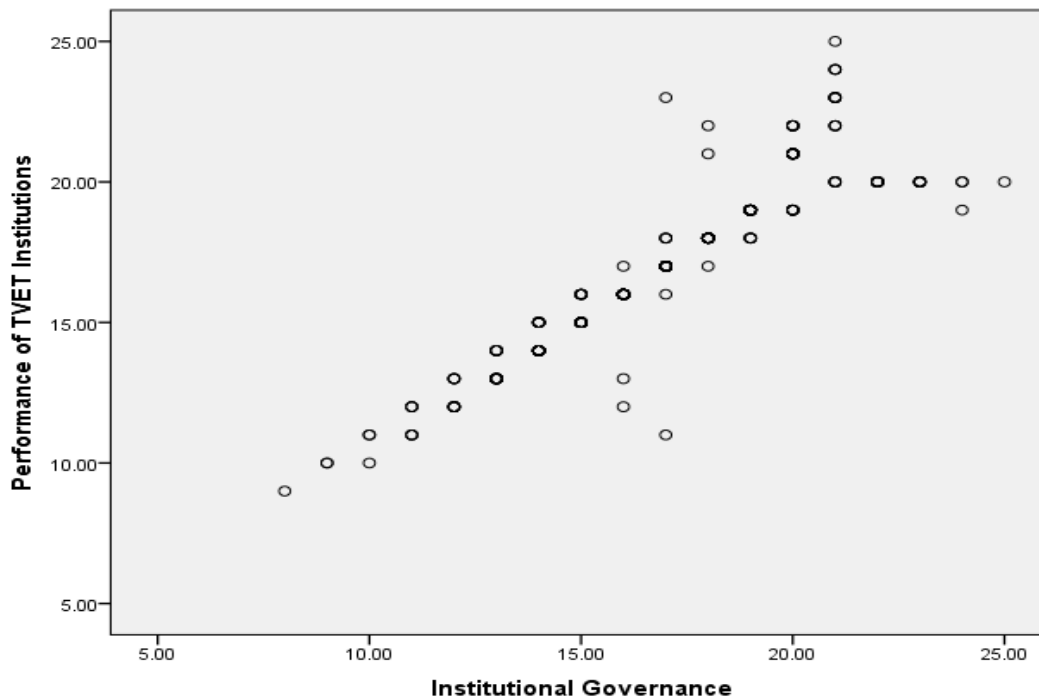


Scatter Plot Performance of TVET institutions and Institutional Governance

Visual inspection of Figure 4.8 suggests that the linearity assumption is met since, a considerable number of data points form a straight line. Hence, in regard to the relationship between Institutional Governance and performance of TVET institutions, linearity assumption was met.

Figure 4.8

Scatter Plot for Performance of TVET Institutions and Institutional Governance



4.4.3 Multicollinearity Tests

To assess whether there was multicollinearity, the variance inflation factor (VIF) and the condition index were utilized. The test for multicollinearity revealed a relatively low degree of multicollinearity, which implied that the study's independent variables (government financing, donor financing, self-financing, and public-private partnerships) did not have a strong correlation with one another. This was significant because it indicated that each variable, free from duplication or overlap, offered distinct information that explained the variation in the dependent variable, performance of TVET institutions. Regression analysis results were therefore more reliable,

confirming sound conclusions regarding the ways in which various funding sources both separately and jointly affect institutional performance. Results were displayed in Table 4.16.

Table 4.16

Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Government Financing	.249	4.013
Donor Financing	.483	2.071
Self-Financing	.258	3.869
Public Private Partnerships	.374	2.676

As presented in Table 4.16, all the Variance Inflation Factor (VIF) values were below the threshold of 10, with government financing (VIF = 4.013), donor financing (VIF = 2.071), self-financing (VIF = 3.869), and public private partnerships (VIF = 2.676). Similarly, all tolerance values were greater than 0.2, ranging from 0.249 to 0.483. These results confirm the absence of multicollinearity among the predictor variables. According to García-Escudero et al. (2010), multicollinearity would only be considered a concern if VIF values exceeded 10 or tolerance values fell below 0.2. Therefore, the dataset was free from multicollinearity, implying that the independent variables did not unduly influence one another and that the data was suitable for regression modeling.

4.4.4 Analysis of Pearson Correlation Coefficient of Variables

The study investigated how financing sources within TVET institutions in Kenya affects performance. To assess the linear relationship between the variables, a Pearson correlation coefficient (r) analysis was conducted. The analysis examined financing sources as the

independent variable and performance as the dependent variable. The results are presented in Table 4.17

Table 4.17

Pearson Correlation Analysis

		Government Financing	Donor Financing	Self- Financing	Public Private Partnerships	Institutional Governance	Performance of TVET Institutions
Government Financing	Pearson Correlation	1					
	N	297					
Donor Financing	Pearson Correlation	.874**	1				
	Sig. (2- tailed)	.000					
Self- Financing	N	297	297				
	Pearson Correlation	.886**	.774**	1			
	Sig. (2- tailed)	.000	.000				
	N	297	297	297			
Public Private Partnerships	Pearson Correlation	.788**	.795**	.752**	1		
	Sig. (2- tailed)	.000	.000	.000			
	N	297	297	297	297		
	Pearson Correlation	.898**	.861**	.877**	.775**	1	
Institutional Governance	Sig. (2- tailed)	.000	.000	.000	.000		
	N	297	297	297	297	297	
Performance of TVET Institutions	Pearson Correlation	.799**	.829**	.787**	.750**	.776**	1
	Sig. (2- tailed)	.000	.000	.000	.000	.000	
	N	297	297	297	297	297	297

As shown in Table 4.17, the Pearson correlation coefficient (r) values for all the independent variables; government financing, donor financing, self-financing, public private partnerships, and institutional governance, ranged between -1 and +1, indicating valid correlation results. The findings revealed a significant and positive relationship between each financing variable and the performance of TVET institutions in Kenya. Specifically, government financing ($r = 0.799$, $p = .000$), donor financing ($r = 0.829$, $p = .000$), self-financing ($r = 0.787$, $p = .000$), public private partnerships ($r = 0.750$, $p = .000$), and institutional governance ($r = 0.776$, $p = .000$) were all positively and significantly correlated with TVET institutional performance.

4.4.4 Homoscedasticity Test

To examine whether the regression models met the assumption of homoscedasticity i.e., constant variance of error terms across all levels of the independent variables the study employed the Koenker-Bassett test (commonly referred to as the Koenker test). This diagnostic procedure is a robust modification of the Breusch-Pagan test and is preferred when normality of residuals cannot be assumed (Koenker & Bassett, 1982). The test involves running an auxiliary regression where the squared residuals from the original model are regressed on the independent variables under study. The R^2 value from this auxiliary regression is then multiplied by the sample size (N) to obtain the Koenker test statistic, which follows a chi-square distribution. The null hypothesis states that the variance of the residuals is homogenous (homoscedasticity), while the alternative hypothesis indicates the presence of heteroscedasticity. In this study, the Koenker test was applied across regression models involving various independent variables, including government financing, donor financing, self-financing, and public-private partnerships. A statistically insignificant chi-square statistic supports the null hypothesis, confirming that the assumption of homoscedasticity has not been violated.

