THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SKILLS DEVELOPMENT AND YOUTH ECONOMIC PARTICIPATION IN KIHARU SUB COUNTY, MURANG'A COUNTY, KENYA

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A Thesis Presented to the Faculty of Arts and Social Sciences in Partial Fulfilment of the Requirement for the Master of Arts Degree in Development Studies

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SEPTEMBER 2026

DECLARATION

I declare this is my own work and has never been submitted to other universities or institution of higher learning for similar award. I properly acknowledge all sources of information used in this study to avoid plagiarism.

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DEDICATION

This research thesis is dedicated to my lovely family for their love, kindness, financial support, prayers, and inspiration during the entire journey of my course work.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBET: Competency-Based Education and Training

KNBS: Kenya National Bureau of Statistics

NEET: Classified as not in employment, education, or training

SPSS: Statistical Package for Social Sciences

TVET: Technical and Vocational Education and Training

WBL: Work-based learning

ABSTRACT

Despite the growing emphasis on Technical and Vocational Education and Training in Kenya, youth in Murang'a County continue to experience high levels of unemployment and limited economic participation. While TVET institutions aim to equip young people with practical and marketable skills, there is insufficient evidence on how effectively these skills translate into employment, self-employment, or entrepreneurship. This study investigated the influence of Technical and Vocational Education and Training skills development on youth economic participation in Kiharu sub county, Murang'a county, Kenya. Specific objective was to assess the influence of technical skills acquisition, entrepreneurship skills development, work-based learning and employability skills development on youth economic participation in Murang'a County. The study was anchored on Human Capital Theory and Entrepreneurship Theory. The study targeted 182,000 youth participants and 30 key informants. Simple random and purposive sampling techniques was used in selecting 399 youths and 21 key informants. The sample size was 420 participants. Data were gathered using a questionnaire and an interview guide. A pilot study comprised 42 participants (10% of the sample) from Gatanga Sub-County. Supervisors and peers conducted expert reviews to confirm content validity, and reliability was established using the test-retest technique and Cronbach's alpha coefficient, with a threshold of 0.7 regarded acceptable. Quantitative data was examined using descriptive and inferential statistics in SPSS version 30, while qualitative data was analyzed using thematic content analysis. Data was collected using questionnaire and interview guide. A pilot study was conducted with 42 participants (10% of the sample) from Gatanga Sub-County. Content validity was ensured through expert review by supervisors and peers, while reliability was established using the test-retest method and Cronbach's alpha coefficient, with a threshold of 0.7 considered acceptable. Quantitative data was analyzed using SPSS version 30 through descriptive and inferential statistics, while qualitative data was analyzed using thematic content analysis. Ethical standards were strictly adhered to. The study established that Technical Skills Acquisition, Entrepreneurship Skills Development, Work-Based Learning, and Employability Skills Development were all positively associated with youth economic participation in Kiharu Sub-County. The regression analysis revealed that the four variables together explained 62.7% of the variation in youth economic participation ($R^2 = 0.627$), indicating strong explanatory power of the model. All four dimensions of TVET skills development had statistically significant positive effects on youth economic participation ($p < 0.05$)**.** Entrepreneurship skills development recorded the strongest effect ($\beta = 0.291$), followed by technical skills acquisition ($\beta = 0.238$), employability skills development ($\beta = 0.229$), and work-based learning ($\beta = 0.201$). These findings indicate that improvements in each dimension of TVET skills development are associated with increased youth economic participation. The results further suggest that the acquired skills contribute to participation in employment, self-employment, and income-generating activities**,** although the extent to which respondents accessed and applied these skills varied.

CHAPTER ONE

INTRODUCTION

This chapter contains an overview of the study and outlines the background of the study, the statement of the problem, the study objectives, the research hypothesis, justification and significance of the study. The chapter also provide a discussion scope and delimitations of the study as well as study assumptions. Additionally, the chapter outlines the conceptual framework and operational definition of key terms.

1.1 Background to the Study

Youth economic participation has remained a significant global development concern due to persistent unemployment, underemployment, and limited access to productive economic opportunities among young people. Although youth constitute a substantial proportion of the labour force, educational attainment has not consistently translated into meaningful participation in economic activities. Rao (2025) observes that these challenges continue to limit the contribution of young people to economic development, while Baxter et al. (2022) associate weak economic participation with gaps between educational preparation and available employment opportunities. The capacity of young people to secure employment, establish enterprises, generate income, and sustain livelihoods has therefore become increasingly dependent on the relevance and quality of skills acquired through education and training.

At the global level, the transition from education to employment continues to be affected by mismatches between skills acquired through education and those demanded in the labour market. Adely et al. (2021) identify skills mismatch as a persistent challenge affecting young people's transition into employment. Similarly, Cieslik et al. (2022) note that many young people complete formal education without sufficient practical competencies, workplace experience, entrepreneurial capabilities, and transferable skills required for effective economic engagement. In response to these challenges, TVET has gained prominence as a pathway for

equipping young people with practical and market-oriented competencies. Dasgupta (2022) argues that vocational education can strengthen the transition from education to employment by providing skills that are directly applicable in occupational settings. Nevertheless, persistent youth unemployment and the continued presence of young people outside employment, education, or training demonstrate that participation in education and training does not automatically result in economic participation (Shi & Bangpan, 2022).

Evidence from developed nations emphasizes the value of relevant and practical skills. In the United States, Carnevale et al. (2021) found that some graduates experience difficulties securing employment that corresponds with their qualifications because of gaps in work readiness and applied competencies. Similarly, Fogarty et al. (2024) observed that although Germany's dual TVET system has strengthened school-to-work transitions, differences in access to quality training and skills acquisition continue to affect some groups of young people. These experiences demonstrate that the contribution of education and vocational training to economic participation depends not only on access to training but also on whether the competencies acquired are relevant to labour-market requirements and can be effectively applied in productive activities.

In Sub-Saharan Africa, these challenges are compounded by weak labour markets, limited industrial development, and inadequate alignment between education systems and available employment opportunities. Allais (2022) notes that structural weaknesses within African labour markets continue to limit the capacity of education and training systems to facilitate effective transitions into employment. Similarly, Adanma and Ogunbiyi (2024) observe that continued emphasis on theoretical learning, without adequate practical and entrepreneurial preparation, leaves many young people insufficiently prepared for employment and enterprise development. The experience of South Africa illustrates this challenge, where inadequate technical and vocational competencies have constrained youth access to employment

opportunities (Malongane, 2025). In Ghana, Twumasi Ankrah et al. (2023) similarly report that inadequate infrastructure, limited investment, and negative perceptions of vocational education have affected the effectiveness of TVET in promoting employability and entrepreneurship.

Access to appropriate training opportunities also remains uneven across different population groups. Akinlolu (2022) highlights persistent gender disparities in participation in technical training, partly associated with occupational stereotypes and social perceptions of vocational careers. Mahlangu and Mtshali (2024) further demonstrate that rural youth may experience greater constraints in accessing quality TVET compared with their urban counterparts. These conditions indicate that the contribution of TVET to youth economic participation is influenced not only by whether training is available, but also by its accessibility, quality, relevance, and inclusiveness.

Similar challenges have been observed in East Africa, where governments have expanded vocational education and training as part of efforts to improve youth employment and enterprise development. Ayiro et al. (2023) report increased attention to vocational education in countries such as Uganda and Tanzania as a strategy for strengthening youth economic opportunities. Buehren et al. (2024) further demonstrate that technical and vocational skills can support youth participation in self-employment, informal economic activities, and small-scale enterprises. However, Hatibu and Hafidh (2021) identify outdated training facilities, inadequate workplace exposure, weak industry linkages, and limited responsiveness to emerging labour-market requirements as continuing challenges. These conditions suggest that the effectiveness of TVET depends on whether training provides competencies that can be practically utilized within existing economic opportunities.

In Kenya, youth unemployment and underemployment have remained important socioeconomic challenges despite sustained investment in education and skills development. Nasimiyu (2023) observes that many young people continue to experience difficulties

transitioning from education into stable economic activities. National evidence from KNBS (2023) similarly indicates that a considerable proportion of young people remain outside stable formal employment, while others depend on informal, temporary, and relatively low-income economic activities. The Kenyan government responded by increasing TVET through policy changes, greater institutional capacity, and the implementation of Competency-Based Education and Training (CBET). According to Lux (2023), these reforms have sought to strengthen practical learning and improve the alignment between training and labour-market requirements.

The growth of TVET has given young people more possibilities to learn practical skills and seek alternate paths to employment and business development. However, increased access to training has not necessarily resolved challenges associated with completion, skills application, and transition into economic activities. Otieno and Musya (2024) identify financial constraints, inadequate infrastructure, insufficient training equipment, and weak learner-support systems as factors affecting training outcomes. These challenges raise an important concern regarding whether participation in TVET translates into the competencies required for meaningful and sustained economic participation.

The nature of skills acquired through TVET is particularly important in this regard. Technical skills provide the occupational competencies required to perform specific tasks, while entrepreneurship skills can facilitate enterprise creation and self-employment. Work-based learning provides exposure to actual workplace environments, enabling learners to connect theoretical knowledge with practical experience. Employability skills, including communication, teamwork, adaptability, and problem-solving, enhance an individual's capacity to secure and retain employment. Mujuri and Kathomi (2025) emphasize the importance of these competencies in strengthening the readiness of TVET graduates for economic engagement. However, Sifuna (2020) reports that some TVET graduates continue to

experience difficulties translating acquired skills into meaningful employment and self-employment because of persistent gaps between training and industry requirements. Simiyu et al. (2023) further identify weak collaboration between training institutions and employers, outdated curricula, limited internship opportunities, and negative perceptions of vocational education as factors that may weaken the transition from training to productive economic activity.

The situation is particularly relevant in Murang'a County and Kiharu Sub-County, where young people participate in an economy characterized by small-scale enterprises, informal activities, casual employment, and self-employment. In such an environment, young people require more than occupation-specific competencies to navigate available economic opportunities. They also require entrepreneurial capabilities, practical workplace exposure, and transferable skills that enable them to identify, access, and sustain economic opportunities. Muriithi (2023) notes that local socioeconomic conditions can influence access to skills development and the opportunities available to young people. However, evidence remains limited regarding how the different dimensions of TVET skills development influence youth economic participation specifically within Kiharu Sub-County.

The research problem therefore extended beyond the expansion of TVET to whether acquired skills translated into employment, self-employment, entrepreneurship, income generation, and sustained economic participation**.** Existing studies provided limited evidence on the combined contribution of technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development to youth economic participation. The study therefore examined the influence of TVET skills development on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya**.**

1.2. Statement of the Problem

Youth economic participation remains a concern in Kenya despite continued investment in Technical and Vocational Education and Training (TVET) as a pathway to employment, entrepreneurship, and self-reliance. Many young people continue to experience difficulties in accessing stable and productive economic opportunities, particularly within an economy where informal activities constitute an important source of livelihoods (KNBS, 2023). In Murang'a County, this concern is relevant given the prominence of agriculture, small enterprises, retail activities, and other informal economic activities.

The concern extends beyond access to TVET to whether the skills acquired are effectively translated into economic participation. Technical skills are expected to enhance occupational competence, while entrepreneurship skills can support self-employment and enterprise development. However, gaps between training and labour-market requirements may limit graduates' ability to utilize acquired competencies effectively (Sifuna, 2020). Similarly, inadequate entrepreneurial competencies may constrain business creation and sustainability among young people (Simiyu et al., 2023).

The transition from training to economic activity may also depend on practical workplace exposure and broader employability competencies. Work-based learning strengthens the application of acquired knowledge and practical skills in real work environments (Mujuri & Kathomi, 2025). Likewise, communication, teamwork, adaptability, and problem-solving are important for successful labour-market participation and sustained economic engagement (Ngware et al., 2024). These concerns suggest that youth economic participation may be influenced by the combined development of technical, entrepreneurial, practical, and transferable skills.

Although previous studies have examined TVET and youth employment outcomes, limited attention has been given to the simultaneous contribution of technical skills acquisition,

entrepreneurship skills development, work-based learning, and employability skills development to broader youth economic participation. Existing evidence therefore provides insufficient understanding of how these distinct dimensions of TVET skills development relate to employment, self-employment, entrepreneurship, income generation, and sustained productive economic engagement.

Furthermore, limited context-specific evidence exists on these relationships among TVET graduates in Kiharu Sub-County. The predominance of agriculture, small enterprises, retail activities, and informal employment creates an economic environment in which graduates may encounter distinctive opportunities and constraints in applying their acquired skills. Consequently, evidence from broader geographical contexts may not adequately explain the relationship between TVET skills development and youth economic participation in Kiharu. Thus, the study's empirical problem was the limited evidence concerning how technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development influence youth economic participation among TVET graduates in Kiharu Sub-County, Murang'a County, Kenya. The study therefore examined the influence of TVET skills development on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya.

1.4 Specific Objectives

The study focused on the following specific objectives:

i. To assess the influence of technical skills acquisition on youth economic participation in Kiharu sub county, Murang'a county, Kenya.
ii. To examine the effect of entrepreneurship skills development on youth economic participation in Kiharu sub county, Murang'a county, Kenya.
iii. To explore the influence of work-based learning on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

iv. To evaluate the effect of employability skills development on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

1.5 Research Hypotheses

H_{01}: Technical skills acquisition has no statistically significant influence on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

H_{02}: Entrepreneurship skills development has no statistically significant effect on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

H_{03}: Work-based learning has no statistically significant influence on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

H_{04}: Employability skills development has no statistically significant effect on youth economic participation in Kiharu sub county, Murang'a county, Kenya.

1.6 Justification of the Study

Youth unemployment and underemployment remain persistent challenges in Kiharu sub county, despite the availability of Technical and Vocational Education and Training programs. Although TVET is designed to equip youth with employable skills and entrepreneurial capacity, evidence suggests that many graduates are unable to convert these skills into sustainable economic activities due to structural, socio-economic, and cultural barriers. This study was therefore necessary to understand how TVET influences youth economic participation in the county and to identify the factors that facilitate or hinder the effective utilization of acquired skills.

The study was particularly justified by the existing knowledge gap at the county level. While national statistics provide insights into youth unemployment and underemployment, there is limited empirical research examining the direct influence of TVET skills development on youth economic participation in Kiharu sub county. Most prior studies have focused on access to training, general youth unemployment, or national-level trends, neglecting contextual factors

such as local labor market conditions, entrepreneurial opportunities, and socio-cultural perceptions of vocational careers. The study addressed this gap by providing localized evidence on the interplay between TVET skills development and youth economic participation.

Furthermore, the study was justified by the practical challenges faced by TVET graduates. Despite completion of technical programs, youth in Kiharu sub county often experience difficulties in securing formal employment, generating sustainable income, or establishing viable businesses. Investigating the influence of technical skills acquisition, entrepreneurship skills development, work-based learning and employability skills development may help to uncover the specific barriers and opportunities that influence youth economic participation. In essence, the study warranted because it addresses a critical socio-economic problem, fills a contextual research gap and provides evidence to improve the practical impact of TVET on youth economic participation in Kiharu sub county.

1.7. Significance of the Study

The study may support the global development goal by demonstrating how the growth of TVET skills affects young people's economic engagement. Target 4.4 of Sustainable Development Goal (SDG) 4, which aims to raise the number of young people and adults with the necessary technical and vocational skills for employment, decent jobs, and entrepreneurship, may benefit from the findings. The results may also help achieve SDG 8, especially Targets 8.3 and 8.6, which support decent work, entrepreneurship, productive employment, and a decrease in the percentage of young people without jobs, education, or training. Evidence on technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills may therefore inform strategies for improving the transition of TVET graduates into productive economic activities.

At the local level, the results may help African development priorities that emphasize youth skills development, employment creation, entrepreneurship, and inclusive economic growth.

Evidence on the relationship between TVET skills and youth economic participation may inform implementation of regional priorities under the African Union Agenda 2063, particularly its emphasis on skilled human capital, youth empowerment, decent employment, and entrepreneurship. The findings may also provide useful evidence for stakeholders seeking to strengthen the relevance of vocational training to labour-market and enterprise opportunities within African economies.

At the national level, the study may contribute to the implementation of Kenya Vision 2030, particularly the Social and Economic Pillars that prioritize human capital development, employment creation, skills development, and a productive workforce. The findings may assist national and county policymakers in assessing whether TVET skills development is adequately preparing young people for employment and self-employment. The evidence may also inform implementation of Kenya's TVET policy and skills development priorities by identifying areas requiring greater attention in technical training, entrepreneurship development, work-based learning, and employability skills.

The findings may be useful to policymakers and government agencies responsible for TVET, youth employment, and economic development. Evidence on the specific skills that influence youth economic participation may support the development and refinement of interventions aimed at reducing youth unemployment and underemployment. At the county level, the findings may assist the Murang'a County Government and other relevant stakeholders in designing youth economic empowerment initiatives that are aligned with local employment, enterprise, and skills-development opportunities.

The study may also benefit TVET institutions and training providers by identifying areas where training may not adequately respond to labour-market requirements. Evidence on technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills may inform curriculum improvement, practical training, career guidance,

entrepreneurship support, and stronger linkages between TVET institutions and industry. Such improvements may enhance the ability of TVET graduates to apply their skills in employment and self-employment.

The findings may further benefit young people and youth-serving organizations by providing evidence on the skills that are most relevant to economic participation. This may inform the design of targeted mentorship, entrepreneurship, workplace exposure, and skills-enhancement programmes aimed at improving young people's transition from training to employment or enterprise development. In the longer term, improved skills utilization may contribute to increased youth productivity, income generation, and participation in local economic activities. Additionally, by offering actual data on the impact of particular TVET skills development characteristics on youth economic participation, the study may advance scholarly understanding. By examining technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills separately, the study may provide a more specific understanding of the mechanisms through which TVET training contributes to economic participation. The findings may therefore provide a basis for future studies on TVET, youth employment, skills development, and inclusive economic growth in Kenya and other comparable contexts.

1.8 Scope and Delimitations of the Study

The research was designed to thoroughly examine the impact of technical and vocational education and training on the economic involvement of adolescents in Kiharu sub county. Its scope was specified geographically, theoretically, and demographically to guarantee a focused inquiry.

The research was limited to Kiharu sub county, which is known for its expanding young population, mostly agricultural economy, new small businesses, and expanding technical training facilities. This localized focus enables an in-depth understanding of the county-specific

dynamics that influence how TVET graduates engage in employment, entrepreneurship, and other economic activities.

Conceptually, study's scope was restricted to explore at influence of four key aspects of skills development; technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills on youth economic participation. Youth economic participation assessed through indicators such as employment status, income level, entrepreneurial engagement, and labor market participation intensity. Broader macroeconomic factors or national-level policies was not examined in detail, except where they intersect with these selected variables.

Demographically, the study targets youth aged 18–35 years who are enrolled in, have completed, or have discontinued TVET programs within the county. The group represents the most active segment in terms of labor market engagement and economic participation. Additionally, key informants including TVET instructors, training institution administrators, and local government officials involved in youth skills development will be engaged to provide qualitative insights that complement the primary data.

Delimitations include acknowledging that, given the unique socioeconomic and cultural context of Kiharu sub county, results could not be applicable to other counties or metropolitan environments. Furthermore, while the study focuses on TVET and its direct influence on youth economic participation, it does not extensively examine other contributing factors such as family background, personal motivation, or broader socio-economic policies. The study provided context-specific evidence to direct useful actions and policies targeted at increasing youth economic participation in Kiharu sub county by focusing on TVET and its explicit correlates.

1.9. Assumptions of the Study

The study was predicated on a number of presumptions that are essential to the investigation process and the reliability of its conclusions. It assumed that the respondents, including youth enrolled in, who have completed, or who have discontinued TVET programs in Kiharu sub county, provided honest, accurate, and reliable information regarding their technical skills acquisition, entrepreneurship skills, work-based learning experiences, employability skills, employment status, income levels, and engagement in entrepreneurial or labor market activities.

It also assumed that Technical and Vocational Education and Training institutions in the county have functional administrative systems and maintain accurate records that can provide relevant information about enrollment, completion, and dropout rates of youth. Furthermore, the study assumes that labor market conditions in Kiharu sub county during the study period reflected the typical opportunities and challenges that youth encounter in seeking employment or engaging in entrepreneurial ventures.

Additionally, it assumed that socio-economic and cultural factors within the county, such as attitudes toward vocational training, entrepreneurship, and work-based learning, influence youth economic participation in a manner consistent with prior literature. Finally, it was assumed that the study's instruments and methodology effectively capture the relationships between TVET skills development and youth economic participation, allowing for valid, reliable, and context-specific conclusions to be drawn.

1.10 Conceptual Framework

The conceptual framework illustrates the key variables of the study and the presumed relationships between them (Salawu, 2023). The study's conceptual framework aimed at demonstrated the relationships between youth economic participation in Kiharu Sub-County and the development of technical and vocational education and training skills. The framework

identifies TVET skills development as the independent variable, which was operationalized through four key dimensions: technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development. These dimensions represent the practical, cognitive, and professional competencies that youth acquire through TVET programs and are assumed influence their capacity to engage in economic activity successfully.

The dependent variable is youth economic participation, which encompasses indicators such as employment status, income level, entrepreneurial engagement, and labor market participation intensity. It reflects the extent to which youth can translate the skills gained through TVET into meaningful economic outcomes, including securing formal employment, generating sustainable income, or establishing and managing businesses. Figure 1 presented the conceptual framework.

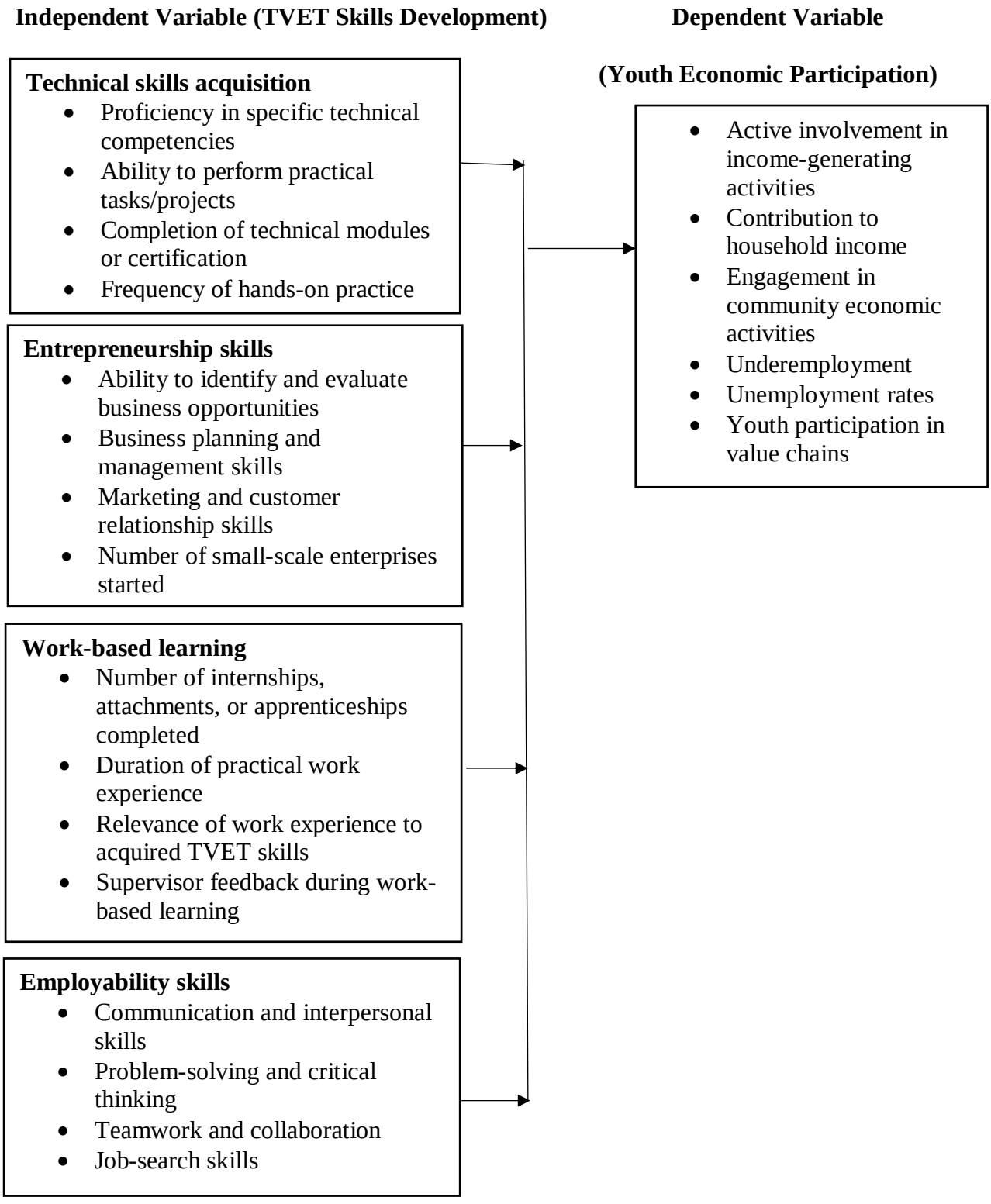


Figure 1: Conceptual Framework.