Homoscedasticity test for Government Financing

The auxiliary regression yielded an R Square value of 0.003, indicating that the explanatory power of the model on the squared residuals is minimal. The Koenker test statistic, calculated as the product of the sample size ($N = 297$) and the R Square (0.003), resulted in a chi-square value of 0.891. This value is below the conventional significance threshold, suggesting that the null hypothesis of homoscedasticity cannot be rejected implying that the model does not suffer from heteroscedasticity.

Auxiliary Regression ANOVA

Table 4.18 presents the results of the auxiliary regression ANOVA used to test for heteroscedasticity in the variable Government Financing. The F-statistic is 0.791 with a corresponding p-value of 0.375, which is greater than the standard significance threshold of 0.05. Therefore, we fail to reject the null hypothesis of homoscedasticity, suggesting that the variance of the residuals is constant and there is no evidence of heteroscedasticity in relation to Government Financing.

Table 4.18

Auxiliary Regression ANOVA: Sq. Residuals by Government Financing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.349	1	46.349	.791	.375 ^a
	Residual	17284.844	295	58.593		
	Total	17331.193	296			

Homoscedasticity test for Donor Financing

The R Square value from the auxiliary regression is 0.011, indicating very low explanatory power. The Koenker test statistic, calculated as $297 \times 0.011 = 3.267$, falls below typical chi-square critical

values. This suggests that the null hypothesis of homoscedasticity cannot be rejected, and the variance of residuals remains constant across levels of donor financing.

Auxiliary Regression ANOVA

Table 4.19 presents the ANOVA results from the auxiliary regression used to test for heteroscedasticity in relation to donor financing. The regression model yielded an F-statistic of 3.339 with a p-value of 0.069, which is above the conventional 0.05 threshold. This indicates that the variation in the squared residuals explained by donor financing is not statistically significant. Therefore, we fail to reject the null hypothesis of homoscedasticity, suggesting that the variance of the residuals is constant across levels of donor financing.

Table 4.19

Auxiliary Regression ANOVA: Sq. Residuals by Donor Financing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	141.251	1	141.251	3.339	.069 ^a
	Residual	12479.241	295	42.303		
	Total	12620.491	296			

Homoscedasticity test for Self-Financing

The model yielded an R value of 0.011 and an R Square of 0.000, indicating that self-financing explains virtually none of the variation in the squared residuals. The very low R Square value suggests there is no evidence of heteroscedasticity associated with self-financing. This supports the assumption of homoscedasticity in the regression model involving self-financing as an independent variable.

Auxiliary Regression ANOVA

Table 4.20 presents the ANOVA results from the auxiliary regression of squared residuals on self-financing to test for heteroscedasticity. The model shows an F-statistic of 0.034 with a p-value of 0.854, which is not statistically significant. This indicates that there is no significant relationship between self-financing and the squared residuals, suggesting that the assumption of homoscedasticity is upheld in the regression model involving self-financing.

Table 4.20

Auxiliary Regression ANOVA: Sq. Residuals by Self-Financing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.363	1	2.363	.034	.854 ^a
	Residual	20605.088	295	69.848		
	Total	20607.452	296			

Homoscedasticity test for Public-Private Partnerships

The R Square value is 0.002, indicating that PPPs explains only 0.2% of the variance in the squared residuals. The very low explanatory power and negative adjusted R Square suggest that the auxiliary model does not provide meaningful improvement over the mean. This implies no evidence of heteroscedasticity, supporting the assumption of constant variance in the residuals for the PPPs variable.

Auxiliary Regression ANOVA

Table 4.21 presents the ANOVA results for the auxiliary regression testing heteroscedasticity in the relationship between public-private partnerships and the squared residuals. The F-statistic is 0.481 with a p-value of 0.489, which is well above the conventional threshold of 0.05. This indicates that the regression is not statistically significant. Therefore, we fail to reject the null

hypothesis of homoscedasticity, suggesting that the variance of the residuals is constant and there is no evidence of heteroscedasticity for the public-private partnerships.

Table 4.21

Auxiliary Regression ANOVA: Sq. Residuals by Public-Private Partnerships

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.646	1	28.646	.481	.489 ^a
	Residual	17578.382	295	59.588		
	Total	17606.028	296			

4.5 Hypothesis Testing

To determine which predictor variable had a significant relationship with the performance of TVET institutions in Kenya, multivariate regression analysis was applied. The dependent variable and the independent variables had been transformed into continuous variables. Prior to performing the multiple linear regression, simple linear regressions were carried out to explore the individual relationships between each independent variable and the dependent variable using correlation analysis. The strength and significance of the overall model were evaluated using ANOVA statistics and the model summary.

4.5.1 Government Financing and Performance: Hypothesis Testing

The aim of the research was to ascertain the significance of government financing on performance of TVET institutions in Kenya. A simple linear regression analysis was performed to investigate whether government financing acted as a meaningful predictor of TVET performance.

The first objective was to determine the influence of government financing on performance of TVET institutions in Kenya. Therefore, the following null hypothesis was formulated;

H₀₁ Government financing had no significant influence on performance of TVET Institutions in Kenya

Model Summary for Government Financing

The correlation coefficient ($r = .799$) indicates a strong positive relationship between government financing and performance. The coefficient of determination (R^2) shows the proportion of variation in the dependent variable explained by the model, with results demonstrating that government financing accounts for 63.8% of the variance in performance.

Table 4.22

Model Summary for Government Financing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799 ^a	.638	.637	1.77995

Model Validity for Government Financing

The Model Validity results assess whether the model significantly predicts the outcome variable (performance). The analysis showed that the model was statistically significant, $F(1, 295) = 520.286$, $p < .001$. Accordingly, the null hypothesis, which stated that government financing has no relationship with performance, was rejected, while the alternative hypothesis confirming a statistically significant relationship was accepted.

Table 4.23*Model Validity for Government Financing*

Model		Sum of Squares	df	Mean Square	F	P-Value
1	Regression	1648.375	1	1648.375	520.286	.000 ^b
	Residual	934.621	295	3.168		
	Total	2582.997	296			

Regression Coefficients for Government Financing

The table displaying the coefficients provides insights into how each individual predictor variable contributes to the model is shown below. Given that the p-value is $< .001$, the conclusion made is that government financing makes a significant contribution to the model. The correlation between government financing and performance can be represented by a statistical equation, as described below.

$$Y = b_0 + b_1X$$

Where,

Y represents performance

and X represents government financing

Replacing the coefficients with the correct values, a predictive model is arrived at, Performance = $3.596 + (0.789 * \text{government financing})$

The regression model was statistically significant, $F(1, 295) = 520.286$, $p < .001$, and accounted for 63.8% of the variance in financial performance ($R^2 = .638$). The results further confirmed that government financing was a significant predictor of performance ($B = 0.789$, $p < .001$).

Table 4.24*Association between performance and Government Financing*

Model	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std. Error	Beta	t	
1 (Constant)	3.596	.597		6.026	.000
Government Financing	.789	.035	.799	22.810	.000

Government Financing and Performance Correlation Analysis

A Pearson's correlation analysis was employed to examine the relationship between government financing and performance. The results indicated a strong positive association between government financing and performance, as indicated by Pearson's $r(297) = .799$, $p < .001$ as presented in Table 4.25.

Table 4.25*Government Financing and Performance Correlation Analysis*

		Performance of TVET Institutions	Government Financing
Performance of TVET Institutions	Pearson Correlation	1	.799
	P-Value		.000
	N	297	297
Government Financing	Pearson Correlation	.799	
	P-Value	.000	
	N	297	297

4.5.2 Donor Financing and Performance: Hypothesis Testing

The study aimed to evaluate whether donor financing significantly influenced performance. To test this, a simple linear regression analysis was carried out to assess the predictive role of donor financing on performance.

The second objective sought to determine the effect of donor financing on performance of TVET institutions in Kenya. Therefore, the following null hypothesis was formulated;

H₀2 Donor financing had no significant influence on performance of TVET Institutions in Kenya.

The results are presented in tables 4.26, 4.27, 4.28 and 4.29.

Model Summary for Donor Financing

The R value of .829, signifies a strong positive association between donor financing and performance of TVET institutions. The R² value of .687 shows that approximately 68.7% of the variance in performance is explained by donor financing. This suggests that donor financing plays a substantial role in predicting performance outcomes.

Table 4.26

Model Summary for Donor Financing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829 ^a	.687	.686	1.65608

Model Validity for Donor Financing

The Model Validity results indicated that the regression model was statistically significant, $F(1, 295) = 646.810$, $p < .001$. Therefore, the null hypothesis suggesting no relationship between donor financing and performance was rejected, while the alternative hypothesis, confirming a statistically significant association, was accepted.

Table 4.27

Model Validity for Donor Financing

Model		Sum of Squares	df	Mean Square	F	P-Value
1	Regression	1773.934	1	1773.934	646.810	.000 ^b
	Residual	809.063	295	2.743		
	Total	2582.997	296			

Regression Coefficients for Donor Financing

The coefficients table illustrates the specific contribution of each predictor variable within the regression model. Since the p-value is $< .001$, it can be concluded that donor financing has a statistically significant effect on predicting performance. This relationship can be represented by the regression equation: $Y = b_0 + b_1X$.

Where,

Y denotes performance

and X refers to donor financing

Substituting the coefficients with the correct values, a predictive model is arrived at, Performance = 2.972 + (0.826 *donor financing)

The regression analysis showed that the model explained 68.7% of the variance in performance and was statistically significant, $F(1, 295) = 646.810$, $p < .001$. The results further confirmed that donor financing was a significant predictor of performance ($b_1 = 0.826$, $p < .001$).

Table 4.28

Association between Performance and Donor Financing

Model		Unstandardized Coefficients		Standardized Coefficients		P-Value
		B	Std. Error	Beta	t	
1	(Constant)	2.972	.560		5.308	.000
	Donor Financing	.826	.032	.829	25.432	.000

Donor Financing and Performance Correlation Analysis

A Pearson product-moment correlation was carried out to evaluate the relationship between donor financing and performance. The findings revealed a strong positive association, $r(297) = .829$, $p < .001$, suggesting that higher levels of donor financing are associated with improved performance.

These results are presented in Table 4.29.

Table 4.29*Donor Financing and Performance Correlation Analysis*

		Performance of TVET Institutions	Donor Financing
Performance of TVET Institutions	Pearson Correlation	1.000	.829
	P-Value		.000
	N	297	297
Donor Financing	Pearson Correlation	.829	1.000
	P-Value	.000	
	N	297	297

4.5.3 Self-Financing and Performance: Hypothesis Testing

The purpose of the research was to determine the significance of the relationship between self-financing and performance. To address this, a simple linear regression analysis was conducted to evaluate whether self-financing was significantly associated with performance. The results are presented in Tables 4.30, 4.31, 4.32 and 4.33

The third objective was to determine the influence of self-financing on performance of TVET institutions in Kenya. Therefore, the following null hypothesis was formulated;

H₀₃ Self-financing had no significant influence of on performance of TVET Institutions in Kenya

Model Summary for Self-Financing

The Pearson product-moment correlation coefficient ($r = .787$) indicates a strong positive relationship between self-financing and performance. The coefficient of determination (R^2)

reflects the proportion of variance in the dependent variable explained by the model, showing that self-financing accounts for 62% of the variability in performance.

Table 4.30

Model Summary for Self-Financing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787 ^a	.620	.619	1.82385

Model Validity for Self-Financing

The Model Validity results assess whether the model significantly predicts the outcome variable (performance). The analysis showed that the model was statistically significant, $F(1, 295) = 481.508$, $p < .001$. Therefore, the null hypothesis of no association between self-financing and performance was rejected, while the alternative hypothesis, indicating a statistically significant relationship, was accepted.

Table 4.31

Model Validity for Self-Financing

Model		Sum of Squares	Df	Mean Square	F	P-Value
1	Regression	1601.701	1	1601.701	481.508	.000 ^b
	Residual	981.296	295	3.3326		
	Total	2582.997	296			

Regression Coefficients for Self-Financing

The coefficients table illustrates the extent to which each predictor variable influences the regression model. Since the p-value is $< .001$, it is evident that self-financing statistically

contributes significantly to predicting performance. This relationship can be represented by the regression equation: $Y = b_0 + b_1X$

Where,

Y represents performance

and X represents self-financing

By substituting the estimated coefficients, the resulting predictive model for performance is expressed as, $\text{Performance} = 4.924 + (0.717 * \text{self-financing})$

The regression analysis showed that the model explained 62% of the variance in performance and was statistically significant, $F(1, 295) = 481.508, p < .001$. The results further confirmed that self-financing was a significant predictor of performance ($b_1 = 0.717, p < .001$).