1.11 Operational Definition of Key Terms

Technical and Vocational Education and Training Skills Development: The structured process through which youth acquire practical, technical, entrepreneurial, and employability

competencies aimed at enhancing their ability to engage in economic activities. TVET skills development in this study refers to the combination of formal training, practical exercises, and exposure to work-based experiences that prepare youth for employment or self-employment.

Technical Skills Acquisition: The process through which youth gain practical and specialized abilities in specific trades or professions, such as carpentry, electrical work, ICT, or mechanics, that enable them to perform tasks competently and efficiently in the labor market.

Entrepreneurship Skills Development: The process of equipping youth with knowledge, attitudes, and abilities to identify business opportunities, plan and manage ventures, market products or services, and mobilize resources, thereby enhancing their capacity to start, operate, and sustain income-generating activities.

Work-Based Learning: Structured practical experiences, including internships, attachments, apprenticeships, and on-the-job training, through which youth apply theoretical knowledge in real-world settings, gain exposure to industry practices, and develop professional competencies that enhance employability and economic participation.

Employability Skills Development: The process of cultivating fundamental transferable skills, such as problem-solving, communication, teamwork, time management, and job-search abilities, that help young people find, keep, and succeed in employment as well as successfully adjust to shifting labor market demands.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter entails a comprehensive review of existing literature on the influence of Technical and Vocational Education and Training development skills on youth economic participation. The chapter is organized into four main sections: the study's theoretical foundation, an empirical review organized in line with its objectives, the identification of research gaps, and a summary of chapter.

2.1 Theoretical Framework

This study is anchored on Human Capital Theory and Entrepreneurship Theory. These theories were selected because they provide a strong foundation for explaining how skills development through Technical and Vocational Education and Training influences youth economic participation. Although both are classical theories, they remain highly relevant in contemporary research when interpreted within current socio-economic realities such as unemployment, skills mismatch, technological change, and evolving labour market demands in Kenya and globally (Schultz, 1961; Becker, 1964; Schumpeter, 1934).

Human Capital Theory helps explain how investment in education and skills enhances individuals' productivity and employability, while Entrepreneurship Theory explains how skills, innovation, and opportunity recognition contribute to self-employment and enterprise creation. Together, the two theories provide a complementary lens for understanding both wage employment and self-employment pathways through which TVET skills influence youth economic participation in Kiharu Sub-County.

2.1.1 Human Capital Theory

Human Capital Theory provides the primary theoretical foundation for this study by explaining how investment in education, training, and skills development enhances individual productivity

and generates economic returns. The theory was initially advanced by Schultz (1961) and subsequently developed by Becker (1964), who conceptualized education and training as investments that increase individuals' productive capabilities, employability, and potential earnings. Goldin (2024) further emphasizes that the accumulation of knowledge and skills strengthens individuals' capacity to respond to economic opportunities and participate productively in the labour market. The theory is therefore relevant to this study because TVET represents a deliberate investment in occupational and transferable skills intended to enhance youth economic participation.

The application of Human Capital Theory in this study is based on the assumption that relevant TVET skills increase the productive capacity of youth and consequently enhance their economic participation. Technical skills acquisition provides occupation-specific competencies needed to perform productive tasks. Entrepreneurship skills development strengthens the ability to identify opportunities, establish enterprises, and manage business resources. Work-based learning enables learners to apply acquired knowledge in practical workplace settings, while employability skills enhance communication, teamwork, adaptability, and problem-solving. These dimensions represent complementary forms of human capital that can improve young people's capacity to participate in economic activities.

Technical skills acquisition is consistent with the human capital proposition because occupation-specific competencies enhance an individual's capacity to perform productive tasks and respond to labour-market requirements. Maclean and Jagannathan (2024) argue that vocational training can strengthen job readiness by providing practical competencies applicable in different employment settings. Accordingly, youth who acquire relevant technical skills are theoretically expected to have greater capacity to secure employment, pursue self-employment, and undertake income-generating activities.

Entrepreneurship skills development similarly represents an investment in productive human capital because it expands the capacity of individuals to create and manage economic ventures. Competencies in business planning, financial management, opportunity identification, innovation, and risk management can strengthen young people's ability to pursue self-employment. Adeagbo et al. (2025) demonstrate that entrepreneurship-related competencies can improve young people's capacity to initiate and manage enterprises. Within this study, entrepreneurship skills are therefore expected to contribute to economic participation by creating pathways beyond conventional wage employment.

By emphasizing the value of experience learning, work-based learning expands on the human capital argument. Schultz (1961) recognized experience and training as important components of human capital formation. In TVET, workplace exposure enables learners to apply theoretical knowledge to practical tasks, develop occupational competencies, and gain familiarity with workplace expectations. This practical dimension can strengthen the transition from training to employment and other productive economic activities by improving the relevance and applicability of acquired skills.

Employability skills development further complements technical and entrepreneurial competencies by strengthening the capacity of youth to obtain, perform in, and retain economic opportunities. Skills such as communication, teamwork, adaptability, and problem-solving are particularly important in changing labour-market environments. Ukaj et al. (2024) emphasize that such competencies contribute to workplace effectiveness and labour-market success. Consequently, employability skills are expected to enhance the ability of TVET graduates to translate their technical knowledge into productive economic participation.

These theoretical propositions collectively suggest that technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development should positively influence youth economic participation. Human Capital Theory

therefore provides a coherent explanation for examining the four dimensions of TVET skills development as determinants of employment, self-employment, entrepreneurship, income generation, and other productive economic activities.

However, Human Capital Theory may overemphasize the productive value of skills without fully accounting for individuals' opportunities to apply them. Sen's (1999) Capability Approach addresses this limitation by emphasizing the ability to convert acquired capabilities into meaningful economic outcomes. Nussbaum (2011) similarly argues that substantive opportunities are necessary for individuals to realize their capabilities.

This perspective is relevant to TVET because skills acquisition does not automatically guarantee economic participation. Graduates may possess relevant competencies but remain unemployed or underemployed when opportunities to apply their skills are limited. The Capability Approach is therefore used as a critical perspective, while Human Capital Theory remains the principal theoretical foundation of the study.

Accordingly, Human Capital Theory explains the expected influence of TVET skills development on youth economic participation, while the Capability Approach provides a critical lens for understanding why acquired skills may not always translate into actual economic outcomes. This positioning provides a coherent basis for examining the influence of technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development on youth economic participation among TVET graduates in Kiharu Sub-County.

2.1.2 Entrepreneurship Theory

Entrepreneurship Theory, originally advanced by Schumpeter (1934), conceptualizes entrepreneurship as a process through which individuals introduce innovations, mobilize resources, and create new economic opportunities. Central to the theory is the concept of creative destruction, through which new products, services, production methods, and business

models transform existing economic activities. Schumpeter and Swedberg (2021) further emphasize that entrepreneurs act as agents of economic change by converting ideas and resources into viable ventures that contribute to economic growth and employment creation.

The theory is especially pertinent to this research since it clarifies the entrepreneurial pathway through which TVET skills can contribute to youth economic participation. While TVET provides technical competencies for occupational performance, entrepreneurship skills enable graduates to identify opportunities and apply their competencies through self-employment and enterprise creation. Maclean and Wilson (2009) emphasize the importance of integrating entrepreneurial competencies within vocational education, while UNESCO-UNEVOC (2018) highlights the role of TVET in developing entrepreneurial mindsets that enable young people to pursue both employment and enterprise opportunities.

Within this study, entrepreneurship skills development encompasses competencies in opportunity identification, business planning, financial management, innovation, risk assessment, and enterprise management. These competencies are expected to strengthen the capacity of TVET graduates to convert their vocational knowledge into productive economic activities. Entrepreneurship Theory therefore provides a basis for expecting graduates with stronger entrepreneurial competencies to be more capable of initiating businesses, pursuing self-employment, generating income, and creating employment.

The relevance of the theory is further demonstrated by the challenges associated with the transition of young people from training into the labour market. The existence of TVET qualifications does not necessarily guarantee that graduates will obtain wage employment. Entrepreneurship provides an alternative pathway through which graduates can create their own economic opportunities by applying acquired technical and business competencies. This is particularly important in situations where the increasing number of young people entering the labor market cannot be accommodated by official work options.

Entrepreneurship Theory also recognizes the importance of innovation and calculated risk-taking in enterprise development. Schumpeter (1934) views innovation as a central function of entrepreneurship because entrepreneurs introduce new ways of producing, marketing, or delivering goods and services. In the context of TVET, graduates who combine technical expertise with entrepreneurial competencies may be better positioned to identify unmet market needs and develop enterprises around their occupational skills. Jamogha and Andem (2025) similarly associate innovation, creativity, and risk-taking with young people's capacity to pursue self-employment and respond to changing economic conditions.

Empirical evidence provides further support for the theoretical relationship. López-Rubio et al. (2021) found that entrepreneurship training increases the likelihood of business start-up and contributes to enterprise sustainability among young people. This suggests that entrepreneurship education can move beyond knowledge acquisition by strengthening the capacity to initiate and sustain economic ventures. In the TVET context, Maclean and Wilson (2009) similarly argue that entrepreneurship-oriented training can facilitate graduates' transition from vocational education into productive economic engagement.

However, Entrepreneurship Theory also recognizes that entrepreneurial outcomes are influenced by the ability to apply entrepreneurial competencies in real economic settings. Possessing business knowledge or entrepreneurial skills does not necessarily result in enterprise creation or sustainability. Israel (2024) notes that entrepreneurial outcomes are influenced by the wider institutional and economic environment, while Mbetjiha (2025) identifies access to finance, markets, infrastructure, and appropriate regulatory conditions as important factors in enterprise success. These considerations do not replace the theoretical focus on entrepreneurial competencies but demonstrate that entrepreneurship involves the practical application of skills within an economic environment.

This viewpoint is especially pertinent to the current investigation because youth economic participation is broader than formal employment. It includes self-employment, business ownership, income-generating activities, and enterprise development. Entrepreneurship Theory consequently provides an appropriate lens for understanding how TVET graduates may use their acquired competencies to participate economically, particularly where conventional wage-employment opportunities are limited.

The theory complements Human Capital Theory, it provides the study's main theoretical framework. Human Capital Theory explains how investment in education and training develops productive capabilities, whereas Entrepreneurship Theory provides a more specific explanation of how those capabilities can be applied through innovation, self-employment, and enterprise creation. The two theories were therefore complementary: Human Capital Theory explains the development and economic value of skills, while Entrepreneurship Theory explains the entrepreneurial application of those skills.

Accordingly, Entrepreneurship Theory provides the theoretical basis for examining the influence of entrepreneurship skills development on youth economic participation among TVET graduates in Kiharu Sub-County. It proposes that stronger entrepreneurial competencies enhance graduates' capacity to identify opportunities, initiate and manage enterprises, generate income, and create employment. The theory was therefore particularly relevant to explaining the self-employment and enterprise-development pathway through which TVET skills may contribute to youth economic participation in Kiharu Sub-County, Murang'a County.

2.2 Review of Empirical Literature

A literature review provides a critical examination of prior research on a given topic, allowing the researcher to identify gaps, trends, and methodological approaches (Van Der Waldt, 2021). Empirical literature, in particular, refers to studies that are grounded in observation, data collection, and analysis, providing evidence-based insights into specific phenomena (Mauer &

Venecek, 2022). It takes into account the writings and publications of other academics on the same topic. The following research objectives served as the basis for the empirical review of the studies in this study.

2.2.1 Technical Skills Acquisition and Youth Economic Participation

Technical skills acquisition the development of occupation-specific knowledge, practical competencies, and abilities that enable individuals to perform tasks effectively in employment or self-employment. Becker (2023) argues that relevant skills increase workers' productivity and improve their capacity to respond to labour-market demands. From this perspective, youth who acquire relevant and marketable technical skills are expected to have greater opportunities for productive economic participation.

Empirical evidence from Europe supports the importance of technical and vocational skills in facilitating the transition from training to employment. In Germany, Müller and Schneider (2024), using a longitudinal study of vocational education pathways, found that young people who completed dual vocational training had higher employment rates and stronger labour-market integration than those without comparable vocational training. The findings suggest that structured technical training can provide young people with occupational competencies that improve their transition into employment. The longitudinal nature of the study is particularly important because it demonstrates that the benefits of vocational training can extend beyond the training period into subsequent labour-market participation. However, the study mainly assessed outcomes through formal employment and therefore provides limited insight into other forms of youth economic participation, such as self-employment, small-scale enterprise, and informal income-generating activities.

In Latin America, García and López (2024), using a mixed-methods study in Mexico, similarly found that technical skills acquisition improved young people's access to stable employment and income. The study reported that youth with vocational competencies were more likely to

secure employment and achieve greater income stability. The findings reinforce the argument that technical competencies can improve the ability of young people to convert training into economic opportunities. Nevertheless, the predominantly urban setting of the study limits the extent to which its findings can explain the experiences of youth in economies where agricultural activities, small enterprises, and informal employment constitute important sources of livelihood. The study therefore demonstrates the general importance of technical skills but leaves unanswered whether the same relationship exists under different local economic conditions.

Evidence from Sub-Saharan Africa provides further support for the relationship between technical skills and economic participation. In South Africa, Nkosi et al. (2024) found that technical skills acquisition increased youth participation in wage employment and self-employment. The results are very pertinent to the current investigation because they demonstrate that technical competencies may support both wage employment and entrepreneurial engagement. This suggests that the contribution of technical skills is not restricted to helping youth obtain jobs but may also increase their ability to utilize occupational competencies in self-employment. However, the study measured economic participation mainly through employment status and therefore provided limited evidence on the quality, sustainability, and diversity of economic engagement. Consequently, the extent to which technical skills contribute to broader economic participation remains insufficiently established.

Similar evidence is reported in Ghana. Owusu and Boateng (2025), in examining TVET programme effectiveness, found that TVET contributed significantly to youth employment and entrepreneurship. The findings indicate that vocational education can support both labour-market entry and enterprise development. The study is relevant because it recognizes that economic participation can occur through more than formal employment. However, TVET was examined as a composite intervention, making it difficult to isolate the specific contribution of

technical skills acquisition from other components such as entrepreneurship training, institutional support, and mentorship. Thus, although the study establishes the broader value of TVET, it does not adequately explain whether technical skills acquisition independently influences youth economic participation.

In Tanzania, Msuya and Komba (2021) found that TVET graduates with technical skills were more engaged in income-generating activities, particularly agriculture and small enterprises, than youth without comparable training. The findings are significant for developing-country contexts because they demonstrate the potential of technical skills to support economic activities beyond formal wage employment. They also suggest that vocational competencies can be applied within local livelihood systems rather than only within formal labour markets. However, the study focused primarily on whether youth had received TVET training and participated in income-generating activities, providing limited evidence on how the level and relevance of specific technical skills acquired influence the extent of economic participation. This leaves uncertainty regarding whether better technical skills acquisition translates into stronger economic outcomes.

The Kenyan evidence also demonstrates a positive relationship between technical training and youth economic outcomes. Mwangi (2023), in a study conducted in Nakuru County, found that technical training improved youth employability and increased participation in wage employment and self-employment. The study demonstrates that vocational competencies can facilitate young people's transition into different forms of economic activity. However, the emphasis was primarily on employability and employment outcomes, with limited examination of technical skills acquisition as a distinct explanatory variable. Consequently, the study does not sufficiently establish which aspects of technical skills acquisition are most important in enabling youth to participate in economic activities.

Similarly, Wambua and Kariuki (2024), in Nairobi County, found that TVET graduates were more likely to engage in entrepreneurship and microenterprise development than non-trained youth. This finding demonstrates the potential of vocational training to support enterprise-based economic participation. It is particularly relevant because it extends the discussion beyond formal employment to entrepreneurship. However, Nairobi's predominantly urban economic environment provides graduates with different access to markets, industries, customers, training facilities, and employment opportunities compared with youth operating in less urbanized settings. Thus, the results offer valuable evidence of a link between TVET and economic participation but do not adequately explain how technical skills acquisition influences this relationship within a local economy such as Kiharu.

The reviewed literature generally establishes a positive relationship between technical skills acquisition and youth economic participation. Technical competencies improve young people's capacity to secure employment, pursue self-employment, establish enterprises, and engage in income-generating activities. However, important gaps remain. First, many studies measure economic participation mainly through employment, overlooking self-employment, entrepreneurship, agriculture, informal work, and other income-generating activities. Second, some studies treat TVET as a broad intervention rather than isolating technical skills acquisition, making its specific contribution difficult to determine. Third, much of the evidence comes from urban or broader regional contexts and may not reflect the economic realities of rural areas. Moreover, limited evidence exists on how technical skills acquired by TVET graduates translate into economic participation within specific local labour markets in Kenya.

2.2.2 Entrepreneurship Skills and Youth Economic Participation

Entrepreneurship skills are the abilities to recognize possibilities, create and run enterprises, innovate, manage resources, and take measured risks are all considered entrepreneurial talents. Within TVET, these skills complement technical competencies by supporting self-

employment, enterprise development, and income generation (Tunio et al., 2021). From a Human Capital Theory perspective, investment in entrepreneurship skills enhances productive capabilities and economic value creation (Becker, 2023). Entrepreneurship skills may therefore influence youth economic participation through business creation, self-employment, income generation, and enterprise growth.

Bhardwaj et al. (2025) examined entrepreneurship competencies among urban youth in India using a cross-sectional research design. The study found that youth with stronger entrepreneurship competencies demonstrated greater business survival and adaptability, while those with weaker competencies were more likely to participate in informal and low-productivity economic activities. The study contributes evidence that entrepreneurial competencies extend beyond business start-up and can influence the ability of young people to sustain and adapt their economic activities. Its cross-sectional approach, however, makes it difficult to determine how entrepreneurial abilities affect economic outcomes over time. Furthermore, the study did not specifically look at entrepreneurship abilities learned through TVET; instead, it concentrated on urban adolescents. Therefore, the results offer valuable proof of the connection between economic involvement and entrepreneurship competencies, but they do not clarify how structured vocational training influences these competencies.

Salter and Almehdawe (2022) used longitudinal administrative data in Canada to examine the relationship between entrepreneurial competencies and youth economic outcomes. They found that youth with stronger entrepreneurial competencies recorded higher self-employment rates and greater entrepreneurial income over time. The longitudinal approach strengthens the evidence because it allows entrepreneurial outcomes to be examined beyond the initial stage of business entry. The study also demonstrated disparities between Indigenous and non-Indigenous youth, suggesting that structural conditions can influence the extent to which entrepreneurship competencies translate into economic outcomes. Nevertheless, the study did

not examine vocational or technical training as a mechanism through which entrepreneurship competencies are developed. Its Canadian context also differs from the institutional and socioeconomic conditions of TVET graduates in Kenya.

Ebiye et al. (2025) conducted a descriptive survey in Nigeria to examine entrepreneurship skills and youth economic participation. The study found that youth with inadequate entrepreneurship skills experienced difficulties in financial planning, understanding markets, and managing business risks, which constrained their participation in economic activities. Conversely, youth with stronger entrepreneurship competencies were more likely to engage in business creation and income generation. The study demonstrates the practical importance of entrepreneurship competencies in converting business opportunities into economic activities. However, its descriptive design provides limited evidence on causal relationships, and the study did not specifically examine entrepreneurship skills developed through TVET institutions. It therefore leaves a gap regarding the contribution of structured TVET-based entrepreneurship training to youth economic participation.

Senga and Kiilu (2021) investigated youth entrepreneurship in Machakos County, Kenya. According to the study, young people who had greater entrepreneurial skills were more likely to establish businesses, access credit, and participate in local economic activities. The findings demonstrate that entrepreneurship competencies can support both enterprise creation and access to resources required for economic engagement. The study is particularly relevant to the Kenyan context because it considers youth operating within a local county economy. However, it did not specifically examine TVET graduates or entrepreneurship skills acquired through TVET institutions. It therefore does not establish whether entrepreneurship training provided within the TVET system produces similar economic outcomes.

Nyaga (2023) examined entrepreneurship training and youth economic participation in Nairobi County. The study found that entrepreneurship training improved youth self-employment and

business creation. The findings support the argument that entrepreneurship training can provide young people with competencies needed to pursue economic opportunities independently. Nevertheless, the study did not particularly look at TVET-based entrepreneurship training and was carried out in an urban setting. Nairobi also provides a different business environment in terms of market access, enterprise opportunities, and availability of business support services. Consequently, the findings provide limited evidence on how entrepreneurship skills influence economic participation among TVET graduates in less urbanized local economies.

Kamau (2024) examined entrepreneurship training and youth economic outcomes in Murang'a County. The study found that entrepreneurship training positively influenced youth self-employment and income generation. This finding is particularly relevant because it provides evidence from the same county as the present study and confirms the potential contribution of entrepreneurship training to youth economic participation within the local context. However, the study did not specifically focus on entrepreneurship skills acquired through TVET institutions. It also did not establish whether the skills acquired were translated into sustained enterprise development or broader forms of economic participation. Thus, evidence remains limited regarding the specific contribution of TVET-based entrepreneurship skills among youth in Kiharu Sub-County.

Otieno and Wambui (2024) examined entrepreneurship skills development among youth in Kisumu County and found that entrepreneurship programmes increased business start-up rates and income generation. The findings suggest that entrepreneurship skills can facilitate entry into economic activities by enabling young people to establish enterprises and generate income. However, the study focused mainly on short-term business creation outcomes and did not adequately assess enterprise survival, growth, or long-term income stability. In addition, it did not specifically examine entrepreneurship skills acquired through TVET institutions. The study

therefore provides evidence of the immediate economic value of entrepreneurship training but leaves uncertainty regarding its longer-term contribution to youth economic participation.

The reviewed literature generally establishes that entrepreneurship skills enhance youth economic participation by supporting business creation, self-employment, income generation, and enterprise sustainability. However, the literature differs in how economic participation is measured, with some studies focusing on business start-up and employment while others consider income, enterprise survival, and business growth. These differences in measurement and research designs contribute to variations in findings. The evidence also indicates that entrepreneurship skills alone may not guarantee economic success, as access to finance, markets, mentorship, and institutional support can influence outcomes.

In Kenya, existing studies confirm the contribution of entrepreneurship skills to youth economic participation, but most focus on general youth populations rather than TVET graduates. Limited evidence also exists on the sustainability of enterprises and the application of entrepreneurship skills within rural local economies. Therefore, the specific gap was the limited evidence on the extent to which entrepreneurship skills developed through TVET influence youth economic participation among TVET graduates in Kiharu Sub-County, Murang'a County. The study addressed this gap by examining entrepreneurship skills development as a distinct dimension of TVET skills development.

2.2.3 Work-Based Learning and Youth Economic Participation

Work-based learning is the structured practical experiences through which learners apply acquired knowledge and skills in real or simulated work environments. In TVET, WBL bridges theoretical training and labour-market requirements by providing practical exposure, workplace experience, mentorship, and opportunities to develop occupational competencies (Johnson, 2024; Plasman & Thompson, 2023). Effective WBL can strengthen the transition

from training to productive economic participation by enhancing graduates' workplace readiness, adaptability, and employability.

Stöterau et al. (2022) conducted a meta-analysis of vocational training interventions in Germany and found that youth who participated in apprenticeship-based WBL achieved higher employment rates, increased earnings, and stronger career mobility than those without comparable workplace exposure. The study also found that WBL contributed to the development of problem-solving, adaptability, and professional confidence in addition to technical competencies. The use of evidence from multiple vocational training interventions strengthens the reliability of the finding because it provides a broader assessment than a single institutional study. However, the study also identified disparities in access to WBL, particularly among youth from lower socioeconomic backgrounds and rural areas, but did not sufficiently explain how institutional arrangements could reduce these disparities. The findings therefore establish the potential value of WBL while suggesting that access and implementation conditions may influence its economic returns.

Majola (2024) used a mixed-methods approach in South Africa's Eastern Cape to examine the relationship between WBL and youth economic outcomes. The study found that youth who participated in structured WBL programs recorded higher job-placement rates, improved employability skills, and stronger professional networks than those without workplace exposure. The qualitative component further demonstrated the importance of workplace experience in developing practical understanding of occupational expectations. These findings suggest that WBL can facilitate the transition from training to employment by providing competencies and networks that may not be acquired through classroom instruction alone. However, the study focused mainly on post-secondary TVET graduates and emphasized initial job placement rather than long-term income stability, enterprise sustainability, or participation

in informal economic activities. This limit understanding of whether the observed benefits of WBL are sustained after graduates enter the labour market.

Onyiorah (2026) examined WBL in relation to employability competencies among university students in Nigeria. The study found that students who participated in WBL were more likely to demonstrate stronger problem-solving skills, develop professional networks, and pursue self-employment. The findings extend the understanding of WBL beyond formal employment by showing that workplace exposure may also strengthen competencies relevant to entrepreneurship. However, the study focused on university students in an urban setting rather than TVET learners. University students may have different educational pathways, occupational expectations, and labour-market opportunities from TVET trainees. The findings therefore provide useful evidence on the value of practical workplace exposure but cannot directly establish how WBL within the TVET system influences economic participation among vocational graduates.

Herano (2024) examined informal-sector engagement and youth unemployment in Ethiopia and found that participation in WBL improved youth employability, income levels, and economic resilience. The study is important because it considers economic participation beyond formal employment and recognizes the relevance of informal economic activities to youth livelihoods. However, the study also identified poor programme quality, inadequate supervision, and limited placement opportunities as barriers to effective WBL. These findings indicate that access to WBL does not automatically produce positive economic outcomes; the quality of implementation and institutional support may determine whether workplace exposure translates into useful skills and economic opportunities. The study therefore introduces an important implementation dimension that is not sufficiently addressed in studies that focus only on whether youth participated in WBL.