Table 4.32

Association between Performance and Self-Financing

		Unstandardized Coefficients		Standardized Coefficients	t	P-Value
Model		B	Std. Error	Beta		
1	(Constant)	4.924	.561		8.784	.000
	Self-Financing	.717	.033	.787	21.943	.000

Self-Financing and Performance Correlation Analysis

Pearson's correlation analysis was used to examine the relationship between self-financing and performance. The findings revealed a strong positive association between self-financing and performance, with Pearson's $r(297) = .787, p < .001$ (As presented in Table 4.33)

Table 4.33*Self-Financing and Performance Correlations Analysis*

		Performance of TVET Institutions	Self- Financing
Performance of TVET Institutions	Pearson Correlation	1.000	.787
	P-Value		.000
	N	297	297
Self-Financing	Pearson Correlation	.787	1.000
	P-Value	.000	
	N	297	297

4.5.4 Public-Private Partnerships and Performance: Hypothesis Testing

The study aimed to establish whether public-private partnerships significantly influenced performance. To test this, a simple linear regression analysis was carried out to evaluate the predictive role of public-private partnerships. The corresponding results are presented in Tables 4.34, 4.35, 4.36, and 4.37.

The fourth objective sought to assess how public-private partnerships affect the performance of TVET institutions. Therefore, the following null hypothesis was formulated;

H₀₄ Public-private partnerships had no significant influence on performance of TVET institutions in Kenya.

Model Summary for Public-Private Partnerships

The correlation coefficient ($r = .750$) indicates a moderate positive relationship between public-private partnerships and performance. The coefficient of determination (R^2) shows the proportion of variation in the dependent variable explained by the model, with results demonstrating that public-private partnerships account for 56.2% of the variance in performance.

Table 4.34*Model Summary for Public-Private Partnerships*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750 ^a	.562	.561	1.95784

Model Validity for Public-Private Partnerships

The Model Validity results assess whether the model significantly predicts the dependent variable (performance). The analysis showed that the model was statistically significant, $F(1, 295) = 378.859$, $p < .001$. Accordingly, the null hypothesis of no association between public-private partnerships and performance was rejected, while the alternative hypothesis, indicating a statistically significant relationship, was accepted.

Table 4.35*Model Validity for Public-Private Partnerships*

Model		Sum of Squares	df	Mean Square	F	P-Value
1	Regression	1452.220	1	1452.220	378.859	.000 ^b
	Residual	1130.777	295	3.833		
	Total	2582.997	296			

Regression Coefficients for Public-Private Partnerships

The coefficients table highlights the contribution of each predictor variable to the regression model. Since the p-value is $< .001$, it can be concluded that public-private partnerships makes a statistically significant contribution to the prediction of performance. The relationship between public-private partnerships and performance can be expressed as $Y = b_0 + b_1X$

Where,

Y represents performance

and X represents public-private partnerships

By substituting the regression coefficients with their respective values, the resulting predictive model is obtained, $\text{Performance} = 4.259 + (0.750 * \text{public-private partnerships})$

The regression analysis indicated that the model explained 56.2% of the variance in performance and was statistically significant, $F(1, 295) = 378.859$, $p < .001$. The results further established that public-private partnerships were significant predictors of performance ($b1 = 0.750$, $p < .001$).

Table 4.36

Association between Performance and Public-Private Partnerships

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	P-Value
1	(Constant)	4.259	.665		6.409	.000
	Public Private Partnerships	.750	.039	.750	19.464	.000

Public-Private Partnerships and Performance Correlation Analysis

Pearson product-moment correlation analysis was conducted to assess the relationship between public-private partnerships and performance. The results revealed a moderate positive association between public-private partnerships and performance, with Pearson's $r(297) = .750$, $p < .001$, as summarized in Table 4.37.

Table 4.37*Public-Private Partnerships and Performance Correlation Analysis*

		Performance of TVET Institutions	Public Private Partnerships
Performance of TVET Institutions	Pearson Correlation	1.000	.750
	P-Value		.000
	N	297	297
Public Private Partnerships	Pearson Correlation	.750	1.000
	P-Value	.000	
	N	297	297

Model Summary for the Combined Model

The multiple correlation coefficient (R) of .837 indicates a strong association between the combined set of independent variables and the dependent variable. The coefficient of determination (Adjusted $R^2 = .696$) shows that approximately 69.6% of the variance in the financial performance of TVET institutions in the Mt. Kenya East region can be explained by the four financing sources: government financing, donor financing, self-financing, and public-private partnerships. These results are summarized in Table 4.38

Table 4.38*Model Summary for the Combined Model*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 ^a	.700	.696	1.62961

Model Validity for the Combined Model

The F statistic for the overall regression model was 170.164, with a result warrant of the rejection of the null hypothesis, which assumed no association between the independent and dependent variables ($R^2 = 0$). Consequently, the findings confirm a statistically significant relationship between the independent variables collectively and the dependent variable.

Table 4.39

Model Validity for the Combined Model

Model		Sum of Squares	df	Mean Square	F	P-Value
1	Regression	1807.557	4	451.889	170.164	.000 ^b
	Residual	775.440	292	2.656		
	Total	2582.997	296			

Financing Sources and Performance of TVET Institutions in Kenya

The multiple linear regression model examined the influence of various financing sources on the performance of TVET institutions. The analysis included four independent variables: self-financing, government financing, donor financing, and public-private partnerships. All predictors were statistically significant, suggesting that each type of financing contributes uniquely to institutional performance. The findings are consistent with several prior studies that emphasize the importance of diversified financing strategies in enhancing educational quality and institutional effectiveness.

Table 4.40*Financing Sources Significantly Associated with Performance of TVET Institutions in Kenya*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.243	.587		3.823	.000
Self-Financing	.249	.065	.274	3.822	.000
Government Financing	.236	.083	.239	2.859	.001
Donor Financing	.149	.072	.150	2.680	.003
Public Private Partnerships	.236	.056	.236	4.213	.000

Government Financing

Regarding the predictor government financing, the t statistical probability (0.00) for the b coefficient is less than the significance level of 0.05. Consequently, the null hypothesis that the slope related to government financing is zero ($b = 0$) was rejected. Thus, it can be deduced that there exists a statistically significant association between government financing and the performance of TVET institutions in Kenya. The regression coefficients indicate a positive association between government financing and the performance of TVET institutions in Kenya. These results correspond well with the descriptive statistics computed earlier in this study; which identified increased budget allocations, timely disbursements, and fulfillment of government obligations as necessary for institutional improvement, echoing this regression result.

The findings support the view that public funding remains a backbone of TVET in Kenya, especially in ensuring operational stability and equitable access. Government financing often facilitates essential expenses such as staff remuneration, curriculum development, equipment procurement, and student support services. As Gudo et al. (2011) note, sustained public investment

is fundamental for maintaining quality assurance, especially in publicly managed institutions. TVETA reports also emphasize the role of state funding in implementing Competency-Based Education and Training (CBET), which demands extensive infrastructural and human capital investment. However, delays in disbursement and underfunding remain persistent challenges, and therefore, the effectiveness of government financing depends not just on its presence but also on its adequacy and timeliness.

Donor Financing

Regarding the predictor donor financing, the t statistical probability (less than 0.001) for the b coefficient is smaller than the significance level of 0.05. This suggests that for every unit increase in donor support through funding, training programs, equipment donations, or technical assistance there is a 0.149-unit increase in institutional performance.

Donor agencies have played a vital role in supporting Kenya's TVET sector, especially in the areas of digitalization, green skills, entrepreneurship development, and industry linkages. However, the comparatively lower Beta value implies that donor impact may be less direct or sustained than other financing types. This is consistent with literature such as Oketch et al. (2020) and AfDB (2019), which caution that while donor support is often catalytic, it is also project-based and may not be fully integrated into long-term institutional plans. Furthermore, challenges such as misalignment with national priorities, lack of local ownership, and overreliance on external conditions can limit the full benefits of donor funding. Therefore, for donor contributions to yield maximum impact, they need to be well-aligned with national strategies, responsive to institutional needs, and integrated into existing governance frameworks.

Self-Financing

The regression output shows that self-financing was empirically corroborated that strategic financial inputs exert a robust positive effect on TVET institutional performance, with significance affirmed through rigorous inferential analytics, as indicated by the unstandardized coefficient ($B = 0.249$), standardized Beta (0.274), and a p-value of 0.000 . This means that for every unit increase in self-financing activities, such as tuition fee collections, income from production units, short courses, and consultancy services, the performance of TVET institutions increases by approximately 0.249 units, assuming all other factors are held constant. These results correspond well with the descriptive statistics computed earlier in this study that stated a significant number of respondents agreed that income from short courses and tuition collections were vital to performance.

This result highlights the growing importance of internal revenue generation in enhancing institutional autonomy and resilience. In an environment where government support may be delayed or insufficient, self-financing mechanisms empower institutions to manage their resources more flexibly. Institutions that have well-structured income-generating units are often able to improve infrastructure, expand course offerings, retain qualified trainers, and respond more promptly to industry demands. Their study highlighted that reliance solely on government funding is often insufficient to meet the operational and developmental needs of these institutions. As such, engaging in IGAs not only supplements institutional budgets but also enhances the institutions' capacity to maintain training quality, invest in infrastructure, and respond flexibly to emerging market demands. Similarly, UNESCO (2020) emphasizes that institutional self-reliance and entrepreneurial models contribute significantly to quality and sustainability in technical education.

Public-Private Partnerships

This reflects a positive relationship indicating that enhanced engagement with the private sector through training collaborations, infrastructure investment, equipment support, internships, and curriculum co-development leads to significant gains in TVET performance.

This finding is consistent with national strategies such as Kenya Vision 2030 and the African Union's CESA 16-25, which promote private sector participation in skills development. Institutions that actively engage with industry players often benefit from access to up-to-date training technologies, real-world learning experiences, and enhanced employability for graduates. Moreover, PPPs have been instrumental in operationalizing CBET frameworks, where competency acquisition is linked to industry standards. Studies such as African Union (2016) and World Bank (2020) also note that PPPs contribute not only to infrastructure development but also to improving institutional credibility, innovation capacity, and responsiveness to labor market dynamics.

4.5.5 Moderating Effect of Institutional Governance on the Relationship between Financing Sources and Performance of TVET Institutions in Kenya.

The study ought to evaluate the null hypothesis that institutional governance does not significantly moderate the relationship between the different financing sources and the performance of TVET institutions in Kenya. As shown in Table 4.41, Model 1 with the four predictors (government financing, donor financing, self-financing, and public-private partnerships) explained 70.0% of the variance in the performance of TVET institutions ($R^2 = .700$, Adjusted $R^2 = .696$, F Change = 170.164, $p < .001$). Model 2, which introduced institutional governance, accounted for significantly more variance, with R^2 increasing to .722 and Adjusted R^2 to .718. The change in

variance explained ($\Delta R^2 = .022$) was statistically significant, $F \text{ Change} = 23.038$, $p < .001$. This finding indicates that institutional governance contributes meaningfully to the prediction of TVET performance over and above the financing sources. In Model 3, the interaction term between institutional governance and financing sources was added. The additional variance explained ($\Delta R^2 = .001$) was statistically significant, $F \text{ Change} = 4.312$, $p = .047$, though the effect size was minimal. This suggests the impact on performance was significant.

This finding suggests that the influence of financing sources on institutional performance is not uniform across all TVET institutions but varies depending on the level of institutional governance. In practical terms, institutions with stronger governance structures may be better positioned to translate available financial resources into improved performance outcomes. Conversely, institutions with weaker governance may fail to maximize the benefits of similar financing levels. This implies that policy interventions aimed at enhancing TVET performance should not only focus on increasing funding but also on strengthening governance frameworks to ensure efficient resource utilization and alignment with institutional objectives.

Table 4.41

Model Summary for the Moderation Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.837 ^a	.700	.696	1.62961	.700	170.164	4	292	.000
2	.850 ^b	.722	.718	1.58071	.022	23.038	1	291	.000
3	.850 ^c	.723	.719	1.58327	.001	4.312	1	290	.047

As shown in Table 4.42, Model 1 with the four financing sources as predictors was statistically significant, $F(4, 292) = 170.164$, $p < .001$, indicating that the independent variables jointly explain a substantial proportion of the variance in TVET institutional performance.

Model 2, which introduced institutional governance as an additional predictor, also remained statistically significant, $F(5, 291) = 151.426$, $p < .001$. This demonstrates that institutional governance adds explanatory power beyond the financing sources alone.

Finally, Model 3, which incorporated the interaction term between institutional governance and financing sources, was significant as well, $F(6, 290) = 126.46$, $p < .001$. This suggests that moderation effects exist, meaning the influence of financing on performance depends partly on the governance capacity of the institution.

This suggests that the effectiveness of financing in enhancing institutional performance is partly dependent on the strength of governance structures within the institutions, implying that improvements in governance could amplify the positive impact of available funding.

Table 4.42

ANOVA Summary for the Moderation Regression Model

Model		Sum of Squares	df	Mean Square	F	P-Value
1	Regression	1807.557	4	451.889	170.164	.000 ^b
	Residual	775.440	292	2.656		
	Total	2582.997	296			
2	Regression	1891.809	5	378.362	151.426	.000 ^c
	Residual	727.107	291	2.499		
	Total	2618.916	296			
3	Regression	1902.167	6	317.028	126.46	.000 ^d
	Residual	716.749	290	2.507		
	Total	2618.916	296			

A hierarchical multiple regression was conducted to examine the moderating effect of institutional governance on the relationship between financing sources and TVET performance.