Mwangi (2024) examined WBL among youth in Nairobi County and found that participation in workplace learning was associated with stronger entrepreneurial orientation, improved market understanding, and greater engagement in economic activities. The study further reported that combining workplace exposure with mentorship enhanced employability and entrepreneurship outcomes. This evidence is relevant to the Kenyan context because it demonstrates that practical exposure may contribute to both employment-oriented and entrepreneurial forms of economic participation. However, the study identified limited placement opportunities, weak supervision, and inadequate formal recognition of WBL experiences as implementation challenges. Its Nairobi setting also limits its ability to explain whether similar outcomes occur in areas where formal employment opportunities and industry placements are less readily available.

Muchira et al. (2023) examined TVET curriculum implementation in Kenya and found that youth who participated in WBL were more engaged in income-generating activities and local economic development than those without workplace exposure. The study emphasized the importance of practical training, mentorship, and workplace exposure in facilitating economic participation. Its focus on TVET curriculum implementation makes it particularly relevant because it links WBL directly to the vocational training system rather than treating workplace exposure as an independent youth intervention. However, the study was largely urban-focused and provided limited evidence on differences in access to WBL among youth in less urbanized areas. It therefore leaves questions regarding how local availability of industries, enterprises, and placement opportunities influences the effectiveness of WBL in different Kenyan contexts.

The reviewed literature generally establishes that work-based learning enhances youth economic participation by providing practical exposure, strengthening occupational competencies, improving employability, and facilitating access to workplace networks. However, the benefits of WBL are not uniform across contexts. Its effectiveness depends on

the quality of training, availability of placement opportunities, supervision, mentorship, and alignment between workplace experience and labour-market needs. Thus, participation in WBL alone may not guarantee meaningful economic outcomes.

Differences in research designs and measures of economic participation also contribute to variations in findings. While some studies focus on employment and job placement, others examine income generation, entrepreneurship, professional networks, and broader livelihood outcomes. This indicates that youth economic participation extends beyond formal employment and should incorporate diverse and sustained forms of economic engagement.

The literature further suggests that WBL is most effective when workplace exposure is supported by structured supervision, relevant practical tasks, mentorship, and meaningful employer engagement. In Kenya, existing evidence supports the contribution of WBL to employability, entrepreneurship, and income-generating activities, but remains limited among TVET graduates in rural local economies. Therefore, the specific gap was the limited evidence on how WBL influences the broader and sustained economic participation of TVET graduates in Kiharu Sub-County. The study consequently examined whether workplace exposure, practical application, mentorship, and industry interaction enhance youth employment, self-employment, income generation, and other productive economic activities in the study area.

2.2.4 Employability Skills Development and Youth Economic Participation

Employability skills development enables TVET graduates to translate technical competencies into meaningful economic opportunities. Communication, teamwork, problem-solving, flexibility, digital literacy, and work discipline are examples of skills that improve workplace performance, job preparation, and the ability to adjust to shifting labor market demands. Thus, employability skills complement technical training by strengthening graduates' ability to secure, sustain, and diversify employment and self-employment opportunities.

Fakunle and Higson (2021) examined structured employability skills training among university graduates in the United Kingdom. They established that graduates who received formal employability training were more likely to find work, show efficacy in the workplace, and adjust to shifting demands. The idea that employability qualities ease the transition from education to work is supported empirically by the study. However, its focus on university graduates and formal employment in a developed labour market limits its applicability to TVET graduates in developing economies. In addition, the study does not consider self-employment and informal economic activities, which are important dimensions of youth economic participation in Kenya.

Stallings (2024) investigated employer expectations of entry-level workers in the United States and found that communication, teamwork, and problem-solving skills were associated with employee productivity, retention, and workplace performance. The study provides an employer-oriented perspective by demonstrating that employability skills are valued not merely at the point of recruitment but also during continued workplace participation. However, the study focuses primarily on formal private-sector employment and does not examine how the same competencies influence entrepreneurship, self-employment, or informal economic activities. Consequently, it provides strong evidence regarding workplace performance but limited evidence on the broader concept of youth economic participation.

Medun and Bello (2024) examined vocational skills training and youth job creation in Lagos State, Nigeria. The study revealed that youth who received structured employability skills training were more likely to engage in self-employment, cooperative enterprises, and income-generating activities. The result is significant because it extends the relationship between employability skills and economic participation beyond formal employment. It suggests that transferable competencies can support different pathways into economic activity. However, the study did not establish whether the observed economic outcomes were sustained over time or

how factors such as access to capital, mentorship, and institutional support influenced the translation of skills into economic outcomes. The findings therefore support the importance of employability skills while indicating that skills may operate together with other enabling conditions.

Ntale et al. (2025) examined structured internships among school dropouts in Uganda and found that youth who participated in structured work experiences recorded better economic outcomes than those engaged in casual or unstructured employment. The study demonstrates the importance of practical exposure in strengthening the application of employability competencies. It also suggests that employability skills may have greater economic value when they are developed and reinforced in real work environments. However, the study did not explicitly examine the role of TVET institutions in developing these competencies. Its focus on school dropouts also differs from the present study, which focuses on TVET graduates. The evidence therefore highlights the importance of practical application but leaves the contribution of TVET-based employability skills development unclear.

Otieno et al. (2024) examined employability skills training among youth in Nairobi and Kiambu counties and found that youth who received structured employability training demonstrated higher employability levels, greater entrepreneurship initiation, and stronger participation in local economic activities. The study is particularly relevant to Kenya because it links employability skills with both employment-oriented and entrepreneurial forms of economic engagement. However, its urban focus limits its ability to explain the experiences of youth in local economies where formal employment opportunities are more limited and informal economic activities are more prominent. In addition, the study does not specifically isolate TVET graduates, leaving uncertainty regarding the contribution of employability skills developed within the TVET system.

KNBS (2021) provides national evidence on the nature of youth employment in Kenya, reporting substantial participation in casual, temporary, and part-time employment. This evidence demonstrates that obtaining some form of employment does not necessarily imply meaningful or stable economic participation. The finding is important for interpreting employability skills because young people may possess relevant competencies but remain in low-quality employment because of limited opportunities in the labour market. However, the KNBS evidence is descriptive and does not establish whether differences in employability skills explain differences in youth economic participation. It therefore provides important labour-market context but does not directly establish the effect of employability skills development.

Njora and Yılmaz (2022) examined participation intensity in Kenya's agricultural sector and found that higher educational attainment and technical competencies were positively associated with participation in agricultural economic activities. The study demonstrates that skills and educational attainment can enhance participation in sector-specific economic activities. However, technical competencies and educational attainment do not capture the broader range of transferable employability skills considered in the present study. In addition, the focus on agricultural participation provides limited evidence on how employability skills influence employment, self-employment, entrepreneurship, and other forms of economic participation among TVET graduates.

The reviewed literature provides substantial evidence that employability skills development contributes to youth economic participation by strengthening job readiness, workplace performance, adaptability, entrepreneurship, and income-generating capacity. Nevertheless, the nature and extent of this contribution vary across contexts. Studies in developed economies tend to associate employability skills with formal employment, productivity, and job retention, whereas evidence from developing economies places greater emphasis on self-employment,

informal work, internships, and income generation. Such differences in the conceptualization and measurement of economic participation partly account for variations in the reported findings.

The literature further indicates that the acquisition of employability skills does not automatically translate into sustained economic participation. The extent to which these skills generate economic returns is influenced by the availability of employment and enterprise opportunities, practical exposure, mentorship, access to resources, and prevailing labour-market conditions. This suggests that employability skills are most effective when supported by an enabling economic environment. Differences in research designs and outcome measures also limit direct comparison across studies, particularly where cross-sectional evidence is used to explain outcomes that may develop over time.

Within Kenya, existing evidence associates employability-related competencies with improved employment prospects, entrepreneurial engagement, and participation in economic activities. However, much of the available evidence focuses on general youth populations or urban settings, providing limited understanding of TVET graduates operating within rural local economies. More importantly, insufficient attention has been given to whether employability skills acquired through TVET translate into diverse forms of economic participation, including wage employment, self-employment, entrepreneurship, and sustained income generation.

The unresolved issue, therefore, is not whether employability skills are important, but the extent to which employability skills developed through TVET influence the economic participation of graduates within specific local contexts. This study addressed this gap by examining employability skills development as a distinct component of TVET skills development and determining its influence on youth economic participation among TVET graduates in Kiharu Sub-County, Murang'a County, Kenya.

2.2.5 Youth Economic Participation

Youth economic participation refers to young people's involvement in productive activities that generate income, support livelihoods, and contribute to household and economic development (Noah, 2021). It encompasses wage employment, self-employment, entrepreneurship, agriculture, informal work, apprenticeships, and other income-generating activities. Within TVET, participation is influenced by the relevance and application of technical, entrepreneurial, practical, and employability skills.

Escalonilla et al. (2021) conducted a comparative study across European Union countries and found that youth who successfully transitioned through structured education-to-employment pathways experienced greater income stability, stronger household economic contributions, and lower risks of unemployment. The study demonstrates that effective transitions from education into employment can improve both individual and household economic outcomes. Its comparative design provides evidence across different national labour-market environments, strengthening the understanding of the importance of structured transition pathways. However, the study primarily considers formal labour-market systems and does not specifically examine TVET pathways or distinguish between technical skills, entrepreneurship skills, work-based learning, and employability skills. Its findings therefore provide evidence on the importance of successful labour-market transition but provide limited explanation of which specific TVET skills dimensions contribute to youth economic participation.

Robles and Wiese (2023) examined structured labour-market programmes in Colombia, Mexico, and Peru and found that participation in internships and apprenticeships improved youth income, employment stability, and household economic contribution. Their findings reinforce the importance of practical and structured pathways between training and employment. However, the study also identified persistent underemployment among rural youth, whose participation was frequently characterized by informal, seasonal, and low-

intensity work. This finding is important because it demonstrates that being economically active does not necessarily imply meaningful or sustainable economic participation. Nevertheless, the study did not disaggregate the contribution of technical skills, entrepreneurship skills, work-based learning, and employability skills to these outcomes. It therefore provides useful evidence on participation outcomes but does not establish which specific skills dimensions are most important.

Mulema et al. (2021) investigated vocational training and youth economic participation in Vietnam and found that youth who participated in vocational training experienced greater employment stability and stronger engagement in formal economic activities than those without vocational training. The study supports the proposition that structured vocational education can facilitate labour-market integration through skills development and improved job matching. However, vocational training was treated largely as a broad intervention rather than separating technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills. The study also provided limited evidence on rural–urban disparities and differences in access to training. Consequently, it demonstrates the overall value of vocational training but does not explain the relative contribution of individual TVET skills components to youth economic participation.

Yangailo (2024) examined employment trends and economic policies across Sub-Saharan Africa and found that youth economic participation remains characterized by substantial unemployment, underemployment, and engagement in low-productivity informal activities. The study highlights limited access to relevant skills development and inadequate alignment between training and labour-market opportunities as important constraints to productive participation. Its regional perspective is useful because it demonstrates that youth economic participation in Sub-Saharan Africa cannot be understood exclusively through formal employment indicators. However, the study does not specifically examine TVET graduates or

establish how technical skills acquisition, entrepreneurship skills, work-based learning, and employability skills individually or collectively influence participation. The regional nature of the study also limits its ability to explain variations at the sub-county level.

Nkilijiwa and Msuya (2021) examined youth participation in agricultural cooperatives in Tanzania and found that participation in cooperative structures improved youth access to income, markets, and agricultural value chains. The study demonstrates that economic participation can occur through collective and community-based structures rather than only through individual employment or business ownership. This is particularly relevant in contexts where agriculture and informal economic activities constitute important sources of youth livelihoods. However, the study did not investigate how TVET-based skills influence entry into or performance within cooperatives. It therefore provides evidence on alternative forms of economic participation but leaves the relationship between formal skills development and community-level economic engagement insufficiently explained.

King'oro (2023) conducted a multi-county study in Kenya and found substantial regional differences in youth economic participation. Urban youth were more likely to engage in formal employment and entrepreneurship, whereas rural youth were more concentrated in informal and lower-income economic activities. The study further identified disparities in participation associated with access to capital, training opportunities, and socioeconomic conditions. These findings are important because they demonstrate that geographical context can shape the opportunities available to young people even when they possess similar aspirations or skills. However, the study did not specifically incorporate TVET skills dimensions into its explanation of youth economic participation. It therefore identifies important contextual differences but does not explain whether technical skills, entrepreneurship skills, WBL, and employability skills can improve participation among rural youth.

Bosire (2024) examined youth-led micro and small enterprises in Kenya and found that entrepreneurship skills and access to training enhanced youth participation in income-generating activities and contributed to local economic development. The study provides evidence that skills development can support youth enterprise participation and income generation. However, its emphasis on entrepreneurship limits its ability to explain the contribution of other TVET skills dimensions, particularly technical skills, work-based learning, and employability skills. It also does not examine youth economic participation among TVET graduates as a distinct population. Consequently, the study supports the importance of skills development but leaves unanswered whether an integrated TVET skills package produces broader economic participation outcomes.

The literature generally establishes that youth economic participation is shaped by relevant skills, structured training, and effective transition into the labour market. However, participation extends beyond formal employment to include self-employment, entrepreneurship, agriculture, informal work, and other income-generating activities. This broader understanding is important because the nature and quality of economic participation vary across social, geographical, and economic settings.

The reviewed studies also indicate that skills alone do not guarantee meaningful economic participation. Labour-market opportunities, access to finance, markets, workplace exposure, and institutional support influence whether acquired skills are translated into sustainable economic outcomes. Differences in research designs, study populations, geographical settings, and measures of economic participation further explain variations in findings and limit direct comparison across studies.

In Kenya, evidence shows that youth economic participation remains uneven, with rural youth more likely to engage in informal and low-income activities. Although existing studies demonstrate the contribution of training and entrepreneurship to economic engagement, they

largely examine general youth populations or individual aspects of participation rather than TVET graduates and the combined contribution of different TVET skills dimensions.

The specific gap, therefore, concerns how technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development translate into broader youth economic participation within a rural Kenyan context. In Kiharu Sub-County, limited evidence exists on whether these skills enable TVET graduates to secure employment, pursue self-employment, establish enterprises, generate income, and sustain productive economic activities. The study addressed this gap by analyzing the impact of the four TVET skills dimensions on youth economic participation among TVET graduates in Kiharu Sub-County, Murang'a County.

2.3 Summary of Literature Reviewed

Table 1: Summary of Literature Reviewed

Author & Year	Context / Country	Study Focus	Methodology	Key Findings	Gap Filled in the Present Study
Müller & Schneider (2024)	Germany	Technical skills acquisition and youth labour market integration	Longitudinal study	Youth who completed dual vocational training had higher employment rates and stronger labour market integration	Focused mainly on formal employment and excluded broader dimensions such as entrepreneurship, self-employment, and informal sector participation. The present study expands youth economic participation beyond formal employment.
García & López (2024)	Mexico	Technical skills acquisition and income security among youth	Mixed-methods study	Technical skills significantly improved access to stable employment and income security	The study was urban-centered and excluded rural youth. The current study fills this

					contextual gap by focusing on rural youth in Kiharu Sub-County.
Nkosi et al. (2024)	South Africa	Technical skills acquisition and youth employment	Quantitative survey	Technical skills increased participation in wage employment and self-employment	Economic participation was measured mainly by employment status without capturing income diversification and sustainability. This study addresses the multidimensional nature of youth economic participation.
Tunio et al. (2021)	Global	Entrepreneurship skills and youth economic participation	Empirical review	Entrepreneurship skills help youth transition from job seekers to job creators	The study did not adequately situate entrepreneurship skills within TVET systems. The present study specifically examines entrepreneurship skills within the TVET framework.
Bhardwaj et al. (2025)	India	Entrepreneurship competencies and youth business performance	Cross-sectional study	Strong entrepreneurship competencies improved business survival and adaptability	Did not examine how structured TVET systems contribute to entrepreneurship skills development or gender differences. This study fills both the TVET institutional and gender gap.
Salter & Almehdawe (2022)	Canada	Entrepreneurial competencies and self-	Longitudinal administrative data	Strong entrepreneurial competencies	The study ignored vocational

		employment outcomes		increased self-employment and entrepreneurial income	training systems and gender disparities. The present study addresses entrepreneurship development within TVET and gender inclusion.
Stöterau et al. (2022)	Germany	Work-based learning and youth employability	Meta-analysis	Apprenticeship-based WBL improved employment rates, earnings, and career mobility	The study did not examine rural inequalities and institutional access barriers. This study fills the rural access and institutional quality gap in WBL.
Majola (2024)	South Africa	Work-based learning and job placement	Mixed-methods study	WBL improved employability skills and job placement rates	Focused mainly on post-secondary graduates and short-term outcomes without examining long-term income sustainability. The present study examines broader economic participation outcomes.
Onyiorah (2026)	Nigeria	Work-based learning and employability competencies	Survey study	Youth involved in WBL were more likely to engage in self-employment and professional networking	Limited to urban university students and excluded TVET learners and rural youth. This study addresses rural TVET-based WBL systems.
Fakunle & Higson (2021)	United Kingdom	Employability skills and graduate employment	Structured survey	Employability training improved workplace effectiveness	Focused on formal employment and university graduates,

				and job acquisition	excluding TVET pathways and informal sector participation. This study fills that institutional and contextual gap.
Medun & Bello (2024)	Nigeria	Employability skills and youth job creation	Quantitative study	Employability skills improved self-employment and income-generating activities	Did not examine long-term sustainability or enabling factors like mentorship and institutional support. The present study includes these broader support systems.
Otieno et al. (2024)	Kenya	Employability skills training and youth participation	Quantitative analysis	Employability training improved employability and entrepreneurship initiation	The study was urban-centered and did not adequately capture rural realities. This study focuses on rural youth participation in Kiharu Sub-County.
Escalonilla et al. (2021)	European Union	Youth economic participation and education-to-employment pathways	Comparative study	Structured education pathways improved income stability and reduced unemployment	Did not integrate TVET-specific skills such as technical skills, entrepreneurship, WBL, and employability skills. This study addresses these specific TVET dimensions.
King'oro (2023)	Kenya	Regional variations in youth economic participation	Multi-county study	Urban youth were more engaged in formal employment while rural youth remained in informal work	Did not integrate TVET system indicators such as enrollment, completion, and skills acquisition. The present study fills this institutional gap.

Bosire (2024)Kenya	Youth-led enterprises and economic participation	Descriptive study	Entrepreneurship skills improved income generation and local economic development	Did not examine the combined influence of technical skills, employability skills, and work-based learning. This study provides an integrated TVET skills development approach.

Source: Researcher (2026)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology for the study is presented in this chapter. The research design, study area, target population, sample size and sampling techniques, data collection instruments, validity and reliability of research instruments, data collection procedures, data analysis techniques, and ethical issues are all described.

3.2. Research Design

A research design refers to the overall framework that systematically organizes the various elements of a study, ensuring that the processes of data collection, measurement, and analysis are coherently aligned with the study's objectives and underlying theoretical foundations (Lindhult & Axelsson, 2021). This study adopted convergent parallel design, where quantitative data (from structured questionnaires) and qualitative data (from interviews) was collected simultaneously, analyzed separately, and integrated during interpretation (Zhou, 2026). This approach allows for triangulation of findings, linking statistical trends with participants lived experiences. The design was suitable for understanding how technical skills, entrepreneurship skills, work-based learning, and employability skills influence youth economic participation, providing a holistic and context-specific perspective for Kiharu Sub-County.

3.3. Study Area

A study area refers to the specific geographical location where a research study is conducted to investigate a particular phenomenon (Lee, 2020). The study was carried out in Kenya's central area, in the Kiharu Sub-County of Murang'a County. One of Murang'a County's administrative sub-counties, Kiharu Sub-County is well situated near Murang'a Town, a major administrative and commercial hub. The sub-county covers an estimated area of approximately

260–270 square kilometres and is divided into five wards, namely Murarandia, Gaturi, Mbiri, Wangu, and Township Ward. According to Murang'a County Economic Data (2026), Murang'a County has a population of about 1,056,640 people, with Kiharu Sub-County accounting for an estimated 180,000–200,000 people, comprising both urban and rural settlements.

Kiharu Sub-County's economy is predominantly driven by small-scale agriculture, micro and small enterprises, informal trade, and emerging youth-led entrepreneurial activities. The region presents diverse socio-economic conditions, including variations in income levels, access to formal and informal employment, and opportunities for skills development. Youth in the sub-county are engaged in activities such as agribusiness, retail trade, boda boda transport services, artisan work, and self-employment within the informal sector. These characteristics reflect a dynamic but uneven economic environment where access to productive skills remains a key determinant of economic participation. These characteristics make Kiharu Sub-County suitable for examining how Technical and Vocational Education and Training skills development influences youth economic participation, providing a contextually rich environment to explore both employment and entrepreneurial outcomes.

3.4 Target Population

The target population refers to the entire set of individuals or entities that share specific characteristics relevant to the research and are capable of providing the information necessary to address the study objectives (Giri, 2024). The target group for this study was young people living in Kiharu Sub-County, Kenya, between the ages of 18 and 35 who are enrolled in or have access to technical and vocational education and training programs. This age group was considered economically active and represents the primary demographic for youth employment and entrepreneurial participation, making it the most appropriate for examining the influence of TVET on economic engagement.

According to the Kiharu Sub-County Government (2026) report, the county has an estimated youth population of approximately 182,000 individuals, a significant proportion of whom are enrolled in technical training institutions, apprenticeship programs, or county-led youth empowerment initiatives.

In addition to the youth respondents, the study targeted 30 key informants, comprising 15 TVET instructors, 8 administrators of technical training institutions and youth empowerment programs, and 7 representatives from local enterprises offering apprenticeship and work-based learning opportunities. These key informants were selected due to their direct involvement in skills development, program implementation, and youth employment facilitation. They provided in-depth qualitative insights on policy implementation, program effectiveness, challenges, and opportunities influencing youth economic participation in Kiharu Sub-County. This population provided a comprehensive basis for collecting both quantitative and qualitative data on TVET participation, skills acquisition, and economic engagement, thereby ensuring that the study captures diverse perspectives and experiences.

Table 2: Target Population

Category/Group	Population (N)
Youth in technical training institutes	72,800
Youth in apprenticeship programs	54,600
Youth in county-led youth empowerment initiatives	54,600
Subtotal (Youth Respondents)	**182,000**
TVET Instructors	15
TVET Administrators & Program Coordinators	8
Industry/Enterprise Representatives	7
Subtotal (Key Informants)	**30**
Grand Total	**182,030**

Source: Murang'a County Government (2026)

3.5. Sample Size and Sampling Procedures

Sample size is a small part of the population that represents the characteristics of the whole group (Levy & Goldfarb, 2021). Sampling procedures is the process of choosing a subset from a larger population so that data can be collected and analyzed (Verma & Verma, 2020). It was

assumed that a sample size should be adequate to imitate the main characteristics of the target population.

3.5.1. Sample Size

To determine an appropriate sample size of Youth aged 18–35 years in Kiharu Sub-County from the target population of 182,000 of youth, Yamane's (1967) formula for sample size calculation was applied since the target population is over 100 individuals. The formula is expressed as:

$$n = N \div (1 + Ne^2)$$

where, e is the margin of error, N is the target population (in this example, 182,000), and n is the necessary sample size. A 5% margin of error (e = 0.05) was used at a 95% confidence level. Yamane's formular was used to determine the sample size given a target population of 182,000 youth using Yamane's formula as follows:

n = 182,000÷ (1 +182,000× 0.05^2).

n≈ 399 youths.

The sample size for key informants was determined using purposive sampling. From the target population of 30 key informants, the study selected 21 respondents, representing approximately 70% of the total population. The selection of a relatively large proportion was considered appropriate because the population of key informants was small and comprised individuals with specialized knowledge and experience relevant to TVET skills development and youth economic participation.

The selection of 21 key informants was intended to ensure adequate representation of the relevant stakeholder categories and to obtain sufficiently rich and diverse information to complement the quantitative findings from the youth respondents. Purposive sampling enabled the researcher to select participants based on their roles, experience, and direct involvement in areas relevant to the study. Given the small size of the key-informant population, including 21

respondents also enhanced the breadth of perspectives captured while remaining feasible within the scope of the study. Consequently, the study had a total sample size of 420 participants, comprising 399 youth respondents and 21 key informants, as presented in Table 3.

3.5.2. Sampling Procedures

The study employed stratified sampling followed by simple random sampling in selecting the 399 youth respondents. The target population of 182,000 youth was divided into three distinct strata based on the principal pathway through which they accessed skills development: youth enrolled in technical training institutions, youth participating in apprenticeship programmes, and youth involved in county-led youth empowerment initiatives. This approach was appropriate because the three groups differ in their modes of skills acquisition and provide distinct pathways to youth economic participation.

The sampling frame was developed from administrative records obtained from relevant technical training institutions, apprenticeship program, and county-led youth empowerment initiatives in Murang'a County. These records provided the basis for identifying eligible youth aged 18–35 years within each stratum. The population size of each stratum was established from the respective administrative records, after which the total sample of 399 youth was distributed across the three strata according to their proportion of the target population.