In Step 1, Government Financing, Self-Financing, Public-Private Partnerships, and Donor Financing jointly explained a significant proportion of variance in performance. Specifically, Self-Financing ($\beta = .274$, $t = 3.822$, $p < .001$), Government Financing ($\beta = .239$, $t = 2.859$, $p = .001$), Donor Financing ($\beta = .150$, $t = 2.680$, $p = .003$), and Public-Private Partnerships ($\beta = .236$, $t = 4.213$, $p < .001$) significantly contributed to institutional performance.

In Step 2, Institutional Governance was integrated into the prototype and emerged as a salient factor of institutional efficacy and outcome metrics ($\beta = .211$, $t = 2.872$, $p = .004$), alongside the financing variables. This indicates that governance on its own has a meaningful role in enhancing institutional performance.

In Step 3, the interaction term between Institutional Governance and Financing Sources was included. The coefficient for the interaction term was significant ($\beta = .316$, $t = 1.989$, $p = .047$), suggesting a moderation effect. Although the increase in explained variance was modest, the results indicate that institutional governance moderates the relationship between financing sources and TVET performance.

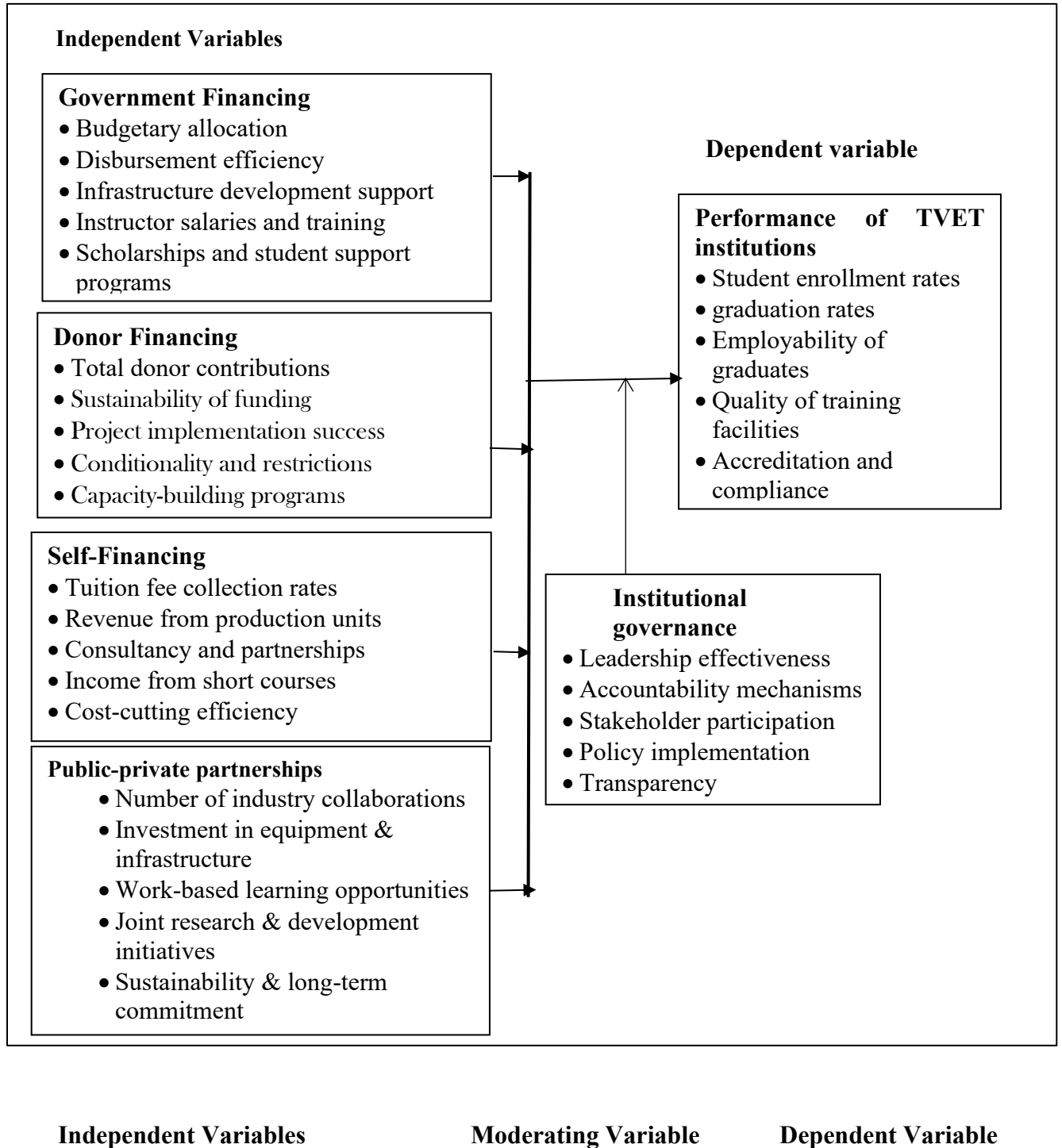
These results indicate that institutional governance significantly moderates the effect of financing sources on TVET performance, suggesting that effective governance enhances the impact of available funding.

Table 4.43*Regression Coefficients of the Moderated Model*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	2.243		3.823	.000
	Self-Financing	.249	.274	3.822	.000
	Government Financing	.236	.239	2.859	.001
	Donor Financing	.149	.150	2.68	.003
	Public Private Partnerships	.236	.236	4.213	.000
2	(Constant)	1.553		2.577	.010
	Government Financing	.169	.188	2.967	.003
	Self-Financing	.198	.213	2.978	.003
	Public Private Partnerships	.151	.150	2.91	.004
	Donor Financing	.190	.184	4.03	.000
3	Institutional Governance	.204	.211	2.872	.004
	(Constant)	1.304		1.113	.267
	Government Financing	.173	.193	2.929	.003
	Self-Financing	.203	.219	2.893	.004
	Public Private Partnerships	.156	.155	2.803	.004
	Donor Financing	.191	.186	4.015	.000
	Institutional Governance	.208	.215	2.861	.004
	Interaction	.002	.316	1.989	.047

4.6

Optimal Model



Based on the study findings and conclusions, the overall regression established that all the four dependent variables were significantly associated with employee performance. Moreover, institutional governance had a significant moderating effect on the relationship between Financing Sources and Performance of TVET institutions in Kenya. Subsequently, the proposed study model was upheld.

4.7 Expert Insights from Government Officials on TVET Financing and Governance

To supplement the quantitative findings, qualitative insights were gathered from key government officials in the Ministry of Education's TVET Department. A total of 16 respondents participated in the key informant interviews. These participants held senior roles in policy formulation, oversight, and implementation within the TVET sector, with experience ranging from 2 to 15 years. Their responses offered valuable expert perspectives on the influence of financing sources and institutional governance on TVET performance in Kenya.

Government Financing

Respondents generally agreed that government budgetary support for TVET institutions has increased in recent years but remains insufficient and inconsistent. Delays in fund disbursement were frequently cited, leading to interruptions in procurement and infrastructure projects. One respondent noted that while there are structured funding mechanisms, the unpredictability in cash flow hinders effective planning and performance tracking in institutions. However, government financing was acknowledged as critical in enabling infrastructure expansion, support for instructor salaries, and the establishment of student funding schemes such as capitation and bursaries.

Donor and Self-Financing

Most respondents recognized the role of donor agencies in supplementing government efforts, particularly in curriculum reform, training equipment, and capacity building. However, concerns were raised about the sustainability of donor support, with some respondents indicating that many donor programs lack long-term continuity. In terms of self-financing, respondents observed that institutions have varying capacities to generate internal revenue. Production units, short courses, and tuition fees were mentioned as useful income sources, although these are constrained by market demand, institutional autonomy, and administrative efficiency.

Public-Private Partnerships (PPPs)

Respondents described current PPPs arrangements as promising but underutilized. Partnerships with industry have helped bridge gaps in training relevance and industrial attachments, but a lack of clear policy guidelines and incentives was noted as a barrier to broader private sector participation. Some respondents emphasized the need for structured engagement frameworks to formalize partnerships and enhance accountability.

Institutional Governance

Institutional governance emerged as a key moderator in how financing is managed and utilized. Strong leadership, financial oversight, and stakeholder engagement were reported to significantly enhance the effectiveness of financing sources. Conversely, weak governance structures were associated with inefficient resource use and poor institutional performance. Transparency in decision-making and inclusive management practices were recommended as strategies to improve institutional outcomes.

Performance Indicators and Policy Recommendations

According to the respondents, reliable indicators of TVET performance include graduation rates, employability of graduates, quality of training facilities, and financial audit outcomes. To improve financing mechanisms and governance, the respondents recommended increased and stabilized government funding, expansion of student financing schemes, development of a national PPPs policy for TVET, and strengthening of institutional governance through leadership training and stakeholder participation.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study was to investigate how the various financing sources influences the financial performance of TVET institutions in Kenya. This chapter provides a summary of the findings in section 5.2, draws conclusions from the findings in section 5.3 and presents relevant recommendations in section 5.4.

5.2 Summary of the study

The study aimed to explore the impact of the financial source, specifically government financing, donor financing, self-financing, and public private partnerships, on the performance of TVET institutions in Kenya.

5.2.1 Government financing and performance of TVET institutions in Kenya

The study investigated the influence of government financing on the performance of TVET institutions in Kenya. The findings demonstrated that government funding, including capitation grants and bursaries, played a critical role in enhancing institutional planning, resource allocation, and service delivery, thereby improving overall performance. According to the findings, government funding has a big impact on how well TVET institutions in Kenya perform. The government's adequate budgetary allocations help institutions run smoothly, especially when funds are disbursed on schedule to support training initiatives, instructor salaries, and facility development. In addition to increasing enrollment and retention rates, government-funded scholarships and student support programs also improve institutional performance.

Notwithstanding the significant role played by government funding, there are always issues in making sure that funds are handled effectively and dispersed fairly among institutions. Improved

accountability and transparency are necessary to optimize the impact of public funding on TVET performance, as the efficacy of government support is intimately tied to institutional governance practices. Overall, government funding is still essential, but in order to reach its full potential in improving TVET institutions, it needs to be combined with other reforms. Moderation analysis revealed that institutional capacity significantly moderated the relationship between government financing and institutional performance.

5.2.2 Donor financing and performance of TVET institutions in Kenya

The study investigated the influence of donor financing on the performance of TVET institutions in Kenya. The findings showed that donor contributions, including funding for infrastructure, training, and capacity-building programs, supported institutional development and improved service delivery. A significant positive relationship was observed between donor financing and institutional performance. The results show that donor funding has a major impact on TVET institutions' performance in Kenya by giving them the much-needed financial stability and support they need to construct their infrastructure and run their numerous programs. Donor finances have aided in the implementation of capacity-building programs that improve educational quality and institutional efficacy, such as staff training and curriculum development. Donor funding's sustainability and dependability, however, differ, raising some questions over the support's long-term continuation.

Furthermore, even while donor-funded initiatives typically succeed, the conditions and limitations imposed by these grants can occasionally hinder flexibility and alignment with institutional aims. Notwithstanding these obstacles, donor finance continues to be a crucial supplementary funding source that strengthens institutional capacity, particularly when properly integrated with

institutional governance frameworks and government resources. Additionally, the analysis between philanthropic capital and institutional performance exhibited a significant inverse nexus, whereby escalation in altruistic endowments corresponded with diminished performance outcomes in the presence of strong institutional capacity, indicating that governance enhances the strategic use and impact of donor support.

5.2.3 Self-financing and performance of TVET institutions in Kenya

The study examined the effect of self-financing on the performance of TVET institutions in Kenya. The results indicated that internally generated funds, such as income from production units, tuition fees, and consultancy services, positively influenced institutional operations and performance. A significant positive association was found between self-financing and performance. According to the study, self-financing is a crucial source of income for Kenyan TVET institutions and has a major impact on their overall effectiveness. Tuition fees, production units, consulting services, and short courses all create revenue that allows TVETs to augment government and donor funding, supporting operational expenses and improving service delivery. Maintaining institutional operations and raising the caliber of training provided depend on the effective administration of these self-generated revenues. This implies that institutions that actively engage in self-financing initiatives are more likely to enhance their service delivery and overall effectiveness.

However, there are weaknesses to depending only on self-funding, such as the requirement for efficient methods for collecting money and cost-cutting strategies to optimize revenue without sacrificing student accessibility. Successfully diversifying and optimizing their revenue-generating operations tends to improve institutional performance and financial resilience. Therefore, self-finance contributes to the sustainability and effectiveness of TVET institutions in

Kenya in a complementary and occasionally crucial way. The findings further indicated that institutional governance moderated the effect of self-financing on performance, where well-governed institutions were better able to manage and utilize internally generated funds for improved outcomes.