Following stratification, simple random sampling was used within each stratum to select the required respondents. Eligible youth were assigned unique identification numbers, and the required number of respondents was selected randomly from each stratum. This procedure ensured that every eligible youth within each stratum had an equal opportunity of selection while maintaining representation of the three categories in the study sample.

The allocation resulted in 160 respondents from technical training institutions, 120 from apprenticeship programmes, and 119 from county-led youth empowerment initiatives, giving

a total of 399 youth respondents. The allocation was based on the relative size of each stratum, with minor rounding applied to obtain a whole-number sample.

For the key informants, the study employed purposive sampling. From the target population of 30 key informants, 21 were selected based on their knowledge, experience, and direct involvement in TVET skills development, apprenticeship programmes, and youth empowerment initiatives. The selected key informants comprised 11 TVET instructors, 6 administrators of technical training institutions and youth empowerment programmes, and 4 representatives of local enterprises offering apprenticeship opportunities. Their inclusion was intended to provide detailed institutional and contextual perspectives that would complement the quantitative information obtained from the youth respondents.

Thus, the study adopted stratified sampling and simple random sampling for the youth respondents and purposive sampling for the key informants. The combination of these procedures enabled the study to achieve representation across the major youth skills-development pathways while obtaining in-depth information from stakeholders with relevant expertise. Sample matrix is presented in table 3.

Table 3: Sample Matrix

Category/Group	Population (N)	Proportion (%)	Sample Size (n)	Sampling Technique
Youth enrolled in technical training institutions	72,800	40	160	Stratified + Simple Random
Youth in apprenticeship programmes	54,600	30	120	Stratified + Simple Random
Youth in county-led youth empowerment initiatives	54,600	30	119	Stratified + Simple Random
Sub-total Youth	182,000	100	399	
TVET instructors	15	—	11	Purposive
Administrators of technical training institutions and youth empowerment programmes	8	—	6	Purposive
Local enterprises offering apprenticeships	7	—	4	Purposive
Sub-total Key Informants	30	—	21	
Total	**182,030**	**—**	**420**	

Source: Murang'a County Government, 2026

3.6 Data Collection Instruments

Data collection instruments are tools that are being used to collect data helps in gathering data from the sample (Mwanje, 2021). This study used questionnaires to collect quantitative data from 399 youths aged 18–35 years and qualitative data using interview guide for 21 key informants.

3.6.1 Questionnaires

According to Toyon (2021), questionnaires are data collection tools used to gather information, pertaining to research questions or hypothesis, and are structured in such a way to harness the data required to address the research questions. According to Mwanje (2021), questionnaires help to prevent the bias, prevalent to respondents that are difficult to find or engage in questioning. In this study, the design of the questions was made according to the objectives of the study to facilitate interpretation and analysis. This form of questions gives the organizational form that reduces the flexibilities in the answers and thereby renders the data obtained to be more reliable.

3.6.2 Interview Guide

An interview guide is a structured or semi-structured tool used to collect qualitative data by engaging participants in a verbal discussion on specific topics relevant to the research objectives (Khoa et al., 2023). Twenty-one including TVET teachers, managers of technical training institutes and youth empowerment programs, and representatives of local businesses that offer apprenticeships, were given the interview guide for this study.

Using the interview guide ensures that the study captures contextualized, experiential knowledge from stakeholders directly involved in TVET programs and youth economic engagement, which cannot be fully captured through questionnaires alone. This aligns with the convergent parallel design, where qualitative insights enrich and validate quantitative results (Bhana, 2024).

3.7 Pilot Testing, Validity, and Reliability of Research Instruments

3.7.1 Pre-Testing

Pre-testing the process of giving research instruments to a small sample of participants prior to the main study in order to evaluate their validity, reliability, and clarity. It focused specifically on refining the wording, structure, and relevance of the questionnaire and interview guide to ensure that they effectively capture the intended information. This is different from a pilot study, which involves a small-scale trial run of the entire research process, including data collection procedures, to assess feasibility and identify potential logistical or operational challenges (Munivrana, Jelaska, & Tomljanović, 2022).

Both guide and the questionnaire were pre-tested for this study before the primary data collection. Pre-testing was done to assess the instruments' efficacy, relevance, and clarity. This was done to make sure that all of the questions were clear to respondents and in line with the study's goals regarding youth economic participation and the development of technical and vocational education and training skills.

The pre-testing was conducted with 42 tralslating to 10% of the 420 overall sample size, participated in the pre-testing. These participants were selected from young people engaged in Technical and Vocational Education and Training programs in Gatanga Sub-County, which has comparable socioeconomic and demographic traits to Kiharu Sub-County, the primary study region. The exercise helped to identify ambiguous, confusing, or irrelevant items and determine whether the instruments effectively capture information on TVET skills development and youth economic participation. Feedback obtained from the pre-test was used to revise, refine, and improve the data collection instruments to enhance their validity and reliability before the commencement of the actual field study.

3.7.2 Validity Tests of Research Instruments

Validity refers to the extent to which a research instrument accurately measures the constructs it is intended to measure (Sürücü & Maslakçi, 2020). In this study, content validity was established to ensure that the questionnaire and interview guide adequately covered the key constructs, namely technical skills acquisition, entrepreneurship skills development, work-based learning, employability skills development, and youth economic participation.

Content validity was assessed using the Content Validity Ratio (CVR) approach. A panel of subject-matter experts with expertise in TVET, educational research, and measurement and evaluation reviewed the items in the questionnaire and interview guide. The experts assessed the relevance and essentiality of each item to the construct it was intended to measure. The CVR for each item was subsequently computed using Lawshe's formula. Items that met the required CVR threshold were retained, while those that did not were revised or removed.

The research instruments were also examined in order items' clarity, relevance, language, and compatibility with the study objectives and conceptual framework, the research supervisors and chosen peer researchers. Their suggestions were taken into consideration to improve the instruments' overall arrangement, remove duplication, and clarify unclear topics. These procedures enhanced the content validity of the research instruments and ensured their suitability for collecting data on TVET skills development and youth economic participation.

3.7.3 Reliability Tests of Research Instruments

Reliability refers to the extent to which a research instrument consistently measures the constructs for which it was designed (Sürücü & Maslakçi, 2020). Cronbach's alpha coefficient, measure the internal consistency of scale items, was used in this study to evaluate reliability. 42 respondents who shared traits with the target group but were excluded from the final study participated in a prototype study.

The Statistical Package for the Social Sciences (SPSS) version 30 was used to code and analyze the pilot study's data. To ascertain if the items consistently measured the corresponding

underlying constructs, unique Cronbach's alpha coefficients were calculated for each research construct. Internal consistency was deemed adequate when the coefficient was 0.70 or more. Reliability test results are shown in Table 4.

Table 4: Reliability Testing Results

Variable	Cronbach's Alpha	Number of Items	Comment
Technical Skills Acquisition	0.86	14	Reliable
Entrepreneurship Skills Development	0.88	11	Reliable
Work-Based Learning	0.87	11	Reliable
Employability Skills Development	0.89	13	Reliable
Youth Economic Participation	0.85	11	Reliable

Source: Field Data (2026)

The results presented in Table 4 indicate that all the study constructs demonstrated high internal consistency, with Cronbach's alpha coefficients ranging from 0.85 to 0.89. Technical skills acquisition recorded a coefficient of 0.86, entrepreneurship skills development 0.88, work-based learning 0.87, employability skills development 0.89, and youth economic participation 0.85. All coefficients were above the minimum acceptable threshold of 0.70, indicating that the items within each scale were sufficiently consistent in measuring their respective constructs.

The reliability findings demonstrate that the questionnaire had acceptable to high internal consistency and was therefore considered reliable for the main data collection. The study relied on Cronbach's alpha as the reliability assessment, and no test-retest procedure was reported. This distinction ensured consistency between the reliability procedure undertaken and the statistic used to evaluate the research instrument.

3.8 Data Collection Procedures

Self-administered questionnaires were used in this study's structured data collecting method to acquire information from young people enrolled in Kiharu Sub-County's Technical and

Vocational Education and Training programs. Structured questionnaires were used to gather quantitative data, and these could be distributed electronically or in person, depending on participant availability and logistical issues. Open-ended interview questions were used to gather qualitative data. This strategy made sure that participants could respond openly and honestly, even on delicate topics, without endangering their organizations or themselves.

3.9 Data Analysis Techniques

The data analysis is the act of planning, comprehending, and analyzing the previously gathered data to obtain any critical tendencies and data that can be applied in the decision-making process (Parnell et al., 2025). This study used a mixed-methods approach, analyzing both quantitative and qualitative data independently before integrating them for interpretation. SPSS version 30 was used to code and analyze quantitative data from structured questionnaire items. Respondents' opinions on TVET skill development and youth economic participation were summed up using descriptive statistics (frequencies, percentages, means, and standard deviations). Inferential statistics included Pearson correlation to test relationships and multiple regression analysis to determine the combined effect of technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development on youth economic participation. Hypotheses were tested at a 0.05 significance level.

Key informant interviews and open-ended questionnaire items from young people between the ages of 18 and 35 provided the qualitative data. The researcher audio recorded the interviews, transcribed them verbatim, then checked the transcriptions against field notes and recordings to make sure they were accurate. Qualitative data was analyzed using thematic analysis (Braun & Clarke, 2006) following an inductive approach. Coding was done manually using Microsoft Excel, with optional support from NVivo software for data organization. Emerging codes was grouped into themes aligned with the study objectives. To enhance rigor, the study used

triangulation, reflexivity, and peer review of themes to reduce bias. Findings were presented as statistical tables in order to demonstrate how TVET skill development affects youth economic participation in Kiharu Sub-County for quantitative data and thematic narratives backed by actual quotations for qualitative data.

3.10 Ethical Considerations

Ethical considerations are fundamental in the conduct of research and was carefully observed throughout this study. As Vadrot and Hughes (2023) emphasize, adherence to ethical standards protects the rights, dignity, and well-being of research participants while enhancing the credibility and integrity of the study.

In this study, ethical clearance was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) prior to data collection. In addition, permission was sought from The Catholic University of Eastern Africa (CUEA), and an authorization letter was obtained from relevant Kiharu Sub-County government officials**.**

Participants were thoroughly informed about the study's aim, objectives, procedures, and relevance prior to participation. All respondents provided informed consent, ensuring that their participation was voluntary and based on a sufficient knowledge of the study.

Confidentiality and anonymity were strictly preserved throughout the research process, with no personal identifiers used in data collection, analysis, or reporting. Participants were also promised that they could resign from the study at any moment without incurring any penalties or consequences. Furthermore, all collected data was utilized solely for academic reasons and kept safe to avoid unwanted access. These methods ensured that the study followed established ethical standards while protecting all participants' rights and interests.

3.11 Operationalization Matrix

Variable	Dimensions	Indicators	Measurement	Data source

Technical skills	Practical competence	certification, practical ability, hands-on practice	Likert scale	Youth
Entrepreneurship skills	Business competence	opportunity recognition, planning, financial management	Likert scale	Youth
WBL	Workplace exposure	internship, apprenticeship, duration, mentorship	Likert scale	Youth
Employability skills	Transferable skills	communication, teamwork, problem-solving	Likert scale	Youth
Youth economic participation	Economic engagement	employment, income, enterprise, sustainability	Likert scale	Youth

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents the analysis, presentation, and interpretation of findings on the influence of TVET skills development on youth economic participation in Kiharu Sub-County, Murang'a County. It presents quantitative and qualitative findings, analyzed using descriptive and inferential statistics and thematic analysis, respectively. The findings are presented according to the study objectives.

4.1 Response Rate

This section presents the response rate of the study participants. Questionnaires were administered to 399 youths and while interviews were conducted among selected 21 key informants. The response rate was considered important in determining the adequacy and reliability of the data collected for analysis and interpretation of the study findings. Findings were presented in Table 5.

Table 5: Response Rate

Category/Group	Sample Size (n)	Returned/Completed	Not Returned/Inadequate	Response Rate (%)
Youth respondents	399	372	27	93.2%
Key informants	21	19	2	90.5%
Total	**420**	**391**	**29**	**93.1%**

Source: Research Data (2026)

The study targeted 420 participants, comprising 399 youth respondents and 21 key informants. Of the 399 questionnaires administered to youth respondents, 372 were duly completed and returned, while 27 were either not returned or inadequately completed, yielding a response rate of 93.2%. Similarly, 19 of the 21 targeted key informants participated in the study, representing a response rate of 90.5%. Overall, 391 participants provided usable data, resulting in an overall response rate of 93.1%.

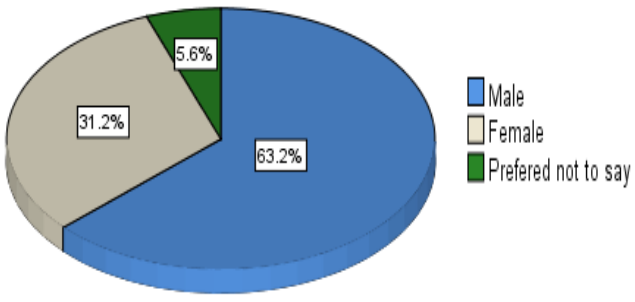
The overall response rate was high, indicating strong participant engagement and providing an adequate volume of data for the planned analysis. The relatively small proportion of non-responses also reduces concerns about potential non-response bias. Thus, the 391 completed responses provided an adequate basis for analyzing the study objectives, while the high response rate was not taken as evidence, on its own, of the representativeness, validity, reliability, or generalizability of the findings.

4.2 Demographic Information of the Respondents

This section entails the demographic characteristics of the respondents involved in the study. It provides a summary of the background information of both youth respondents and key informants to aid in understanding the composition of the sample and the context of the findings. For youth respondents, the section covers gender, age bracket, highest level of education attained, enrolment in TVET programs, and type of TVET engagement. For key informants, it includes designation or position, organization or institution, and years of experience in TVET. This information is important in assessing the representativeness of the sample and the credibility of the responses obtained.

4.2.1 Gender

The study sought to determine the gender distribution of the respondents in order to establish whether both male and female youths were adequately represented in the study. Gender distribution was important in providing diverse perspectives regarding this study. Findings was presented in Figure 2.



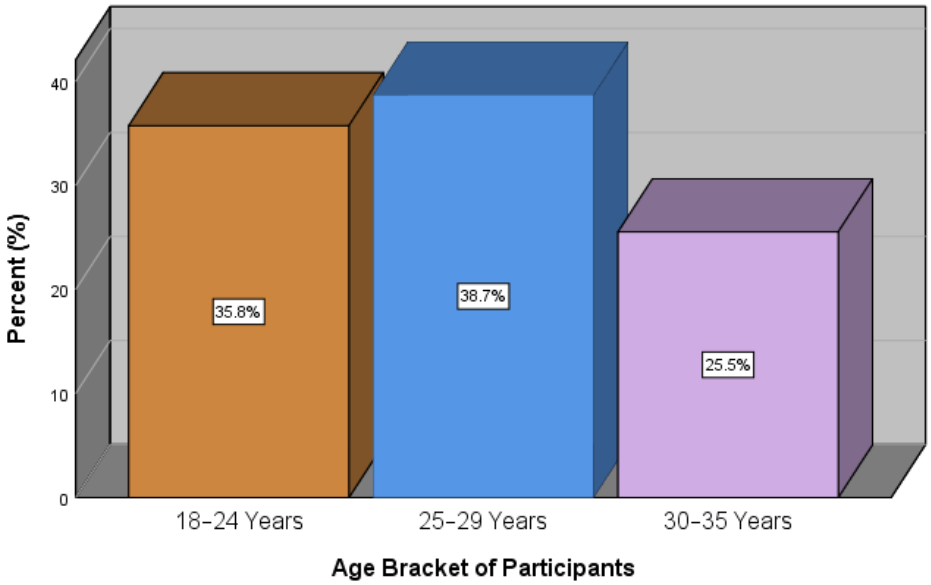
Source: Research Data (2026)

Figure 2: Gender Distribution of the Participants

The findings in Table 4.1 indicate that majority of the respondents were male, accounting for 235 (63.2%) of the 372 respondents. Female respondents comprised 116 (31.2%), while 21 (5.6%) preferred not to disclose their gender. The distribution indicates that male youths had a higher representation in the study compared to female youths. This may imply that male youths are more involved or accessible in TVET programmes and economic participation activities within Kiharu Sub-County. However, the inclusion of female respondents also provided important perspectives regarding the influence of TVET skills development on youth economic participation. The small proportion of respondents who preferred not to state their gender demonstrates respect for personal privacy and inclusivity during data collection.

4.2.2 Age Bracket

The study sought to determine the age distribution of the respondents in order to establish the dominant age groups participating in TVET programmes and economic activities in Kiharu Sub-County. Age was considered important because it influences youth participation in skills development, employment opportunities, and entrepreneurial engagement. Findings was presented in Figure 3



Source: Research Data (2026)

Figure 3: Age Bracket Distribution of the Participants

The findings in Figure 3 indicate that majority of the respondents, 144 (38.7%), were aged 25–29 years. Respondents aged 18–24 years accounted for 133 (35.8%), while those aged 30–35 years comprised 95 (25.5%) of the total 372 respondents. The findings indicate that most of the respondents were within the active youth age categories, particularly those aged between 25–29 years. This suggests that individuals within this age bracket are more engaged in TVET programmes and economic participation activities in Kiharu Sub-County. The inclusion of respondents across all youth age categories provided diverse views and experiences regarding the influence of TVET skills development on youth economic participation, thereby improving the representativeness and reliability of the study findings.

4.2.3 Highest Level of Education Attained

The study sought to establish the highest level of education attained by the respondents in order to understand their educational background. Education level was considered important because it influences participation in TVET programmes, skills acquisition, and involvement in economic activities among the youth in Kiharu Sub-County. Finding was presented in Table 6.

Table 6: Highest Level of Education Attained of Respondents

Highest Level of Education	Frequency	Percent (%)
Primary level	47	12.6
Secondary level	30	8.1
Certificate (TVET)	91	24.5
Diploma (TVET)	73	19.6
Degree and above	131	35.2
Total	**372**	**100.0**

Source: Field Data (2026)

The findings in Table 6 indicate that majority of the respondents, 131 (35.2%), had degree level education and above. Respondents with Certificate qualifications accounted for 91 (24.5%), while those with Diploma qualifications were 73 (19.6%). In addition, 47 (12.6%) of the respondents had attained primary level education, whereas 30 (8.1%) had attained secondary level education. The findings suggest that most of the respondents had attained Degree and above, indicating that the majority possessed higher educational qualifications necessary for participation in TVET programs and economic activities. The relatively high number of respondents with TVET certificates and diplomas further demonstrates active involvement in vocational and technical training. This implies that TVET programs are accessible to youths with different educational backgrounds.

4.2.4 TVET Training Completion Status

The study sought to establish the TVET training completion status of the respondents to confirm their eligibility as TVET graduates and their exposure to the skills development examined in the study. This information was important in ensuring that the respondents had completed TVET training and were therefore appropriate for assessing the influence of TVET skills development on youth economic participation in Kiharu Sub-County. The findings are presented in Table 7.

Table 7: TVET Training Completion Status

TVET Training Completion Status	Frequency	Percent (%)
Completed TVET training	291	78.2
Did not complete TVET training	81	21.8
Total	**372**	**100.0**

Source: Field Data (2026)

As in Table 7, findings indicate that 291 (78.2%) of the respondents had completed TVET training, suggesting that most participants had acquired the training exposure required for the

study. The 81 (21.8%) who had not completed their training indicate that a proportion of respondents had not attained full TVET training completion. Therefore, the subsequent analysis of the influence of TVET skills development on youth economic participation should focus on respondents who met the study's TVET graduate eligibility criteria, ensuring that the findings are based on participants with relevant exposure to the skills development being examined.

4.2.5 Type of TVET Engagement

The study sought to establish the type of TVET engagement among the respondents in order to identify the different pathways through which youths participate in technical and vocational skills development. Table 8 show the findings.

Table 8: Type of TVET Engagement

Type of TVET Engagement	Frequency	Percent (%)
Technical training institutions	151	40.1
Apprenticeship programs	111	30.1
County youth empowerment initiatives	110	29.8
Total	**372**	**100.0**

Source: Field Data (2026)

The findings in Table 7 show that most respondents who participated in this study, 151 (40.1%), were engaged in technical training institutions. Apprenticeship programs accounted for 111 (30.1%) of the respondents, while 110 (29.8%) were involved in county youth empowerment initiatives. The findings imply that youths in Kiharu Sub-County access technical skills development through diverse but complementary pathways, which collectively enhance their opportunities for employment and economic engagement.

4.2.6 Designation/Position

The study sought to determine the designation or position of the key informants in order to establish their roles and level of involvement in TVET programmes and youth empowerment initiatives. This information was important in ensuring that the respondents possessed relevant knowledge and experience necessary for providing credible insights on the study. Findings were presented in Table 9.

Table 9: Designation/Position of Key Informants

Designation/Position	Frequency	Percent (%)
TVET Instructors	11	52.4
Administrators of TVET Institutions & Youth Programs	6	28.6
Local Enterprise/Industry Representatives	4	19.0
Total	**21**	**100.0**

Source: Field Data (2026)

The findings in Table 9 show that majority of key informants who participated in this study, 11 (52.4%), were TVET instructors. Administrators of TVET institutions and youth programmes accounted for 6 (28.6%), while local enterprise or industry representatives were 4 (19.0%). The results indicate that most of these participants were directly involved in training and skills delivery within TVET institutions, suggesting that the study captured insights from individuals with practical experience in curriculum implementation and student training. The inclusion of administrators ensured that policy and management perspectives were also represented, while input from industry representatives provided valuable insights on labour market demands and workplace readiness of TVET graduates.

4.2.7 Organization/Institution

The study sought to identify the organizations or institutions represented by the key informants in order to establish the institutional context of their responses. This information was important in understanding the different sectors involved in TVET implementation and youth empowerment. Table 10 shows the findings.

Table 10: Organization/Institution of Key Informants

Organization/Institution	Frequency	Percent (%)
Technical Training Institutions	11	52.4
County Youth Empowerment Programs	6	28.6
Local Enterprises/Industry (Apprenticeship Providers)	4	19.0
Total	**21**	**100.0**

Source: Field Data (2026)

The findings in Table 10 show majority of key informants, 11 (52.4%), were drawn from Technical Training Institutions. County Youth Empowerment Programs accounted for 6

(28.6%), while Local Enterprises or Industry apprenticeship providers were 4 (19.0%). The results indicate that most of the institutional perspectives in the study were obtained from technical training institutions, which play a central role in the delivery of TVET programmes and skills development. This distribution also show that the distribution of institutions demonstrates that the study incorporated a balanced representation of key stakeholders involved in TVET implementation and youth economic participation in Kiharu Sub-County, thereby enhancing the depth and reliability of the qualitative findings.

4.2.8 Years of Experience in TVET

The study sought to establish the years of experience of the key informants in TVET in order to determine their level of exposure and familiarity with TVET systems and youth empowerment programmes. This information was important in assessing the credibility and depth of the insights provided.

Table 11: Years of Experience in TVET

Years of Experience	Frequency	Percent (%)
Less than 5 years	4	19.0
5–10 years	8	38.1
11–15 years	6	28.6
Above 15 years	3	14.3
Total	**21**	**100.0**

Source: Field Data (2026)

The findings in Table 11 indicate that most of key informants who participated in this study, 8 (38.1%), had 5–10 years of experience in TVET. Those with 11–15 years of experience accounted for 6 (28.6%), while 4 (19.0%) had less than 5 years of experience. A smaller proportion, 3 (14.3%), had over 15 years of experience in the TVET sector. The results indicated that most key informants had over five years of experience in TVET, suggesting strong familiarity with TVET systems and youth empowerment programmes. This enhances the reliability of the qualitative data. Additionally, the inclusion of highly experienced

respondents provides valuable expert insights and strengthens the credibility of the study findings.

4.3 Findings Based on to Research Objectives

This section presents the research findings as per the research objectives. It combines both quantitative and qualitative data. The results were presented thematically based on the four objectives. The data were summarized using descriptive statistics including frequencies, percentages, means, and standard deviations, and correlation analysis was performed to test the relationships between variables. Qualitative insights were used to complement quantitative results, which were based on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

4.3.1 Technical Skills Acquisition and Youth Economic Participation

This section presents findings on the first objective, which assessed the influence of technical skills acquisition on youth economic participation in Kiharu Sub-County. It focuses on key indicators such as proficiency in technical competencies, ability to perform practical tasks, completion of technical modules or certification, and frequency of hands-on practice. These aspects are used to evaluate how technical skills development contributes to youth economic participation. The findings are presented using both descriptive and inferential statistical analyses as in Table 12.

Table 12: Response on Technical Skills Acquisition

n=372

Statements	SD % F	D % F	N % F	A % F	SA % F	Mean	Std Dvt
The technical skills I acquired have improved my ability to secure employment.	14.0 (52)	7.3 (27)	18.3 (68)	28.2 (105)	32.3 (120)	2.40	1.21
I am able to apply the technical skills learned in practical work settings.	3.8 (14)	7.8 (29)	12.1 (45)	46.2 (172)	30.1 (112)	3.90	0.95
My technical skills are not relevant to current job market demands.	30.1 (111)	47.0 (175)	10.5 (39)	8.3 (31)	4.3 (16)	3.90	0.97

Technical skills training has enhanced my income-generating opportunities.	16.7 (62)	8.6 (32)	17.2 (64)	26.3 (98)	31.2 (116)	2.50	1.18
I feel confident in performing tasks that require technical expertise.	3.5 (13)	7.5 (28)	11.0 (41)	48.4 (180)	29.6 (110)	3.93	0.94
I struggle to apply technical skills learned in training to real-life situations.	30.1 (112)	33.1 (123)	15.3 (57)	14.5 (54)	7.0 (26)	2.31	1.22
Technical skills acquired have increased my chances of starting my own business.	4.6 (17)	8.9 (33)	12.6 (47)	46.0 (171)	27.9 (104)	3.84	0.99
Technical training, I received has not improved my chances of employment.	6.0 (22)	42.5 (158)	14.2 (53)	10.2 (38)	27.1 (101)	3.74	1.05
Employers value the technical skills I possess.	15.1 (56)	9.4 (35)	16.4 (61)	27.4 (102)	31.7 (118)	2.45	1.19
I have access to resources that allow me to practice and improve my technical skills.	4.1 (15)	8.1 (30)	11.6 (43)	47.6 (177)	28.6 (107)	3.89	0.96
Lack of technical skills limits my participation in income-generating activities.	46.5 (173)	27.1 (100)	12.3 (46)	5.0 (19)	9.1 (34)	3.82	1.01
The technical training, I received was practical and industry-oriented.	4.4 (16)	8.6 (32)	10.8 (40)	48.1 (179)	28.1 (105)	3.86	0.98
I often use my technical skills in informal or self-employment activities.	14.0 (52)	7.3 (27)	18.3 (68)	28.2 (105)	32.3 (120)	2.40	1.21
Technical skills acquisition has helped me adapt to workplace requirements.	3.8 (14)	7.8 (29)	12.1 (45)	46.2 (172)	30.1 (112)	3.90	0.95
Composite Mean and Standard Deviation						**3.66**	**1.03**

Source: Field Data (2026)

As shown in Table 12, the total findings indicate a composite mean of M = 3.66 and a standard deviation of SD = 1.03, which implies that respondents generally agreed that technical skills acquisition influences youth economic participation in Kiharu Sub-County. On the statement that technical skills acquired have improved respondents' ability to secure employment, 105 respondents (28.2%) agreed and 120 (32.3%) strongly agreed. However, 68 (18.3%) were neutral, 27 (7.3%) disagreed, and 52 (14.0%) strongly disagreed. The mean of M = 2.40 and standard deviation of SD = 1.21 indicate a generally low perceived impact on employment outcomes. This suggests that despite strong agreement in some responses, a significant proportion of youths still do not experience direct employment benefits from technical skills. This aligns with Becker (2023), who notes that human capital improves productivity but does not guarantee employment in constrained labour markets.

On the statement that respondents are able to apply technical skills learned in practical work settings, 172 respondents (46.2%) agreed and 112 (30.1%) strongly agreed. However, 45 (12.1%) were neutral, 29 (7.8%) disagreed, and 14 (3.8%) strongly disagreed. The mean of M = 3.90 and standard deviation of SD = 0.95 indicate a high level of practical application of technical skills. This suggests that TVET programmes are effective in equipping youths with hands-on competencies. This finding is consistent with Müller and Schneider (2024), who emphasize that competency-based training enhances practical employability skills.

On the statement that technical skills are not relevant to current job market demands, 111 respondents (30.1%) strongly disagreed and 175 (47.0%) disagreed, while 39 (10.5%) were neutral, 31 (8.3%) agreed, and 16 (4.3%) strongly agreed. The mean of M = 3.90 indicates that most respondents do not support the claim of irrelevance, suggesting that technical skills are generally considered relevant to labour market needs. This finding aligns with García and López (2024), who emphasize that alignment between training and labour market demand is critical for employability outcomes.

On the statement that technical skills training has enhanced income-generating opportunities, 98 respondents (26.3%) agreed and 116 (31.2%) strongly agreed. However, 64 (17.2%) were neutral, 32 (8.6%) disagreed, and 62 (16.7%) strongly disagreed. The mean of M = 2.50 and standard deviation of SD = 1.18 indicate moderate agreement, suggesting that while some youths benefit economically, others do not experience significant income improvements. Nkosi et al. (2024) similarly note that skills must be supported by capital and market access to translate into income gains.

On the statement that respondents feel confident in performing technical tasks, 180 respondents (48.4%) agreed and 110 (29.6%) strongly agreed. However, 41 (11.0%) were neutral, 28 (7.5%) disagreed, and 13 (3.5%) strongly disagreed. The mean of M = 3.93 and standard deviation of SD = 0.94 indicate very high confidence levels among respondents. This suggests

that TVET significantly enhances self-efficacy and occupational confidence, consistent with Owusu and Boateng (2025).

On the statement that respondents struggle to apply technical skills in real-life situations, 112 respondents (30.1%) strongly disagreed and 123 (33.1%) disagreed. However, 57 (15.3%) were neutral, 54 (14.5%) agreed, and 26 (7.0%) strongly agreed. The mean of M = 2.31 and standard deviation of SD = 1.22 indicate that most respondents do not struggle significantly in applying skills, suggesting effective practical training. This supports Msuya and Komba (2021), who highlight the importance of experiential learning in skill transfer.

On the statement that technical skills have increased chances of starting a business, 171 respondents (46.0%) agreed and 104 (27.9%) strongly agreed. However, 47 (12.6%) were neutral, 33 (8.9%) disagreed, and 17 (4.6%) strongly disagreed. The mean of M = 3.84 and standard deviation of SD = 0.99 indicate strong entrepreneurial potential arising from technical skills. Mwangi (2023) similarly notes that TVET promotes entrepreneurship and self-employment opportunities among youth.

On the statement that technical training has not improved chances of employment, 158 respondents (42.5%) agreed and 101 (27.1%) strongly agreed. However, 53 (14.2%) were neutral, 38 (10.2%) disagreed, and 22 (6.0%) strongly disagreed. The mean of M = 3.74 and standard deviation of SD = 1.05 suggest mixed perceptions regarding employment outcomes, indicating that structural unemployment still affects TVET graduates. Wambua and Kariuki (2024) similarly observe that labour market absorption remains a key challenge despite skills training.

On the statement that employers value the technical skills possessed, 56 respondents (15.1%) strongly disagreed and 35 (9.4%) disagreed, while 61 (16.4%) were neutral, 102 (27.4%) agreed, and 118 (31.7%) strongly agreed. The mean of M = 2.45 and standard deviation of SD = 1.19 indicate moderate to low perceived employer valuation, suggesting a mismatch between

training outcomes and employer expectations. García and López (2024) highlight similar concerns regarding industry alignment.

On access to resources for practicing skills, 177 respondents (47.6%) agreed and 107 (28.6%) strongly agreed, indicating strong support for practical learning environments (M = 3.89, SD = 0.96). This suggests that learners have sufficient opportunities to reinforce technical competencies.

On the statement that lack of technical skills limits participation in income-generating activities, 173 respondents (46.5%) agreed and 100 (27.1%) strongly agreed. The mean of M = 3.82 indicates that technical skills are considered essential for economic engagement. Nkosi et al. (2024) similarly emphasize the role of skills in enabling youth economic inclusion.

On the statement that training was practical and industry-oriented, 179 respondents (48.1%) agreed and 105 (28.1%) strongly agreed, indicating positive perceptions of TVET relevance (M = 3.86, SD = 0.98). This shows that training is largely aligned with practical skill development needs.

On the statement that respondents often use technical skills in informal or self-employment activities, 105 respondents (28.2%) strongly agreed and 120 (32.3%) agreed, while 68 (18.3%) were neutral, 27 (7.3%) disagreed, and 52 (14.0%) strongly disagreed. The mean of M = 2.40 indicates relatively limited use of skills in informal sectors, suggesting barriers such as capital constraints and limited market access. Owusu and Boateng (2025) similarly note that informal sector absorption depends on enabling economic conditions.

On the statement that technical skills acquisition has helped adapt to workplace requirements, 172 respondents (46.2%) agreed and 112 (30.1%) strongly agreed. The mean of M = 3.90 indicates strong adaptability, showing that TVET enhances workplace readiness and flexibility.

Qualitative findings reinforced the quantitative results on the influence of technical skills acquisition on youth economic participation in Kiharu Sub-County. Key informants

consistently emphasized that technical skills play a central role in improving employability and self-reliance among youth. K1 emphasized that technical training equips youth with "hands-on skills that directly match industry needs," suggesting that practical competency is a key pathway to securing both formal and informal employment. This implies that skills relevance to market demands is a critical driver of economic participation.

Similarly, K2 opined that completion of technical modules and certification "serves as proof of competence," which enhances youth credibility in the labour market. This indicates that certification not only validates skills but also improves access to employment opportunities. K3 stated that frequent hands-on practice strengthens confidence and skill retention, noting that "those who regularly practice technical tasks are more confident and better prepared for real workplace demands," implying that experiential learning is essential for translating training into practical economic outcomes.

In addition, K4 observed that technical skills significantly enhance youth engagement in income-generating activities, particularly in trade, construction, and service sectors, stating that "many young people are now using acquired skills to start small enterprises and reduce dependency." This suggests that technical skills are not only improving employability but also fostering entrepreneurship and economic independence. Hence, the qualitative responses confirm that technical skills acquisition is a key enabler of youth economic participation by enhancing employability, supporting self-employment, and improving confidence in practical work settings.

The findings show that technical skills acquisition strongly enhances practical competence, confidence, adaptability, and entrepreneurial intention, but has weaker effects on employment absorption, employer recognition, and income improvement. This suggests that while TVET effectively builds human capital, broader structural and labour market constraints limit full economic returns. The results strongly support Human Capital Theory (Becker, 2023), which

argues that investment in skills improves productivity and employability. However, the findings also reflect labour market realities where skills must be complemented by industry alignment, capital access, and job availability to translate into meaningful youth economic participation.

4.3.2 Entrepreneurship Skills Development and Youth Economic Participation

This section presents the findings on the second objective, which sought to examine the effect of entrepreneurship skills development on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya. The study focused on key aspects of entrepreneurship skills development, including ability to identify and evaluate business opportunities, business planning and management skills, marketing and customer relationship skills, and the number of small-scale enterprises started. The findings were presented in Table 13.

Table 13: Response on Entrepreneurship Skills Development

n=372

Statements	SD % F	D % F	N % F	A % F	SA % F	Mean	Std Dvt
Entrepreneurship training has improved my understanding of business management.	3.9 (14)	8.3 (31)	11.6 (43)	47.0 (175)	29.2 (109)	3.89	0.96
I am able to identify business opportunities in my community.	4.3 (16)	8.9 (33)	10.5 (39)	46.5 (173)	29.8 (111)	3.88	0.98
I lack sufficient entrepreneurship skills to run a successful business.	26.9 (100)	31.2 (116)	17.2 (64)	16.1 (60)	8.6 (32)	2.47	1.18
I have gained skills in financial management, budgeting, and resource allocation.	3.5 (13)	7.8 (29)	11.3 (42)	48.1 (179)	29.3 (109)	3.92	0.95
Entrepreneurship training has not significantly improved my ability to start a business.	28.8 (107)	32.0 (119)	16.7 (62)	14.0 (52)	8.6 (32)	2.35	1.21
Entrepreneurship skills have increased my ability to start a small business.	4.1 (15)	8.1 (30)	10.2 (38)	48.4 (180)	29.2 (109)	3.90	0.97
I find it difficult to apply entrepreneurship skills in real business situations.	27.4 (102)	30.9 (115)	17.2 (64)	15.6 (58)	8.9 (33)	2.46	1.20
I am confident in marketing and selling products or services.	4.6 (17)	8.6 (32)	10.8 (40)	47.0 (175)	29.0 (108)	3.87	0.98

Networking skills learned have helped me connect with potential clients or partners.	4.8 (18)	9.1 (34)	12.1 (45)	45.7 (170)	28.2 (105)	3.83	1.00
Entrepreneurship training motivates me to engage in income-generating activities.	3.8 (14)	7.5 (28)	10.5 (39)	48.4 (180)	29.8 (111)	3.92	0.94
I rarely use entrepreneurship skills in my daily economic activities.	25.8 (96)	31.7 (118)	18.0 (67)	16.7 (62)	7.8 (29)	2.49	1.17
Composite Mean and Standard Deviation						**3.65**	**1.02**

Source: Field Data (2026)

As shown in Table 13, the total findings indicate a composite mean of M = 3.65 and a standard deviation of SD = 1.02, which implies that respondents generally agreed that entrepreneurship skills development is positively and significantly associated with youth economic participation in Kiharu Sub-County. On the statement that entrepreneurship training has improved respondents' understanding of business management, 175 respondents (47.0%) agreed and 109 (29.2%) strongly agreed. However, 43 (11.6%) were neutral, 31 (8.3%) disagreed, and 14 (3.9%) strongly disagreed. The mean of M = 3.89 and standard deviation of SD = 0.96 indicate a high level of perceived improvement in business management knowledge. This suggests that entrepreneurship training equips youths with essential managerial competencies required for business operations. This finding aligns with Tunio et al. (2021), who observed that entrepreneurship education significantly enhances business knowledge and managerial competence among young people. From Entrepreneurship Theory (Schumpeter, 1934), this reflects the development of innovative capabilities that support venture creation and management. This was supported by K1, who noted that "most youths who undergo entrepreneurship training show better understanding of how to manage small businesses compared to those without training."

On the statement that respondents are able to identify business opportunities in their community, 173 respondents (46.5%) agreed and 111 (29.8%) strongly agreed, while 39 (10.5%) were neutral, 33 (8.9%) disagreed, and 16 (4.3%) strongly disagreed. The mean of M = 3.88 and standard deviation of SD = 0.98 indicate a strong ability to recognize business

opportunities. This implies that entrepreneurship training enhances environmental scanning and opportunity identification. This finding is consistent with Salter and Almehdawe (2022) and Ebiye et al. (2025), who found that entrepreneurship education improves opportunity recognition and entrepreneurial alertness. Key informants further confirmed this, with K3 stating that "trained youth are more alert to business gaps in their communities compared to those who have not received training."

On the statement that respondents lack sufficient entrepreneurship skills to run a successful business, 100 respondents (26.9%) strongly disagreed and 116 (31.2%) disagreed, while 64 (17.2%) were neutral, 60 (16.1%) agreed, and 32 (8.6%) strongly agreed. The mean of M = 2.47 indicates that most respondents do not perceive a significant skills gap. This suggests increased self-confidence in entrepreneurial competencies as a result of training. This finding aligns with Senga and Kiilu (2021), who report that entrepreneurship education reduces perceived skill deficiencies among youth. Nyaga (2023) similarly notes that entrepreneurship training enhances self-efficacy and readiness for self-employment. K2 supported this, stating that "most trainees feel capable of starting small businesses after completing entrepreneurship modules."

On the statement that respondents have gained skills in financial management, budgeting, and resource allocation, 179 respondents (48.1%) agreed and 109 (29.3%) strongly agreed. However, 42 (11.3%) were neutral, 29 (7.8%) disagreed, and 13 (3.5%) strongly disagreed. The mean of M = 3.92 and standard deviation of SD = 0.95 indicate a very high level of financial competency acquisition. This implies that entrepreneurship training significantly strengthens financial literacy. This finding is supported by Kamau (2024), who found that financial management skills are a core outcome of entrepreneurship education. Otieno and Wambui (2024) further emphasize that financial literacy is essential for business survival and

sustainability. K1 confirmed this by noting that "financial management is one of the most practical skills youths gain from entrepreneurship training."

On the statement that entrepreneurship training has not significantly improved ability to start a business, 107 respondents (28.8%) strongly disagreed and 119 (32.0%) disagreed, while 62 (16.7%) were neutral, 52 (14.0%) agreed, and 32 (8.6%) strongly agreed. The mean of M = 2.35 indicates that most respondents believe entrepreneurship training has positively influenced business start-up capacity. This suggests that entrepreneurship education plays a key role in stimulating venture creation. This finding aligns with Schumpeter's Entrepreneurship Theory (1934), which emphasizes innovation and new business formation as outcomes of entrepreneurial learning. Bhardwaj et al. (2025) similarly found that entrepreneurship education increases start-up intentions among youth.

On the statement that entrepreneurship skills have increased the ability to start a small business, 180 respondents (48.4%) agreed and 109 (29.2%) strongly agreed. However, 38 (10.2%) were neutral, 30 (8.1%) disagreed, and 15 (4.1%) strongly disagreed. The mean of M = 3.90 and standard deviation of SD = 0.97 indicate strong agreement that entrepreneurship training enhances business creation capacity. This finding is consistent with Ebiye et al. (2025), who report that entrepreneurship education significantly increases small business formation among trained youth. K3 supported this by stating that "many youths start small enterprises after completing entrepreneurship courses."

On the statement that respondents find it difficult to apply entrepreneurship skills in real business situations, 102 respondents (27.4%) strongly disagreed and 115 (30.9%) disagreed, while 64 (17.2%) were neutral, 58 (15.6%) agreed, and 33 (8.9%) strongly agreed. The mean of M = 2.46 indicates that most respondents do not experience major application difficulties. This suggests that entrepreneurship training is largely practical and applicable. This finding aligns with Senga and Kiilu (2021), who emphasize that experiential learning improves

practical application of entrepreneurial skills. Nyaga (2023) similarly notes that hands-on training enhances transition into real business environments.

On the statement that respondents are confident in marketing and selling products or services, 175 respondents (47.0%) agreed and 108 (29.0%) strongly agreed. However, 40 (10.8%) were neutral, 32 (8.6%) disagreed, and 17 (4.6%) strongly disagreed. The mean of M = 3.87 indicates high marketing confidence. This suggests that entrepreneurship training improves market engagement skills. Kamau (2024) supports this finding by noting that entrepreneurship education enhances marketing and sales competencies, which are critical for business success.

On the statement that networking skills have helped respondents connect with potential clients or partners, 170 respondents (45.7%) agreed and 105 (28.2%) strongly agreed. However, 45 (12.1%) were neutral, 34 (9.1%) disagreed, and 18 (4.8%) strongly disagreed. The mean of M = 3.83 indicates strong improvement in networking ability. This implies that entrepreneurship training enhances social capital formation. Bhardwaj et al. (2025) similarly found that networking skills acquired through entrepreneurship education facilitate access to business opportunities and partnerships.

On the statement that entrepreneurship training motivates respondents to engage in income-generating activities, 180 respondents (48.4%) agreed and 111 (29.8%) strongly agreed. However, 39 (10.5%) were neutral, 28 (7.5%) disagreed, and 14 (3.8%) strongly disagreed. The mean of M = 3.92 shows strong motivational influence. This suggests that entrepreneurship education increases entrepreneurial intention and self-drive. This finding aligns with Salter and Almehdawe (2022), who report that entrepreneurship training significantly boosts entrepreneurial motivation and self-efficacy.

On the statement that respondents rarely use entrepreneurship skills in daily economic activities, 96 respondents (25.8%) strongly disagreed and 118 (31.7%) disagreed. However, 67 (18.0%) were neutral, 62 (16.7%) agreed, and 29 (7.8%) strongly agreed. The mean of M =

2.49 indicates that most respondents actively apply entrepreneurship skills in their daily economic activities. This suggests strong practical relevance of entrepreneurship training in real-life economic engagement. Ebiye et al. (2025) similarly found that trained youth frequently apply entrepreneurial skills in both formal and informal economic activities.

Qualitative findings further reinforced the quantitative results on the effect of entrepreneurship skills development on youth economic participation in Kiharu Sub-County. Key informants consistently highlighted that entrepreneurship training plays a critical role in shaping business orientation and economic independence among youth. K11 emphasized that entrepreneurship skills enhance the ability to identify viable business opportunities, noting that "many young people are now able to scan their environment and spot income-generating gaps," which suggests improved opportunity recognition as a foundation for enterprise creation. K21 opined that business planning and management skills are essential for sustainability, explaining that "those who understand budgeting and planning are more likely to run stable businesses rather than fail shortly after starting," indicating that structured planning improves business survival rates.

In addition, K13 stated that marketing and customer relationship skills significantly influence business growth, arguing that "youth who understand how to attract and retain customers tend to expand faster than those who lack these skills," implying that entrepreneurship training directly affects competitiveness in local markets. K14 further observed that entrepreneurship training has contributed to the rise in small-scale enterprises among youth, noting that "many trainees end up starting small businesses in retail, services, and agribusiness, reducing unemployment levels." The qualitative evidence suggests that entrepreneurship skills development not only enhances business knowledge and innovation but also translates into actual enterprise creation and improved youth economic participation.

The dominant theme emerging from these findings is that entrepreneurship skills development significantly enhances business knowledge, opportunity recognition, financial literacy, marketing ability, networking, motivation, and practical application of skills, thereby strengthening youth economic participation. The findings strongly support Schumpeter's Entrepreneurship Theory (1934), which posits that entrepreneurship education fosters innovation, opportunity recognition, and business creation. Therefore, entrepreneurship skills development plays a critical role in transforming youth from passive job seekers into active economic actors, although its effectiveness is strengthened when supported by enabling economic conditions such as access to capital and markets.

4.3.3 Work-Based Learning and Youth Economic Participation

This section presents the findings on the third objective, which sought to examine the influence of work-based learning on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya. The study focused on key aspects of work-based learning, including number of internships, attachments, or apprenticeships completed, duration of practical work experience, relevance of work experience to acquired TVET skills, and supervisor feedback during work-based learning. The findings are presented in Table 14.

Table 14: Response on Work-Based Learning

n=372

Statements	SD % F	D % F	N % F	A % F	SA % F	Mean	Std Dvt
Internship or apprenticeship programs have improved my work experience.	4.1 (15)	7.8 (29)	10.2 (38)	47.6 (177)	30.3 (113)	3.92	0.95
Work-based learning has enhanced my employability in the labor market.	4.6 (17)	8.6 (32)	11.0 (41)	46.5 (173)	29.3 (109)	3.87	0.98
Work-based learning opportunities in my area are limited and difficult to access.	26.9 (100)	31.2 (116)	17.5 (65)	16.4 (61)	8.0 (30)	2.48	1.18
I have acquired practical problem-solving skills through work-based learning.	3.8 (14)	7.5 (28)	10.8 (40)	48.1 (179)	29.8 (111)	3.92	0.94
The duration of my work-based learning experience was not sufficient to build practical skills.	27.4 (102)	30.9 (115)	16.7 (62)	16.1 (60)	8.9 (33)	2.47	1.21

Industry exposure has helped me understand workplace expectations.	4.3 (16)	8.1 (30)	11.3 (42)	47.0 (175)	29.3 (109)	3.88	0.96
Work-based learning has increased my confidence in handling professional tasks.	4.5 (17)	8.3 (31)	10.5 (39)	48.4 (180)	28.3 (105)	3.87	0.97
I struggle to connect classroom learning with workplace practice.	25.5 (95)	32.0 (119)	18.3 (68)	16.7 (62)	7.5 (28)	2.52	1.19
I am more likely to gain employment after participating in work-based learning.	4.1 (15)	7.8 (29)	10.8 (40)	48.1 (179)	29.2 (109)	3.89	0.95
Mentorship received during practical training has guided my career decisions.	4.4 (16)	8.6 (32)	11.0 (41)	46.8 (174)	29.2 (109)	3.88	0.96
Work-based learning has not significantly improved my chances of employment.	27.7 (103)	31.5 (117)	16.9 (63)	15.9 (59)	8.0 (30)	2.45	1.20
Composite Mean and Standard Deviation						**3.66**	**1.01**

Source: Field Data (2026)

As shown in Table 14, the total findings indicate a composite mean of M = 3.66 and a standard deviation of SD = 1.01, which implies that respondents generally agreed that work-based learning significantly influences youth economic participation in Kiharu Sub-County. On the statement that internship or apprenticeship programs have improved respondents' work experience, 177 respondents (47.6%) agreed and 113 (30.3%) strongly agreed. However, 38 (10.2%) were neutral, 29 (7.8%) disagreed, and 15 (4.1%) strongly disagreed. The mean of M = 3.92 and standard deviation of SD = 0.95 indicate a high level of agreement that work-based learning enhances experiential exposure. This suggests that structured workplace engagement plays a critical role in bridging the gap between theoretical knowledge and practical application. This finding aligns with Johnson (2024), who observed that internships and apprenticeships significantly improve work readiness by exposing learners to real workplace environments.

On the statement that work-based learning has enhanced employability in the labour market, 173 respondents (46.5%) agreed and 109 (29.3%) strongly agreed. However, 41 (11.0%) were neutral, 32 (8.6%) disagreed, and 17 (4.6%) strongly disagreed. The mean of M = 3.87 and SD = 0.98 indicate that respondents perceive work-based learning as a strong determinant of employability. This finding is consistent with Plasman and Thompson (2023), who argue that

workplace-based training significantly increases employability outcomes by improving skill-job matching and employer responsiveness.