5.2.4 Public-private partnerships and performance of TVET institutions in Kenya

The study investigated the influence of public-private partnerships (PPPs) on the performance of TVET institutions in Kenya. The findings indicated that collaborations with industry and private sector stakeholders contributed significantly to resource mobilization, infrastructure development, and training quality. Pearson correlation analysis revealed a strong positive relationship between PPPs and institutional performance. The results demonstrate how public-private partnerships (PPPs) contribute significantly to the improvement of TVET institutions' performance in Kenya by encouraging industry partnerships that raise the caliber of training and the employability of graduates. Through these collaborations, educational institutions have access to cutting-edge facilities and technology, as well as possibilities for work-based learning that give students employable skills. Collaborative research and development projects with industry participants also support curricular relevance and innovation, guaranteeing that TVET programs stay in line with changing economic demands. These results led to the rejection of the null hypothesis that the PPPs slope is zero ($b = 0$), confirming that public-private partnerships play a critical role in enhancing the effectiveness and sustainability of TVET institutions.

Despite these advantages, different institutions have different levels of success with PPPs, and some have issues with the long-term commitment and sustainability of private partners. To fully realize the potential of PPPs, policy frameworks must be strengthened and broader public-private

sector involvement must be encouraged. All things considered, PPPs are an essential supplementary funding and resource mechanism that promotes the ongoing development and applicability of TVET institutions in Kenya. The moderation analysis demonstrated that the effectiveness of PPPs in improving performance depended on the level of governance, with institutions exhibiting strong governance structures showing more beneficial results from PPPs initiatives.

5.2.5 Moderating effect of institutional governance on the relationship between public-private partnership and performance of TVET institutions in Kenya

The study concluded that institutional governance plays a significant moderating role in the relationship between financing sources and the performance of TVET institutions in Kenya. The findings revealed that while government financing, donor support, self-financing, and public-private partnerships each individually contribute to improved institutional performance, the effectiveness of these financing sources is influenced by the quality of governance within the institutions. Specifically, the interaction between government financing and institutional governance was statistically significant, suggesting that governance structures either enhance or diminish the impact of funding on performance. Similar patterns were observed for other financing sources, where strong governance practices—such as financial accountability, strategic leadership, and transparency—amplified the positive effects of funding. These results underscore the importance of coupling financial investment with institutional reforms that strengthen governance mechanisms to ensure sustainable and measurable performance improvements in the TVET sector.

5.3 Conclusions

The study concluded that government financing, donor financing, self-financing, and public-private partnerships had a significant relationship with the performance of TVET institutions in Kenya.

5.3.1 Influence of government financing on performance of TVET institutions

The study concluded that government financing significantly predicted the performance of TVET institutions in Kenya. Government funding through budget allocations, infrastructure development, scholarships, and staff support was found to play a central role in improving institutional outcomes. When adequately provided and disbursed on time, government financing enhanced the institutions' ability to deliver quality training, attract and retain students, and maintain operational stability. Consequently, consistent and sufficient government support creates an enabling environment for TVET institutions to fulfill their mandate effectively.

5.3.2 Influence of donor financing on performance of TVET institutions

The study concluded that donor financing significantly influenced the performance of TVET institutions in Kenya. Support from development partners, in the form of funding for infrastructure, training equipment, and capacity-building initiatives, contribute to the improvement of learning conditions and institutional efficiency. Institutions that benefit from donor support are better able to modernize training environments and expand access to skills development. Therefore, donor funding plays a complementary role in strengthening institutional performance, especially when aligned with national priorities and institutional needs.

5.3.3 Influence of self-financing on performance of TVET institutions

The study concluded that self-financing had a significant effect on the performance of TVET institutions in Kenya. Revenue generated through tuition fees, income-generating activities, and commercial ventures provided institutions with flexibility to address operational and developmental needs. Self-financing enables institutions to reduce dependence on external funding and invest in key areas such as infrastructure, staffing, and instructional materials. As such, institutions that actively pursue and manage their own resources experience better financial stability and enhanced service delivery.

5.3.4 Influence of public-private partnerships on performance of TVET institutions

The study concluded that public-private partnerships significantly influenced the performance of TVET institutions in Kenya. Collaborations with private sector stakeholders supported resource mobilization, curriculum development, and the provision of industry-relevant training. These partnerships can help bridge the gap between training and labor market demands, improving employability outcomes for trainees. Institutions that engage effectively with industry partners' benefit from improved infrastructure, technical support, and exposure to real-world skills, thereby strengthening their overall performance.

5.3.5 Moderating effect of institutional governance on the relationship between financing sources and performance of TVET institutions.

The study concluded that institutional governance significantly moderated the nexus between capital structure and firm metrics of TVET institutions in Kenya. The findings revealed that the effectiveness of government financing, donor support, self-financing, and public-private partnerships was influenced by the quality of governance practices within the institutions. Strong

governance characterized by transparency, accountability, and strategic leadership can amplify the positive effects of financing on institutional performance. Conversely, weak governance reduces the impact of funding, highlighting the need for robust institutional frameworks to complement financial inputs for sustainable growth and improved outcomes in the TVET sector.

5.3.6 Expert perspectives

The insights from government officials provided critical contextual understanding of the structural and operational realities influencing TVET financing and governance in Kenya. The responses highlighted that while government funding remains the backbone of institutional support, its effectiveness is often undermined by delays and inadequacies in allocation. Donor funding and self-financing mechanisms were acknowledged as valuable but limited by sustainability concerns and institutional capacity. Public-private partnerships, though promising, require clearer frameworks and policy incentives. Importantly, institutional governance was emphasized as a key determinant of how resources are managed and translated into performance outcomes. These expert perspectives reinforced the study's findings and underscored the need for coordinated policy efforts, stronger leadership, and strategic investment in TVET to enhance institutional effectiveness and national skills development.

5.4 Recommendations

Drawing from the study's findings, a compendium of strategic recommendations is advanced to catalyze and augment systemic enhancement and operational efficacy in the performance of TVET institutions in Kenya through improved financing strategies and governance mechanisms. The government should increase budgetary allocations to TVET institutions and ensure timely and efficient disbursement of funds to support infrastructure, training resources, and staff development.

Development partners and donor agencies should align their funding priorities with institutional needs and collaborate closely with local stakeholders to ensure sustainability and accountability. Furthermore, TVET institutions should strengthen their internal capacity to generate revenue through self-financing initiatives such as production units, consultancy services, and short-term market-driven courses. There is a need to promote and formalize public-private partnerships (PPPs) by developing clear policies and incentives that encourage private sector engagement in curriculum development, equipment provision, and apprenticeships. Strengthening institutional governance structures is essential to ensure transparency, effective resource management, and the successful implementation of financing strategies.

5.4.1 Recommendations for further research

Prospective inquiries ought to rigorously interrogate the protracted ramifications and latent trajectories engendered by disparate variables or interventions of financing models on graduate employability and the quality of training in TVET institutions. Additionally, studies could investigate how specific governance dimensions such as leadership style, financial oversight, and stakeholder involvement interact with financing to influence institutional performance. Comparative studies across different regions in Kenya or between public and private TVET institutions could offer further insights into contextual factors that affect financing effectiveness.

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