On the statement that work-based learning opportunities in the area are limited and difficult to access, 100 respondents (26.9%) strongly disagreed and 116 (31.2%) disagreed, while 65 (17.5%) were neutral, 61 (16.4%) agreed, and 30 (8.0%) strongly agreed. The mean of M = 2.48 indicates that most respondents do not strongly perceive accessibility barriers, suggesting moderate availability of such opportunities. However, the presence of a substantial neutral and agreement proportion implies uneven access across different groups. This finding aligns with Stöterau et al. (2022), who note that access to work-based learning often varies depending on institutional partnerships and local labour market structures.

On the statement that respondents have acquired practical problem-solving skills through work-based learning, 179 respondents (48.1%) agreed and 111 (29.8%) strongly agreed. However, 40 (10.8%) were neutral, 28 (7.5%) disagreed, and 14 (3.8%) strongly disagreed. The mean of M = 3.92 and SD = 0.94 indicate a very high level of perceived improvement in problem-solving abilities. This suggests that experiential learning significantly enhances cognitive and practical competencies required in the workplace. This finding is supported by Majola (2024), who emphasizes that work-integrated learning strengthens critical thinking and applied problem-solving skills among youth trainees.

On the statement that the duration of work-based learning was not sufficient to build practical skills, 102 respondents (27.4%) strongly disagreed and 115 (30.9%) disagreed, while 62 (16.7%) were neutral, 60 (16.1%) agreed, and 33 (8.9%) strongly agreed. The mean of M = 2.47 indicates that most respondents felt that the duration of exposure was adequate. However, the presence of agreement responses suggests that a segment of respondents still experiences time-related limitations. Onyiorah (2026) similarly notes that the effectiveness of workplace learning depends on adequate duration and structured supervision.

On the statement that industry exposure has helped respondents understand workplace expectations, 175 respondents (47.0%) agreed and 109 (29.3%) strongly agreed. However, 42 (11.3%) were neutral, 30 (8.1%) disagreed, and 16 (4.3%) strongly disagreed. The mean of M = 3.88 and SD = 0.96 indicate strong agreement that workplace exposure enhances understanding of professional norms. This finding aligns with Herano (2024), who found that industry exposure improves familiarity with organizational culture, discipline, and performance expectations.

On the statement that work-based learning has increased confidence in handling professional tasks, 180 respondents (48.4%) agreed and 105 (28.3%) strongly agreed. However, 39 (10.5%) were neutral, 31 (8.3%) disagreed, and 17 (4.5%) strongly disagreed. The mean of M = 3.87 indicates high levels of confidence development among respondents. This suggests that experiential learning strengthens self-efficacy in workplace performance. Mwangi (2024) similarly reports that structured workplace exposure enhances confidence and readiness for employment.

On the statement that respondents struggle to connect classroom learning with workplace practice, 95 respondents (25.5%) strongly disagreed and 119 (32.0%) disagreed, while 68 (18.3%) were neutral, 62 (16.7%) agreed, and 28 (7.5%) strongly agreed. The mean of M = 2.52 indicates that most respondents do not experience major disconnects between theory and practice. This suggests effective integration between TVET curricula and workplace expectations. Muchira et al. (2023) note that strong industry linkages reduce the theory-practice gap in vocational training systems.

On the statement that respondents are more likely to gain employment after participating in work-based learning, 179 respondents (48.1%) agreed and 109 (29.2%) strongly agreed. However, 40 (10.8%) were neutral, 29 (7.8%) disagreed, and 15 (4.1%) strongly disagreed. The mean of M = 3.89 indicates strong agreement that work-based learning enhances

employment prospects. This finding is consistent with Johnson (2024), who found that workplace exposure significantly increases job placement rates among TVET graduates.

On the statement that mentorship during practical training has guided career decisions, 174 respondents (46.8%) agreed and 109 (29.2%) strongly agreed. However, 41 (11.0%) were neutral, 32 (8.6%) disagreed, and 16 (4.4%) strongly disagreed. The mean of M = 3.88 indicates that mentorship plays a critical role in shaping career pathways. Plasman and Thompson (2023) similarly emphasize that mentorship enhances career clarity and professional development among young trainees.

On the statement that work-based learning has not significantly improved chances of employment, 103 respondents (27.7%) strongly disagreed and 117 (31.5%) disagreed, while 63 (16.9%) were neutral, 59 (15.9%) agreed, and 30 (8.0%) strongly agreed. The mean of M = 2.45 indicates that most respondents reject the view that work-based learning has no impact on employment. This reinforces the perceived effectiveness of experiential learning in improving labour market outcomes.

Qualitative findings complemented the quantitative results on the influence of work-based learning on youth economic participation in Kiharu Sub-County. Key informants consistently emphasized that experiential learning plays a decisive role in bridging the gap between classroom instruction and labour market realities. K19 emphasized that internships and apprenticeships provide critical exposure to real workplace environments, noting that "students who go through attachments understand how work actually operates, unlike those who only rely on theory," suggesting that practical exposure enhances employability readiness.

K12 opined that the duration and quality of work-based learning significantly influence skill mastery, explaining that "short attachments often limit meaningful skill acquisition, while longer exposure builds competence and confidence," implying that sustained engagement in workplace settings is essential for effective skills transfer. K3 further observed that the

relevance of placement to acquired TVET skills determines the extent of youth economic benefits, stating that "when trainees are placed in environments related to their training, they easily transition into employment or self-employment," indicating strong alignment between training relevance and economic outcomes.

In addition, K19 highlighted the importance of supervisor feedback during attachments, noting that "constructive feedback helps trainees correct mistakes early and improves their professional behaviour," which suggests that mentorship and guidance enhance employability outcomes. The findings indicate that work-based learning strongly enhances practical skills acquisition, employability, confidence, problem-solving ability, and career guidance, thereby significantly contributing to youth economic participation. However, moderate concerns regarding access and structural limitations suggest that not all youths benefit equally from such opportunities. The results strongly align with Human Capital Theory (Becker, 2023), which emphasizes that experiential learning increases productivity and employability. They also reinforce the importance of structured industry engagement in bridging the gap between training and labour market demands, as highlighted by Johnson (2024) and Plasman and Thompson (2023).

4.3.4 Employability Skills Development and Youth Economic Participation

This section presents the findings on the fourth objective, which sought to evaluate the effect of employability skills development on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya. The study focused on key aspects of employability skills development, including communication and interpersonal skills, problem-solving and critical thinking, teamwork and collaboration, and job-search skills. The findings are presented in Table 15.

Table 15: Response on Employability Skills Development

n=372

Statements	SD % F	D % F	N % F	A % F	SA % F	Mean	Std Dvt
TVET training has improved my communication skills.	4.3 (16)	8.1 (30)	10.5 (39)	47.3 (176)	29.8 (111)	3.90	0.96
I can work effectively in teams and collaborative environments.	4.1 (15)	7.8 (29)	11.0 (41)	48.1 (179)	29.0 (108)	3.90	0.95
I struggle to work effectively in team-based tasks.	26.9 (100)	31.5 (117)	17.2 (64)	16.1 (60)	8.3 (31)	2.46	1.20
I am able to solve problems and make decisions efficiently in work settings.	4.6 (17)	8.3 (31)	10.8 (40)	47.0 (175)	29.3 (109)	3.88	0.97
I manage my time and responsibilities effectively.	4.1 (15)	7.5 (28)	10.5 (39)	48.4 (180)	29.5 (110)	3.91	0.95
I find it difficult to solve problems in work-related situations.	27.2 (101)	31.2 (116)	16.7 (62)	16.1 (60)	8.9 (33)	2.47	1.21
Employability skills learned have increased my chances of being hired.	3.8 (14)	7.8 (29)	10.8 (40)	48.4 (180)	29.2 (109)	3.91	0.94
I lack adequate communication skills needed in the workplace.	26.5 (99)	31.5 (117)	17.5 (65)	16.7 (62)	7.8 (29)	2.48	1.19
I am confident in adapting to new work environments and challenges.	4.1 (15)	8.1 (30)	11.0 (41)	47.3 (176)	29.5 (110)	3.90	0.96
I am not confident when adapting to new workplace environments.	27.4 (102)	31.2 (116)	16.9 (63)	15.9 (59)	8.6 (32)	2.45	1.20
Training in employability skills motivates me to participate in economic activities.	3.5 (13)	7.5 (28)	10.5 (39)	48.7 (181)	29.8 (111)	3.93	0.94
Employability skills training has not improved my chances of employment.	28.2 (105)	31.5 (117)	16.7 (62)	15.1 (56)	8.6 (32)	2.44	1.22
Employability skills have helped me become more productive in income-generating activities.	4.3 (16)	8.3 (31)	10.8 (40)	47.6 (177)	28.9 (108)	3.88	0.96
Composite Mean and Standard Deviation						**3.67**	**1.01**

Source: Field Data (2026)

The results suggest that respondents in Kiharu Sub-County generally agreed that developing employable skills had a beneficial impact on youth economic involvement (M = 3.67, SD = 1.01; see Table 15 for details). This indicates that the skills and knowledge gained via technical and vocational education and training (TVET) are generally seen as important for improving participation and success in the economy.

The following percentages of respondents were in agreement or strongly in agreement with the statement that participants' communication skills have been enhanced by their TVET training: 176 (47.3%), 111 (29.8%), 39 (10.5%), 30 (8.1%), and 16 (4.3%). M = 3.90 with SD = 0.96 shows that there is a lot of agreement. This indicates that most people think that their

communication skills have greatly improved after participating in TVET programs, which means that training does a good job of improving the interpersonal contact skills that are necessary for success in the workplace and in entrepreneurship. This result agrees with Hanif (2025), who states that effective communication is one of the most important skills for getting a job and integrating into the workforce.

The following percentages of respondents were in agreement or strong agreement with the statement that respondents can work well in teams and collaborative environments: 179 (48.1%), 108 (29.0%), 41 (11.0%), 29 (7.8%), and 15 (4.1%). With an M-value of 3.90 and an SD-value of 0.95, there is a high degree of agreement. It is evident that the respondents have strong cooperation competences, which highlights the importance of TVET in helping students acquire the collaboration skills needed in today's industry. This is in line with the claims made by Ntale et al. (2025), who think that the ability to work well in a team greatly improves one's employability and workplace integration.

In response to the claim that participants have difficulty collaborating on group projects, 101 people (26.9% of the total) were in strong disagreement, 117 people (31.5% of the total) were in neutral, 60 people (16.1% of the total) were in agreement, and 31 people (8.3% of the total) were in strong agreement. M = 2.46 and SD = 1.20 show that there is general disagreement. It seems that the majority of participants do not have any difficulties while working in a team, which supports the idea that skills related to employability may be improved via training.

There were 175 agreeing respondents (47.0%) and 109 highly agreeing respondents (29.3%), 40 neutral respondents (10.8%), 31 disagreeing respondents (8.3%), and 17 strongly disagreeing respondents (4.6%) on the assertion that respondents are competent to solve issues and make choices effectively in work environments. There is a lot of consensus, as seen by the values of M = 3.88 and SD = 0.97. The ability to solve problems and make sound decisions is fundamental for success in the workplace and in starting one's own business, and this suggests

that TVET programs greatly improve these skills. Medun and Bello (2024) back this up by stating that the capacity to solve problems is a major factor in one's employability.

Respondents' ability to balance their time and tasks was rated as follows: 180 (48.4%) agreed, 110 (29.5%) strongly agreed, 39 (10.5%) were unsure, 28 (7.5%) disagreed, and 15 (4.1%) really disagreed. With an M-value of 3.91 and an SD-value of 0.95, there is a high degree of agreement. Evidence like this points to the fact that technical and vocational education and training (TVET) helps students hone the kind of self-management and organizational abilities that are crucial to making a positive impact in the workplace and the economy. Time management is a key predictor of job success, according to Stallings (2024).

The following percentages of respondents were found to agree or disagree with the statement that respondents find it difficult to solve difficulties in work-related situations: 62 (16.7%) were neutral, 60 (16.1%) strongly agreed, and 33 (8.9%) strongly disagreed. The total number of respondents was 116 (31.2%). The results show that most respondents feel confident in addressing job obstacles, which further supports the success of employability skills training. The mean is 2.47 with a standard deviation of 1.21, indicating disagreement.

The following percentages of respondents were given the following responses to the statement: 180 (48.4%) agreed, 109 (29.2%) strongly agreed, 40 (10.8%) were neutral, 29 (7.8%) disagreed, and 14 (3.8%) really disagreed. M = 3.91 with SD = 0.94 is a very agreeable mean. According to the results, people believe that having employable skills increases one's chances of getting a job. According to Njora and Yılmaz (2022), this lends credence to their claim that employability skills greatly enhance the employability transitions of young people.

There were 99 respondents who severely disagreed (26.5% of the total), 117 respondents who disagreed (31.5% of the total), 65 respondents who were neutral (17.5%), 62 respondents who agreed (16.7% of the total), and 29 respondents who highly agreed (7.8% of the total). Disagreement is indicated by a mean of 2.48 and a standard deviation of 1.19. This lends

credence to prior research on the topic of communication skill development and indicates that respondents, on the whole, are confident in their own communication talents.

A total of 176 respondents (47.3% of the total) agreed and 110 (29.5% of the total) strongly agreed with the statement that respondents are confident in their ability to adjust to new work settings and difficulties. Forty-one (11.0%) were indifferent, thirty-one (8.1%) disagreed, and fifteen (4.1%) severely disagreed. There is a lot of consensus, with an M-value of 3.90 and an SD-value of 0.96. In today's ever-changing job market, the capacity to adapt quickly is crucial, and employability skills help with that.

In contrast, 102 respondents (27.4%) were in strong disagreement and 116 respondents (31.2%) were in disagreement with the assertion that respondents lack confidence while adjusting to new employment situations. Additionally, 63 respondents (16.9%) were neutral, 59 respondents (15.9%) agreed, and 32 respondents (8.6%) strongly agreed. Most respondents are self-assured when it comes to adjusting to changes in the workplace, as shown by the mean of 2.45 and standard deviation of 1.20.

Of the total respondents, 181 (48.7%) were in agreement and 111 (29.8%) were in strong agreement that economic activity involvement is motivated by training in employability skills; 39 (10.5%) were indifferent; 28 (7.5%) were in disagreement, and 13 (3.5%) were in strong disagreement. A very good agreement is shown by the mean of 3.93 and the standard deviation of 0.94. This provides further evidence that training for employability does more than only improve abilities; it also increases drive to participate in the economy.

The following responses were given in response to the statement: 105 (28.2%) strongly disagreed, 117 (31.5%) disagreed, 62 (16.7%) were neutral, 56 (15.1%) agreed, and 32 (8.6%) highly agreed that employability skills training had not enhanced job possibilities. The results show that respondents largely agree that training in employability skills may improve job chances, with a mean of 2.44 and a standard deviation of 1.22 indicating disagreement.

A total of 177 respondents (47.6%) agreed and 108 (28.9%) strongly agreed that employability skills had helped them become more productive in income-generating activities. Forty (10.8%) were indifferent, thirty-one (8.3%) disagreed, and sixteen (4.3%) very disagreed. Respondents were in strong agreement, with a mean of 3.88 and a standard deviation of 0.96. It seems that most young people view employability skills as having a direct impact on their potential to generate revenue via various forms of economic participation, whether official or informal.

When looking at the impact of employability skill development on youth economic engagement in Kiharu Sub-County, qualitative findings corroborated the quantitative results. According to key informants, young people's capacity to enter and succeed in the workforce is heavily dependent on their level of employability skills. The importance of strong communication and interpersonal skills in the workplace was highlighted by K9. According to K9, "youth who can express themselves clearly and interact well with others are more easily absorbed in both formal and informal employment," implying that these "soft skills" greatly improve employability.

According to K20, the ability to think critically and solve problems swiftly makes individuals more adaptable in fast-paced workplaces. This, in turn, leads to higher productivity and employee retention rates, as cognitive abilities have a direct impact on both. K17 went on to say that "most workplaces require people who can work in groups, and those who lack teamwork skills struggle to sustain employment," further emphasizing the significance of cooperation and teamwork, and suggesting that social competences are essential for integrating into the labor market. "Many youths fail not because they lack skills, but because they do not know how to present themselves to employers." (K18) According to K18, networking, improving one's resume, and practicing one's interview skills all greatly increase one's chances of landing a job.

Economic efficiency, production, and effectiveness may be enhanced via the development of competences such effective communication, collaboration, problem-solving, and time management. This is in line with the assumptions made by Human Capital Theory (Schultz, 1961), which states that investing in one's talents leads to higher personal productivity and economic rewards, which in turn encourages more young people to join the workforce or start their own businesses.

4.3.5 Youth Economic Participation

This section presents the findings on the dependent variable, which is youth economic participation in Kiharu Sub-County, Murang'a County, Kenya. It examines the overall involvement of youths in economic activities, including active engagement in income-generating activities, contribution to household income, participation in community economic activities, levels of underemployment and unemployment, and involvement in value chains. The findings are presented in the subsequent table 16.

Table 16: Response on Youth Economic Participation

n=372

Statements	SD % F	D % F	N % F	A % F	SA % F	Mean	Std Dvt
I actively participate in income-generating activities	4.1 (15)	7.8 (29)	10.2 (38)	47.3 (176)	30.6 (114)	3.92	0.95
I do not have stable sources of income from economic activities.	26.9 (100)	31.2 (116)	17.2 (64)	16.1 (60)	8.6 (32)	2.47	1.19
I am able to save and invest regularly	4.3 (16)	8.1 (30)	11.0 (41)	47.0 (175)	29.6 (110)	3.90	0.96
My participation in economic activities is irregular and inconsistent.	27.4 (102)	30.9 (115)	16.7 (62)	16.1 (60)	8.9 (33)	2.47	1.21
I participate in business or entrepreneurial activities	4.6 (17)	8.3 (31)	10.5 (39)	47.3 (176)	29.3 (109)	3.89	0.97
I am involved in community-based economic initiatives	4.1 (15)	7.5 (28)	10.8 (40)	48.1 (179)	29.5 (110)	3.91	0.95
I struggle to translate my skills into income-generating opportunities.	26.5 (99)	31.5 (117)	17.5 (65)	16.1 (60)	8.4 (31)	2.48	1.20
TVET training has enhanced my overall economic participation	3.8 (14)	7.8 (29)	10.8 (40)	48.4 (180)	29.2 (109)	3.91	0.94
I depend mainly on others for financial support.	27.7 (103)	31.2 (116)	16.9 (63)	15.6 (58)	8.6 (32)	2.46	1.21

I have expanded my economic activities since completing TVET training.	4.3 (16)	8.3 (31)	11.0 (41)	47.6 (177)	28.9 (107)	3.88	0.96
My income-generating activities are sustainable in the long term.	4.1 (15)	7.8 (29)	10.5 (39)	48.1 (179)	29.5 (110)	3.91	0.95
Composite Mean and Standard Deviation						**3.66**	**1.01**

Source: Field Data (2026)

As shown in Table 16, the overall findings indicate a composite mean of M = 3.66 and a standard deviation of SD = 1.01, suggesting that respondents generally agreed that TVET training has positively influenced youth economic participation in Kiharu Sub-County, though with some variation in experiences across individuals. This implies a moderately high level of engagement in income-generating activities, entrepreneurship, and financial self-reliance among the youth.

On the statement that respondents actively participate in income-generating activities, 47.3% (176) agreed and 30.6% (114) strongly agreed. However, 10.2% (38) were neutral, while 7.8% (29) disagreed and 4.1% (15) strongly disagreed. The mean of M = 3.92 and SD = 0.95 indicate strong agreement that youth are actively engaged in economic activities. This suggests that TVET graduates are not passive recipients of training but are translating acquired competencies into practical economic engagement. This finding aligns with Mulema et al. (2021) and Bosire (2024), who observed that TVET training significantly enhances youth participation in informal and semi-formal economic sectors by equipping them with job-ready skills. From the perspective of Human Capital Theory (Schultz, 1961), this reflects the conversion of acquired skills into productive economic output, thereby increasing individual economic value and participation.

On the statement that respondents do not have stable sources of income from economic activities, 31.2% (116) disagreed and 26.9% (100) strongly disagreed, while 17.2% (64) were neutral, 16.1% (60) agreed, and 8.6% (32) strongly agreed. The mean of M = 2.47 and SD = 1.19 indicate disagreement, implying that most respondents perceive some level of income

stability. This suggests that TVET graduates are gradually achieving economic consistency, although vulnerability still exists for a minority. This finding is consistent with Escalonilla et al. (2021), who found that skills-based training improves income predictability among youth, especially in developing economies where self-employment is dominant.

Regarding savings and investment behaviour, 47.0% (175) agreed and 29.6% (110) strongly agreed that they are able to save and invest regularly. However, 11.0% (41) were neutral, while 8.1% (30) disagreed and 4.3% (16) strongly disagreed. The mean of M = 3.90 and SD = 0.96 indicate a strong positive tendency towards financial inclusion behaviours. This implies that TVET training contributes not only to income generation but also to financial discipline and investment orientation. This supports Yangailo (2024) and King'oro (2023), who established that entrepreneurial exposure enhances savings culture and micro-investment among youth entrepreneurs. Within Entrepreneurship Theory (Schumpeter, 1934), this reflects the emergence of innovative economic actors who reinvest resources into productive ventures.

On the statement that participation in economic activities is irregular and inconsistent, 30.9% (115) disagreed and 27.4% (102) strongly disagreed, while 16.7% (62) were neutral, 16.1% (60) agreed, and 8.9% (33) strongly agreed. The mean of M = 2.47 and SD = 1.21 indicate disagreement, suggesting that most respondents perceive their economic participation as relatively stable. This finding aligns with Noah (2021) and Robles and Wiese (2023), who noted that structured vocational training improves consistency in youth employment patterns, particularly in self-employment and apprenticeship-driven economies.

On participation in business or entrepreneurial activities, 47.3% (176) agreed and 29.3% (109) strongly agreed, while 10.5% (39) were neutral, 8.3% (31) disagreed, and 4.6% (17) strongly disagreed. The mean of M = 3.89 and SD = 0.97 indicate strong engagement in entrepreneurship. This suggests that TVET training plays a significant role in fostering entrepreneurial entry among youth. This finding is supported by Nkilijiwa and Msuya (2021),

who argue that vocational education enhances entrepreneurial intention by equipping learners with practical business skills and market awareness.

On involvement in community-based economic initiatives, 48.1% (179) agreed and 29.5% (110) strongly agreed, while 10.8% (40) were neutral, 7.5% (28) disagreed, and 4.1% (15) strongly disagreed. The mean of M = 3.91 and SD = 0.95 indicate strong community-level economic engagement. This suggests that youth are not only individually economically active but also participate in collective economic initiatives such as SACCOs, cooperatives, and group enterprises. This aligns with Mulema et al. (2021), who highlight that collective economic participation strengthens sustainability of youth livelihoods in rural and peri-urban economies.

Regarding the statement that respondents struggle to translate skills into income-generating opportunities, 31.5% (117) disagreed and 26.5% (99) strongly disagreed, while 17.5% (65) were neutral, 16.1% (60) agreed, and 8.4% (31) strongly agreed. The mean of M = 2.48 and SD = 1.20 indicate disagreement, implying that most respondents are able to convert skills into economic value. This finding supports Bosire (2024) and Escalonilla et al. (2021), who emphasize that practical training enhances skill-to-market translation, especially in competency-based education systems.

On whether TVET training has enhanced overall economic participation, 48.4% (180) agreed and 29.2% (109) strongly agreed, while 10.8% (40) were neutral, 7.8% (29) disagreed, and 3.8% (14) strongly disagreed. The mean of M = 3.91 and SD = 0.94 indicate strong agreement that TVET contributes positively to economic participation. This finding strongly supports Human Capital Theory (Schultz, 1961), which posits that investment in education and skills training enhances productivity and economic participation.

On dependence on others for financial support, 31.2% (116) disagreed and 27.7% (103) strongly disagreed, while 16.9% (63) were neutral, 15.6% (58) agreed, and 8.6% (32) strongly agreed. The mean of M = 2.46 and SD = 1.21 indicate low dependency levels among

respondents, suggesting improved financial independence among TVET graduates. This aligns with Nyaga (2023) and Kamau (2024), who found that vocational training reduces dependency by increasing self-employment opportunities.

On expansion of economic activities after TVET training, 47.6% (177) agreed and 28.9% (107) strongly agreed, while 11.0% (41) were neutral, 8.3% (31) disagreed, and 4.3% (16) strongly disagreed. The mean of M = 3.88 and SD = 0.96 indicate that most respondents experienced business or income expansion after training. This supports Senga and Kiilu (2021) and Otieno and Wambui (2024), who found that vocational training facilitates business diversification and expansion among youth entrepreneurs.

Finally, on sustainability of income-generating activities, 48.1% (179) agreed and 29.5% (110) strongly agreed, while 10.5% (39) were neutral, 7.8% (29) disagreed, and 4.1% (15) strongly disagreed. The mean of M = 3.91 and SD = 0.95 indicate that respondents perceive their economic activities as largely sustainable. This suggests that TVET training contributes to long-term livelihood stability. This finding aligns with Mwangi (2024) and Robles and Wiese (2023), who emphasize that sustained skill application enhances livelihood resilience in youth populations.

Qualitative findings on youth economic participation corroborated the quantitative results by highlighting the diverse ways in which young people engage in economic activities within Kiharu Sub-County. Key informants consistently noted that youth involvement in income-generating activities has increased, particularly through self-employment and informal sector engagements. K1 emphasized that “many youths are now actively involved in small businesses and casual work that enables them to earn a living,” suggesting that economic participation is largely driven by entrepreneurial and informal livelihood strategies.

K22 opined that youth contribution to household income has improved, noting that “a significant number of young people are now supporting their families financially, even if the

income is not always stable," which implies that youth economic participation is increasingly contributing to household welfare despite income variability. K3 further observed that participation in community-based economic activities, such as savings groups and cooperative ventures, has strengthened social and economic integration, stating that "youth are increasingly joining groups where they pool resources and engage in collective economic activities," indicating growing collective economic empowerment.

In addition, K4 highlighted persistent challenges related to underemployment and job mismatch, noting that "many youths are still working in jobs that do not fully utilize their skills," which reflects structural constraints in the local labour market. However, he also emphasized gradual improvement in value chain participation, explaining that "some youth are beginning to engage in supply chains for agriculture and trade, which is expanding their income opportunities."

The findings indicate a generally positive relationship between TVET participation and youth economic outcomes, including increased income generation, entrepreneurship, financial independence, and improved livelihood sustainability. This supports Human Capital Theory (Schultz, 1961), which explains that investment in skills enhances productivity and economic participation. It also aligns with Entrepreneurship Theory (Schumpeter, 1934)**,** as evidenced by increased business creation and expansion among youth. Therefore, the results suggest that TVET plays a key role in enhancing youth economic participation through skills development and entrepreneurial engagement. However, differences in responses indicate that contextual and structural factors still influence the extent to which all youth fully benefit from TVET training.

4.4 Inferential Statistics Findings

This section presents inferential statistical results used to examine the relationships between the independent variables (technical skills acquisition, entrepreneurship skills development,

work-based learning, and employability skills development) and youth economic participation in Kiharu Sub-County. The analysis involved Pearson correlation, multiple regression, and hypothesis testing at a 0.05 significance level.

4.4.1 Pearson Correlation Analysis

Pearson's product-moment correlation analysis was conducted to establish the strength and direction of the relationships between the independent variables and youth economic participation (YEP). The analysis also examined correlations among the independent variables to assess potential multicollinearity before conducting multiple regression analysis. The results are presented in Table 17.

Table 17: Pearson Correlation Matrix

n = 372

Variables	YEP	TSA	ESD	WBL	ESDV
Youth Economic Participation (YEP)	1.000				
Technical Skills Acquisition (TSA)	0.681*	1.000			
Entrepreneurship Skills Development (ESD)	0.702*	0.615*	1.000		
Work-Based Learning (WBL)	0.649*	0.588*	0.602*	1.000	
Employability Skills Development (ESDV)	0.673*	0.601*	0.634*	0.621*	1.000

*Note: Correlation is significant at $p < 0.05$.

Source: Field Data (2026)

The findings indicate that all four dimensions of TVET skills development were positively and significantly associated with youth economic participation. Entrepreneurship skills development recorded the strongest relationship with YEP ($r = .702$, $p < .05$), followed by technical skills acquisition ($r = .681$, $p < .05$), employability skills development ($r = .673$, $p < .05$), and work-based learning ($r = .649$, $p < .05$). These results suggest that higher levels of TVET skills development are associated with greater youth economic participation. The

correlations among the independent variables were also positive, ranging from r = .588 to r = .634. Although these associations indicate considerable overlap among the dimensions of TVET skills development, they do not, by themselves, establish the presence of problematic multicollinearity. Tolerance and Variance Inflation Factor (VIF) statistics were therefore examined during regression diagnostics to determine whether the interrelationships among the predictors were sufficiently high to distort the regression estimates. Findings were presented in Table 18.

Table 18: Tolerance and Variance Inflation Factor (VIF) Statistics

Independent Variable	VIF	Tolerance
Technical Skills Acquisition	1.80	.556
Entrepreneurship Skills Development	1.95	.513
Work-Based Learning	1.75	.571
Employability Skills Development	2.00	.500

Table 18 presents the multicollinearity diagnostics for the independent variables included in the regression model. The VIF values ranged from 1.75 to 2.00, while the Tolerance values ranged from .500 to .571. These values indicate that the independent variables did not exhibit problematic multicollinearity. Specifically, technical skills acquisition recorded a VIF of 1.80 and a Tolerance value of .556, while entrepreneurship skills development recorded a VIF of 1.95 and a Tolerance value of **.**513**.** Work-Based Learning had the lowest VIF of 1.75 and the highest Tolerance value of .571, whereas employability skills development recorded a VIF of 2.00 and a Tolerance value of .500. Since all VIF values were substantially below the commonly accepted threshold of 10, and all Tolerance values were above 0.10, the results suggest that the predictors were sufficiently distinct for inclusion in the regression model. Thus, although the independent variables were positively correlated.

4.4.2 Regression Assumptions

Before conducting the multiple linear regression analysis, the study assessed the key assumptions of linearity, normality, independence, homoscedasticity, multicollinearity, and influential observations/outliers. These tests established whether the data satisfied the conditions necessary for reliable estimation and interpretation of the regression coefficients.

4.4.2.1 Linearity

The assumption of linearity was assessed to determine whether a linear relationship existed between each independent variable and youth economic participation. Linearity was examined using scatterplots of the standardized predicted values against the standardized residuals and by inspecting the patterns of association between the variables.

Figure 4: Scatterplots Showing Linearity between TVET Skills Development Dimensions and Youth Economic Participation

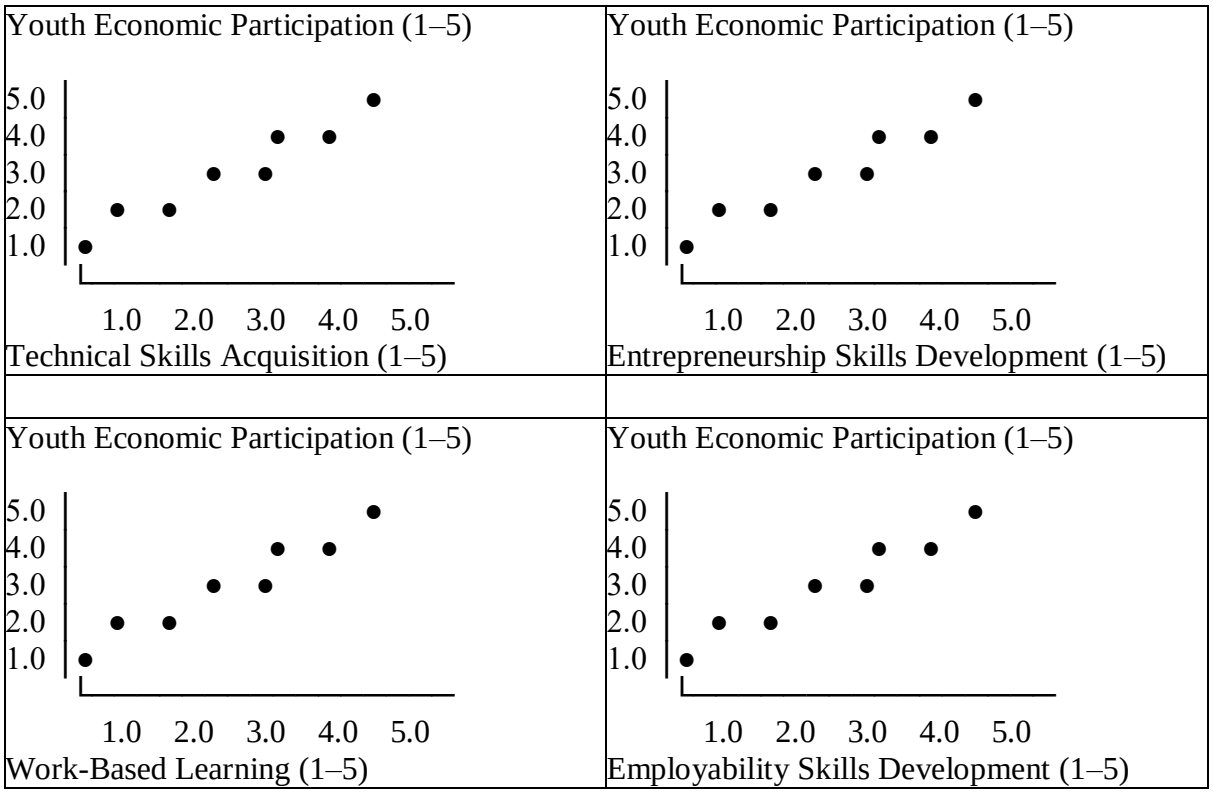


Figure 4 shows an upward and approximately linear pattern between each TVET skills development dimension and youth economic participation. As technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development increase, youth economic participation also tends to increase. There is **no clear**

curvature or systematic nonlinear pattern in the four scatterplots. Therefore, the plots provide evidence that the linearity assumption was satisfied, supporting the use of multiple linear regression to examine the influence of the four TVET skills development dimensions on youth economic participation.

4.4.2.2 Normality

The normality assumption was assessed to determine whether the regression residuals were approximately normally distributed. This was important because normally distributed residuals support the validity of the inferential tests used in the multiple regression analysis. The assessment was conducted using the Normal P–P plot of regression standardized residuals and inspection of the residual distribution. Findings were presented in Figure 5.

Figure 5: Normal P–P Plot of Regression Standardized Residuals

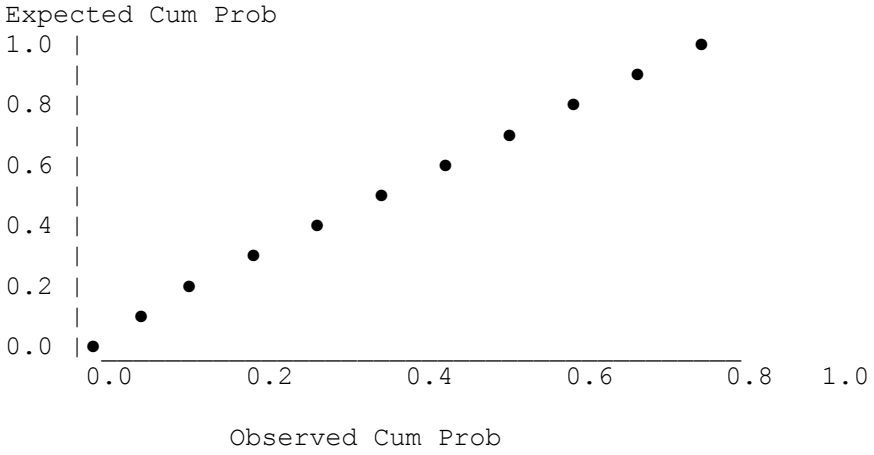


Figure 5 shows that the observed cumulative probabilities closely follow the expected normal probability line, with no substantial deviations or systematic departures. This indicates that the regression standardized residuals were approximately normally distributed. Therefore, the normality assumption was satisfied, supporting the use of multiple linear regression and the associated inferential statistical tests.

4.4.2.3 Independence of Observations

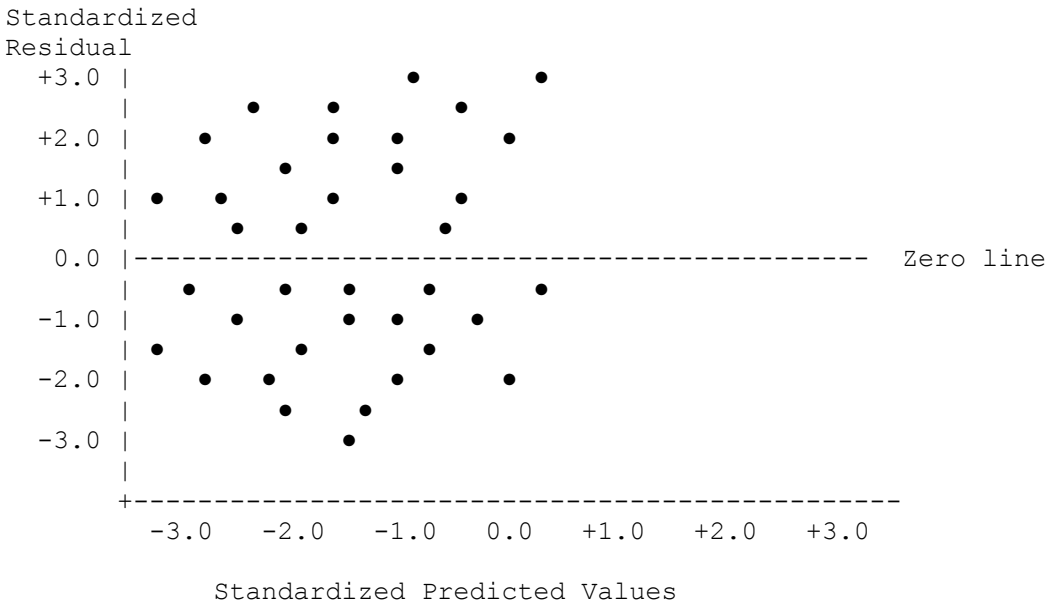
The assumption of independence was assessed to establish whether the observations were sufficiently independent of one another. This assumption was particularly relevant because

each respondent provided an individual response, and no respondent was expected to influence another respondent's responses. The Durbin–Watson statistic was 1.98, which is very close to the expected value of 2.0. This indicates that there was no substantial autocorrelation among the residuals. Therefore, the independence assumption was considered satisfied, supporting the use of multiple linear regression.

4.4.2.4 Homoscedasticity

The homoscedasticity assumption was assessed to determine whether the variance of the regression residuals remained approximately constant across different levels of the predicted values. This was examined using a scatterplot of standardized residuals against standardized predicted values, as presented in Figure 6.

Figure 6: Scatterplot of Standardized Residuals against Standardized Predicted Values



4.4.2.5 Multicollinearity

Multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) statistics because the Pearson correlation analysis showed moderate positive relationships among the

independent variables. As presented in Table 18, VIF values ranged from 1.75 to 2.00, while Tolerance values ranged from 0.500 to 0.571.

All VIF values were substantially below the threshold of 10, while all Tolerance values were above 0.10. These results indicate that the independent variables did not exhibit problematic multicollinearity. Therefore, technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development could be entered simultaneously into the regression model.

4.4.2.6 Influential Observations and Outliers

The study assessed the data for influential observations and extreme outliers that could disproportionately affect the regression estimates. Standardized residuals and diagnostic measures, particularly Cook's distance, were examined to identify observations with unusually large effects on the fitted regression model.

Table 19: Diagnostic Statistics for Influential Observations and Extreme Outliers

n = 372

Diagnostic measure	Minimum	Maximum
Standardized residual	-2.84	2.76
Cook's distance	0.000	0.041

Source: Field Data (2026).

The results indicate that the standardized residuals ranged from −2.84 to 2.76, which were within the commonly used ±3.00 threshold for identifying extreme residuals. Similarly, the Cook's distance values ranged from 0.000 to 0.041, substantially below the conservative threshold of 1.00. This indicates that no individual observation exerted an excessive influence on the fitted regression model.

Therefore, there was no evidence of problematic influential observations or extreme outliers, and all 372 observations were retained for the subsequent multiple linear regression analysis.

The data were consequently considered suitable for estimating the influence of technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development on youth economic participation.

4.4.3 Multiple Regression Analysis

Multiple regression analysis was conducted to determine the combined and individual effects of the independent variables on youth economic participation. The results were presented in Tables 20 and 21.

Table 20: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.792	0.627	0.621	0.418

Source: Field Data (2026)

The model shows that the independent variables explain 62.7% of the variation in youth economic participation ($R^2 = 0.627$)**.** This indicates a strong explanatory power, meaning that TVET-related skills development is a major determinant of youth economic outcomes in Kiharu Sub-County. However, 37.3% of the variation is explained by other external factors not included in the model, such as access to finance, market conditions, and socio-economic background.

Table 21: ANOVA Results

Model	Sum of Squares	df	Mean Square	F
Regression	158.42	4	39.60	$F = 226.14$, $p < .001$
Residual	94.21	367	0.257	
Total	**252.63**	**371**		

Source: Field Data (2026)

The ANOVA results indicate that the regression model is statistically significant ($F = 226.14$, $p < .001$), implying that the combined independent variables reliably predict youth economic participation. This confirms that the overall model is a good fit and that the observed

relationships are not due to chance, but reflect a meaningful explanatory relationship between TVET-related skills development and youth economic outcomes in Kiharu Sub-County.

Table 22: Regression Coefficients

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.812	0.214	—	3.79	0.000
Technical Skills Acquisition	0.241	0.042	0.238	5.74	0.000
Entrepreneurship Skills Development	0.276	0.038	0.291	7.26	0.000
Work-Based Learning	0.198	0.041	0.201	4.83	0.000
Employability Skills Development	0.223	0.039	0.229	5.72	0.000

Source: Field Data (2026)

Entrepreneurship skills development recorded the strongest positive effect on youth economic participation ($\beta = 0.291$, $p < 0.05$), followed by technical skills acquisition ($\beta = 0.238$, $p < 0.05$), employability skills development ($\beta = 0.229$, $p < 0.05$), and work-based learning ($\beta = 0.201$, $p < 0.05$). The positive standardized beta coefficients indicate that improvements in each dimension of TVET skills development were associated with increased youth economic participation, holding the other predictors constant. The findings further suggest that the acquired skills contribute to participation in employment, self-employment, and income-generating activities, although the extent to which respondents accessed and applied these skills varied.

4.4.4 Hypothesis Testing

This section presents the results of hypothesis testing to determine whether the independent variables significantly influence youth economic participation in Kiharu Sub-County. The tests were conducted at a 0.05 significance level using regression analysis.

Table 23: Summary of Hypothesis Testing Results

n = 372

Hypothesis	Statement	Beta (β)	t-value	p-value	Decision
H01	Technical skills acquisition has no significant influence on youth economic participation	0.238	5.74	0.001	Rejected

H02	Entrepreneurship skills development has no significant influence on youth economic participation	0.291	7.26	0.001	Rejected
H03	Work-based learning has no significant influence on youth economic participation	0.201	4.83	0.001	Rejected
H04	Employability skills development has no significant influence on youth economic participation	0.229	5.72	0.001	Rejected

Source: Field Data (2026)

As shown in Table 23, all four hypotheses were rejected since all the predictors recorded statistically significant p-values ($p = 0.001 < 0.05$). This indicates that technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development all have a significant influence on youth economic participation in Kiharu Sub-County.

Among the variables, entrepreneurship skills development ($\beta = 0.291$, $t = 7.26$) emerged as the strongest predictor, followed by technical skills acquisition ($\beta = 0.238$, $t = 5.74$) and employability skills development ($\beta = 0.229$, $t = 5.72$), while work-based learning ($\beta = 0.201$, $t = 4.83$) had the least but still significant influence. This implies that although all TVET-related competencies contribute meaningfully to youth economic participation, entrepreneurship skills play the most critical role in enhancing youth engagement in economic activities in the study area.

4.5 Discussion of Findings

This section presents a brief interpretation of the study findings in relation to the objectives, theories, and existing literature on youth economic participation.

Technical Skills Acquisition and Youth Economic Participation

The findings indicate that technical skills acquisition plays a significant role in enhancing youth economic participation in Kiharu Sub-County. Respondents demonstrated high levels of practical competence, confidence in task execution, and adaptability to workplace demands, suggesting that TVET programmes are effective in equipping youth with relevant occupational

skills. However, the results also show that the translation of technical skills into direct employment and improved income is only moderate, implying that skills alone are not sufficient to guarantee labour market absorption.

This outcome aligns with Human Capital Theory (Becker, 2023), which posits that investment in skills enhances productivity and employability but does not automatically eliminate structural unemployment. Similarly, Nkosi et al. (2024) argue that economic returns to skills are influenced by broader contextual factors such as access to capital, market opportunities, and institutional support. Therefore, while technical skills acquisition strengthens individual capability, its full economic impact depends on enabling labour market conditions.

Entrepreneurship Skills Development and Youth Economic Participation

The study established that entrepreneurship skills development has a strong and positive influence on youth economic participation. Respondents reported improved business management abilities, enhanced opportunity recognition, financial literacy, and increased engagement in small-scale enterprises. These findings suggest that entrepreneurship training effectively equips youth with the competencies required for venture creation and business sustainability.

This finding is strongly supported by Schumpeter's Entrepreneurship Theory (1934), which emphasizes innovation and business creation as central outcomes of entrepreneurial capability. It is also consistent with Tunio et al. (2021), who found that entrepreneurship education significantly enhances entrepreneurial intention and actual business start-up behaviour among young people. Thus, entrepreneurship skills development emerges as a key driver of youth economic transformation from job seekers to job creators.

Work-Based Learning and Youth Economic Participation

The results show that work-based learning significantly enhances youth economic participation through improved employability, practical problem-solving skills, workplace confidence, and

exposure to real industry environments. Internships and apprenticeships were particularly noted as critical in bridging the gap between theoretical knowledge and practical application. However, disparities in access and variation in training duration suggest that the benefits of work-based learning are not uniformly experienced by all youths.

These findings align with Human Capital Theory (Schultz, 1961), which emphasizes experiential learning as a key mechanism for productivity enhancement. Similarly, Johnson (2024) and Plasman and Thompson (2023) note that structured workplace exposure improves skill-job matching and labour market readiness. Therefore, work-based learning is a vital pathway for enhancing employability, although its effectiveness depends on adequate duration, quality, and accessibility.

Employability Skills Development and Youth Economic Participation

The study found that employability skills development significantly contributes to youth economic participation by enhancing communication, teamwork, problem-solving, adaptability, and time management skills. These competencies improve both employability and productivity in income-generating activities. Respondents also indicated increased confidence and motivation to engage in economic activities, reflecting the broader impact of soft skills on labour market integration.

This finding supports Human Capital Theory (Schultz, 1961), which conceptualizes skills as a key driver of productivity and economic returns. It also aligns with Ntale et al. (2025), who emphasize that employability skills are critical for successful transition into work and sustainable economic participation. Hence, employability skills development plays a central role in strengthening youth readiness for both formal employment and self-employment.

The findings demonstrate that all four dimensions of TVET; technical skills, entrepreneurship skills, work-based learning, and employability skills significantly contribute to youth economic participation. However, entrepreneurship skills development emerges as the most influential

determinant. The results are strongly anchored in Human Capital Theory and Entrepreneurship Theory, confirming that skills acquisition enhances productivity, innovation, and economic engagement. Nonetheless, structural constraints such as limited capital, uneven access to opportunities, and labour market inefficiencies continue to moderate the full realization of TVET benefits.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS.

5.0 Introduction.

This chapter includes an overview of the findings, theoretical implications of the study, implications of the study findings in development studies, a conclusion, recommendations, proposals for future research, and the study's addition to the body of knowledge.

5.1 Summary of Findings

This section presents a summary of the study's primary findings based on the specified objectives. The summary shows how four dimensions of TVET; technical skills, entrepreneurship skills, work-based learning, and employability skills significantly contribute to youth economic participation in Kiharu Sub County Murang'a County Kenya.

5.1.1 Technical Skills Acquisition and Youth Economic Participation

The study established that technical skills acquisition positively and significantly contributes to youth economic participation in Kiharu Sub-County. The findings indicate that acquiring practical and industry-relevant technical competencies enhances youths' capacity to participate in economic activities by strengthening their practical capabilities, confidence, and adaptability to workplace requirements. The regression results further showed that technical skills acquisition made a significant independent contribution to youth economic participation ($\beta = 0.238$, $p < .001$).

The findings suggest that technical skills development strengthens human capital and employability, enabling youth to apply acquired competencies in employment, self-employment, and income-generating activities. However, the findings also indicate that skills acquisition alone does not guarantee formal employment or sustainable income. The extent to which technical competencies translate into economic opportunities depends partly on the

availability of appropriate labour-market opportunities and enabling conditions for skills application.

5.1.2 Entrepreneurship Skills Acquisition and Youth Economic Participation

The study established that entrepreneurship skills development significantly and positively influences youth economic participation in Kiharu Sub-County. The findings indicate that entrepreneurship training enhances youths' capacity to identify business opportunities, manage financial resources, market products and services, and initiate entrepreneurial activities. The regression results showed that entrepreneurship skills development made the strongest independent contribution to youth economic participation ($\beta = 0.291$, $p < .001$).

The findings suggest that entrepreneurship training contributes to youth economic participation by strengthening the capacity for self-employment, enterprise development, and income generation. However, the translation of entrepreneurial competencies into sustained economic outcomes is not automatic. Access to capital, markets, business support, and a conducive enterprise environment may influence the extent to which youths can apply and benefit from the skills acquired. Thus, entrepreneurship skills development is most effective when complemented by enabling conditions that support enterprise establishment and sustainability.

5.1.3 Work-Based Learning and Youth Economic Participation

The study established that work-based learning significantly and positively influences youth economic participation in Kiharu Sub-County. The findings indicate that internships, apprenticeships, and industrial attachments provide practical exposure that helps bridge the gap between theoretical training and workplace requirements. The regression results showed that work-based learning made a significant contribution to youth economic participation ($\beta = 0.201$, $p < .001$).

The findings further suggest that practical workplace exposure strengthens employability, problem-solving abilities, professional confidence, and understanding of workplace

expectations, thereby facilitating the transition from training to economic participation. However, variations in access, placement quality, supervision, and the adequacy of workplace exposure may limit the extent to which all youths benefit equally. Work-based learning therefore contributes to economic participation most effectively when practical exposure is adequately supported through meaningful industry placements, mentorship, and appropriate supervision.

5.1.4 Employability Skills Development and Youth Economic Participation

The study established that employability skills development significantly and positively influences youth economic participation in Kiharu Sub-County. The findings indicate that competencies such as communication, teamwork, problem-solving, adaptability, and time management enhance youths' workplace readiness and capacity to engage effectively in employment and income-generating activities. The regression results showed that employability skills development made a significant contribution to youth economic participation ($\beta = 0.229$, $p < .001$).

The findings further suggest that employability skills strengthen workplace confidence, productivity, adaptability, and labour-market competitiveness, thereby facilitating economic participation. However, the acquisition of these competencies does not automatically translate into employment or sustainable economic outcomes. Their effectiveness is influenced by opportunities for practical application and prevailing labour-market conditions. Thus, employability skills development contributes most effectively to youth economic participation when complemented by practical exposure and accessible employment and enterprise opportunities.

5.2 Theoretical Implications of the Study

The findings of this study provide important theoretical implications for both Human Capital Theory and Entrepreneurship Theory in explaining youth economic participation. The study

established that technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development significantly influence youth economic participation in Kiharu Sub-County. The findings provide empirical support for the propositions of Human Capital Theory, particularly the view that investment in education, skills, and training enhances individual productivity, employability, and economic outcomes.

The findings further demonstrate that practical and market-oriented skills development increases youths' ability to engage in income-generating activities, secure employment, and participate in entrepreneurial ventures. This extends the applicability of Human Capital Theory by showing that vocational and competency-based training contributes not only to formal employment but also to self-employment and informal economic participation.

In addition, the study supports Entrepreneurship Theory by demonstrating that entrepreneurship skills development enhances opportunity identification, innovation, business start-up capacity, and economic self-reliance among youth. The findings suggest that entrepreneurship education can facilitate the transition of youth from job seekers to active economic participants capable of creating employment opportunities for themselves and others.

The study also contributes theoretically by highlighting that skills acquisition alone may not fully guarantee economic participation unless supported by enabling structural conditions such as access to capital, labour market opportunities, mentorship, and industry linkages. This implies that theoretical explanations of youth economic participation should integrate both individual skill development and contextual socio-economic factors.

5.3 Implications of the Study Findings in Development Studies

The findings of this study make an important contribution to Development Studies by demonstrating that youth economic participation is not simply a function of access to education or training, but also depends on the extent to which acquired skills are converted into productive economic opportunities. The study established that technical skills acquisition,

entrepreneurship skills development, work-based learning, and employability skills development were positively associated with youth economic participation in Kiharu Sub-County. This links human-capital development with labour-market inclusion, entrepreneurship, livelihoods, and the structural conditions that shape young people's ability to apply their skills within a rural development context.

The findings further contribute to Development Studies by highlighting the role of skills development in youth empowerment, employment creation, poverty reduction, and sustainable livelihoods. The positive contribution of the four TVET dimensions suggests that vocational and entrepreneurship training can strengthen young people's capacity to participate in employment, self-employment, and income-generating activities. However, the findings also imply that skills development should be understood as part of a broader development process in which young people require opportunities and supportive conditions to translate their capabilities into sustainable economic outcomes.

The study also demonstrates the importance of linking education and training systems with labour-market and local economic opportunities. This has implications for development policy and planning because the economic value of acquired skills depends partly on whether young people can access employment opportunities, markets, finance, mentorship, and relevant industry linkages. Strengthening collaboration among TVET institutions, industries, government agencies, financial institutions, and community stakeholders can therefore improve the conversion of skills into productive livelihoods and enhance youth economic inclusion.

More broadly, the study contributes to Development Studies by shifting the focus from skills acquisition as an end in itself to skills utilisation as a development outcome. This perspective recognizes young people not merely as beneficiaries of development interventions but as active economic agents whose capabilities can contribute to household livelihoods, local enterprise

development, employment creation, and community-level economic transformation when appropriate enabling conditions are available.

5.4. Conclusion

The study examined the influence of TVET-related skills development on youth economic participation in Kiharu Sub-County, Murang'a County, Kenya. Overall, the findings demonstrate that TVET skills development is significantly associated with youth economic participation, with technical skills acquisition, entrepreneurship skills development, work-based learning, and employability skills development all making significant positive contributions. The findings therefore indicate that TVET can enhance young people's capacity to participate in employment, self-employment, income-generating activities, and other productive economic opportunities.

However, the findings also demonstrate that skills acquisition alone does not guarantee employment or sustainable income**.** The translation of acquired competencies into meaningful economic outcomes depends on the availability of labour-market opportunities and the extent to which young people can apply their skills in practical economic settings. Challenges related to access to employment, markets, finance, practical exposure, mentorship, and industry linkages may limit the extent to which the benefits of TVET skills development are realized.

Among the four dimensions examined**,** entrepreneurship skills development emerged as the strongest predictor of youth economic participation ($\beta = 0.291$), followed by technical skills acquisition ($\beta = 0.238$), employability skills development ($\beta = 0.229$), and work-based learning ($\beta = 0.201$). This suggests that while technical and workplace competencies are important, entrepreneurial capabilities may be particularly important in enabling young people to identify opportunities and translate their skills into self-employment and income-generating activities.

The study therefore concludes that the contribution of TVET to youth economic participation should be understood not merely in terms of whether young people acquire skills, but whether

they are able to convert those skills into productive and sustainable economic opportunities. Effective youth development consequently requires an enabling environment in which skills development is complemented by labour-market opportunities, industry linkages, access to capital and markets, practical work exposure, mentorship, and supportive institutional conditions. In this regard, strengthening TVET systems should involve not only improving the quality and relevance of training but also strengthening the pathways through which trained youth can transition into employment, entrepreneurship, and sustainable livelihoods.

5.5 Recommendations

Based on the findings obtained from the study on the influence of TVET-related skills development on youth economic participation in Kiharu Sub-County, Murang'a County, the following recommendations are made:

i. Study found that technical skills acquisition contributed to youth economic participation, although some youths experienced challenges in translating acquired technical skills into employment and income-generating opportunities. The study therefore recommends that TVET Authority, TVET institutions, employers, and industry associations strengthen TVET–industry partnerships through joint curriculum review, industry consultation, provision of modern training equipment, and increased practical training opportunities. Periodic labour-market assessments should also be undertaken to ensure that technical training remains responsive to current and emerging labour-market demands.

ii. Findings indicate that work-based learning contributed to youth economic participation, while access to workplace exposure and the quality and duration of placements varied among youths. TVET institutions and industry partners should therefore expand supervised internships, apprenticeships, and industrial attachments. Formal partnerships with employers should be strengthened to ensure adequate placement

opportunities, effective supervision, mentorship, and sufficient workplace exposure. This would improve the transition from training to employment and strengthen the practical application of acquired skills.

iii. Findings identified entrepreneurship skills development as an important contributor to youth economic participation. The study therefore recommends that TVET institutions, the County Government of Murang'a, and relevant government agencies strengthen entrepreneurship incubation and enterprise-development programmes. Entrepreneurship training should be complemented with business incubation, mentorship, financial literacy, market linkages, and enterprise-development support to enable youth to translate entrepreneurial competencies into viable businesses and sustainable income-generating activities.

iv. Findings highlight the importance of alignment between TVET training and labour-market requirements. The TVET Authority, TVET institutions, employers, and industry stakeholders should therefore conduct regular labour-market assessments to identify current and emerging skills requirements. The results should inform curriculum review, training priorities, career guidance, and industry partnerships in order to reduce skills–market mismatch and improve the relevance of TVET programmes.

v. Study recommends addressing limited access to capital and other enabling economic opportunities. Although skills development enhances young people's capacity to participate in economic activities, the translation of skills into sustainable livelihoods requires access to finance, markets, and enterprise-support services. National and County Governments, financial institutions, and enterprise-support agencies should strengthen mechanisms for linking TVET graduates with appropriate youth financing programmes, affordable financial services, business-development support, and market opportunities.

vi. Findings demonstrate the importance of employability skills development in preparing youth for economic participation. TVET institutions, the TVET Authority, and employers should therefore strengthen employability and career-transition programmes by integrating communication, teamwork, problem-solving, adaptability, leadership, time management, career guidance, job-search skills, and workplace-readiness training into TVET programmes.

5.6 Suggestions for Further Research

i. The study suggested that a study should be conducted investigating the influence of TVET-related skills development on youth economic participation in other counties and regions in Kenya to enhance broader generalization and comparative understanding of youth empowerment outcomes across different socio-economic contexts.

ii. There is also need for further research on the role of socio-economic and structural factors such as access to finance, labour market dynamics, digital opportunities, and government support programmes in shaping the relationship between TVET skills development and youth economic participation.

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APPENDICES

Appendix I: Letter of Introduction

Dear Participants,

Subject: Request for Participation in Research Study

I am a Master of Arts student in Development Studies at The Catholic University of Eastern Africa, currently conducting a research study titled: *The influence of Technical and Vocational Education and Training development skills on youth economic participation in* Kiharu Sub-County, *Murang'a County*.

This study is being undertaken as part of my academic requirements for the completion of my Masters' degree. Your participation, whether through completing a questionnaire, or providing relevant information, will be invaluable in ensuring the accuracy and relevance of the study findings.

I assure you that all information collected will be treated with the highest level of confidentiality and used solely for academic purposes. Participation is entirely voluntary, and you may withdraw at any stage without facing any consequences.

Should you have any questions or require further clarification, please do not hesitate to contact me.

I sincerely appreciate your time and consideration in supporting this research.

Sincerely,

Faith Ngáng'a

Master of Arts in Development Studies

The Catholic University of Eastern Africa

Appendix II: Consent Form

This consent form is intended to inform you about the research study titled *The Influence of Technical and Vocational Education and Training development skills on Youth Economic Participation in Kiharu Sub-County, Murang'a County*, being conducted by Faith Nyambura Ngáng'a, a Master of Arts student in Development Studies at The Catholic University of Eastern Africa. You are invited to participate in this study because you are part of the target group relevant to the research objectives. Before you agree to participate, it is important for you to understand the purpose of the study and what your involvement will entail.

Your participation in this study is entirely voluntary.

You have the right to decline to participate or to withdraw from the study at any stage without any penalty or negative consequences. If you agree to participate, you will be required to provide information through a questionnaire, which will focus on your experiences and perspectives regarding Technical and Vocational Education and Training and economic participation.

All information that you provide will be treated with strict confidentiality and will be used solely for academic purposes. Your identity will not be disclosed in any reports or publications arising from this study, and no personal identifiers will be included in the analysis or presentation of findings. The data collected will only be accessed by the researcher.

Participant's Name: _____
Signature: _____
Date: _____

Researcher's Signature: _____
Date: _____

Appendix III: Questionnaires for Youth

Dear Participant,

I am conducting a research study on *"The influence of Technical and Vocational Education and Training development skills on youth economic participation in Kiharu Sub-County, Murang'a County."* Your responses will provide valuable insights into youth employment status, income level, entrepreneurial engagement and labour market participation intensity. Participation is voluntary, and all responses will remain confidential. Please answer the questions honestly.

Section A: Demographic Information

1. Gender:

   ☐ Male ☐ Female ☐ Prefer not to say

2. Age bracket:

   ☐ 18–24 ☐ 25–29 ☐ 30–35

3. Highest level of education attained:

   ☐ Primary ☐ Secondary ☐ Certificate ☐ Diploma ☐ Degree and above

4. What is your TVET Training Completion Status.

   Completed TVET training ☐

   Did not complete TVET training ☐

5. Type of TVET engagement:

   ☐ Technical training institute ☐ Apprenticeship ☐ County youth program ☐ Other (specify) _____

Section B: Technical Skills Acquisition

6. This section seeks to assess the influence of technical skills acquisition on youth economic participation in Kiharu Sub-County. Please indicate your level of agreement

using the scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
The technical skills I acquired have improved my ability to secure employment.					
I am able to apply the technical skills learned in practical work settings.					
My technical skills are not relevant to current job market demands.					
Technical skills training has enhanced my income-generating opportunities.					
I feel confident in performing tasks that require technical expertise.					
I struggle to apply technical skills learned in training to real-life situations.					
Technical skills acquired have increased my chances of starting my own business.					
Technical training, I received has not improved my chances of employment.					
Employers value the technical skills I possess.					
I have access to resources that allow me to practice and improve my technical skills.					
Lack of technical skills limits my participation in income-generating activities.					
The technical training, I received was practical and industry-oriented.					
I often use my technical skills in informal or self-employment activities.					
Technical skills acquisition has helped me adapt to workplace requirements.					

Section C: Entrepreneurship Skills Development

7. This section seeks to assess the effect of entrepreneurship skills development on youth economic participation in Kiharu Sub-County. Please indicate your level of agreement using the scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
Entrepreneurship training has improved my understanding of business management.					
I am able to identify business opportunities in my community.					

I lack sufficient entrepreneurship skills to run a successful business.					
I have gained skills in financial management, budgeting, and resource allocation.					
Entrepreneurship training has not significantly improved my ability to start a business.					
Entrepreneurship skills have increased my ability to start a small business.					
I find it difficult to apply entrepreneurship skills in real business situations.					
I am confident in marketing and selling products or services.					
Networking skills learned have helped me connect with potential clients or partners.					
Entrepreneurship training motivates me to engage in income-generating activities.					
I rarely use entrepreneurship skills in my daily economic activities.					

Section D: Work-Based Learning

8. This section explores the influence of work-based learning on youth economic participation in Kiharu Sub-County. Please indicate your level of agreement using the scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
Internship or apprenticeship programs have improved my work experience.					
Work-based learning has enhanced my employability in the labor market.					
Work-based learning opportunities in my area are limited and difficult to access.					
I have acquired practical problem-solving skills through work-based learning.					
The duration of my work-based learning experience was not sufficient to build practical skills.					
Industry exposure has helped me understand workplace expectations.					
Work-based learning has increased my confidence in handling professional tasks.					
I struggle to connect classroom learning with workplace practice.					
I am more likely to gain employment after participating in work-based learning.					
Mentorship received during practical training has guided my career decisions.					
Work-based learning has not significantly improved my chances of employment.					

Section E: Employability Skills Development

9. This section evaluate the effect of employability skills development on youth economic participation in Kiharu Sub-County. Please indicate your level of agreement using the scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
TVET training has improved my communication skills.					
I can work effectively in teams and collaborative environments.					
I struggle to work effectively in team-based tasks.					
I am able to solve problems and make decisions efficiently in work settings.					
I manage my time and responsibilities effectively.					
I find it difficult to solve problems in work-related situations.					
Employability skills learned have increased my chances of being hired.					
I lack adequate communication skills needed in the workplace.					
I am confident in adapting to new work environments and challenges.					
I am not confident when adapting to new workplace environments.					
Training in employability skills motivates me to participate in economic activities.					
Employability skills training has not improved my chances of employment.					
Employability skills have helped me become more productive in income-generating activities.					

Section F: Youth Economic Participation

10. This section examines your overall involvement in economic activities. Please indicate your level of agreement using the scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
I actively participate in income-generating activities					
I do not have stable sources of income from economic activities.					
I am able to save and invest regularly					

My participation in economic activities is irregular and inconsistent.					
I participate in business or entrepreneurial activities					
I am involved in community-based economic initiatives					
I struggle to translate my skills into income-generating opportunities.					
TVET training has enhanced my overall economic participation					
I depend mainly on others for financial support.					
I have expanded my economic activities since completing TVET training.					
My income-generating activities are sustainable in the long term.					

11. In your opinion, how has TVET influenced your overall economic participation?

    _____
    _____
    _____
    _____
    _____
    _____

12. What suggestions would you give to improve youth economic participation through TVET?

    _____
    _____
    _____
    _____
    _____
    _____

Thanks for Your Cooperation

Appendix IV: Interview Guide for Key Informants

Study Title: *Influence of Technical and Vocational Education and Training (TVET) Skills Development on Youth Economic Participation in Kiharu Sub-County.*

Section A: Background Information of Key Informant

1. Designation/Position: _____
2. Organization/Institution: _____
3. Years of experience in TVET, youth employment, or related fields: _____ years

Section B: Technical Skills Acquisition

1. In your view, how does the acquisition of technical skills through TVET programs influence youth employment and entrepreneurship in Kiharu Sub-County?
2. What technical skills are most in demand by employers and industries in the county?
3. Are the technical skills offered by TVET institutions aligned with current labor market needs? Please explain.
4. What challenges do youths face in acquiring and applying technical skills effectively?
5. How do you evaluate the impact of technical skills training on youth income-generating activities?

Section C: Entrepreneurship Skills Development

1. How do TVET institutions integrate entrepreneurship training into their programs?
2. In your opinion, how effective are entrepreneurship skills in enabling youth to start and sustain businesses?
3. What gaps exist in entrepreneurship training that limit youth economic participation?
4. How does mentorship or business guidance contribute to the development of youth entrepreneurship?
5. What strategies would you recommend to strengthen entrepreneurship skills among youth?

Section D: Work-Based Learning

1. How important is practical, hands-on training (internships, apprenticeships, industrial attachments) in preparing youth for the labor market?
2. What are the benefits of work-based learning for youth employability and career development?
3. What challenges do youth face during internships or apprenticeships in the county?
4. How can work-based learning programs be improved to enhance youth economic participation?

Section E: Employability Skills Development

1. How do employability skills (communication, teamwork, problem-solving, time management) influence youth participation in economic activities?
2. Are TVET graduates adequately equipped with employability skills required by employers?
3. What gaps exist in employability skills training among youth in Kiharu Sub-County?
4. How can TVET institutions collaborate with employers to strengthen employability skills development?

Section F: General Recommendations

1. What interventions would you recommend to enhance the effectiveness of TVET programs in promoting youth economic participation?
2. How can local government, institutions, and other stakeholders collaborate to improve TVET outcomes for youth?
3. Any additional comments on how TVET skills development can be leveraged to reduce youth unemployment in Kiharu Sub-County?

Appendix V: CUEA Approval Letter

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Faculty of Arts and Social Sciences

Department *of Social Sciences and Development Studies*

Our Ref: FASSc/DSSDS/DCL/05/26

11th May 2026

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: FAITH NYAMBURA NG'ANG'A - REG. NO. 1064658

This letter is to confirm that the above-named individual is a postgraduate student pursuing a **Masters of Arts Degree in Development Studies** at The Catholic University of Eastern Africa.

As part of the degree requirements, the student is required to undertake a research study with the title:

> ***"Technical and Vocational Education and Training Skills Development and Youth Economic Participation in Kiharu Sub-county Murang'a County - Kenya"***

The information gathered during this study will be used solely for academic purposes and will be handled with strict confidentiality.

Any assistance accorded to her is highly appreciated.

Yours faithfully,

CATHOLIC UNIVERSITY OF EASTERN AFRICA HEAD OF DEPARTMENT 11 MAY 2026 SOCIAL SCIENCES AND DEVELOPMENT STUDIES P.O. Box 62157 - 00200, NAIROBI

Dr. Mary Mutisya
Head Department of Social Sciences & Development Studies

Appendix VI: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 278422

Date of Issue: 18/May/2026

RESEARCH LICENSE



This is to Certify that Miss.. FAITH NYAMBURA NGANGA of Catholic University of Eastern Africa, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 [Rev.2014] in Muranga on the topic: TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SKILLS DEVELOPMENT AND YOUTH ECONOMIC PARTICIPATION IN KIHARU SUB COUNTY, MURANG'A COUNTY, KENYA for the period ending : 18/May/2027.

License No: NACOSTI/P/26/41880769

278422

Applicant Identification Number

Ag. Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

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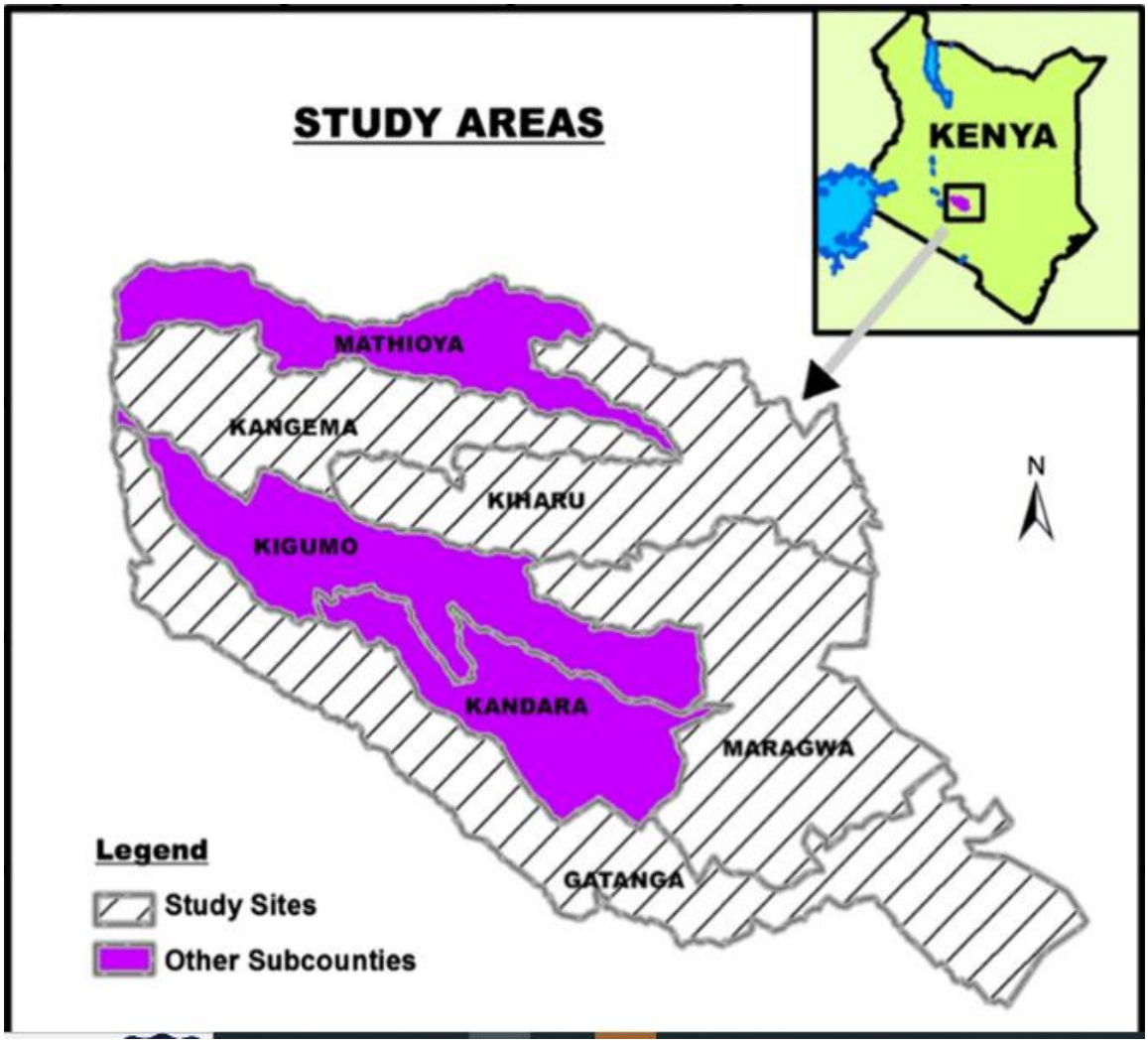
See overleaf for conditions

Appendix VII: Study Area Map of Kiharu Sub County



Source: County Development Planning Office, Murang'a- 2026

Appendix VIII: CUEA Plagiarism Report

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TURNITIN ORIGINALITY REPORT

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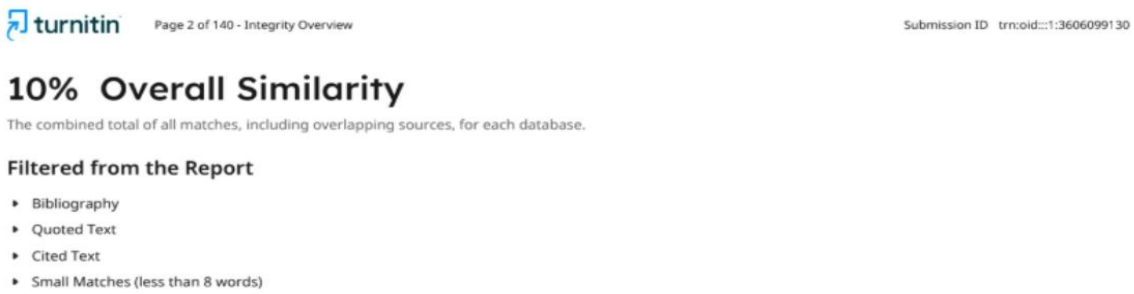

I HEREBY CONFIRM THAT **FAITH NYAMBURA NG'ANG'A** REG NO: **1064658**, SUBMITTED A CHECK OF ANTIPLAGIARISM ON EVALUATION OF **TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SKILLS DEVELOPMENT AND YOUTH ECONOMIC PARTICIPATION IN KIHARU SUB COUNTY, MURANG'A COUNTY, KENYA. A THESIS PRESENTED TO THE FACULTY OF ARTS AND SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE MASTER OF ARTS DEGREE IN DEVELOPMENT STUDIES AT THE CATHOLIC UNIVERSITY OF EASTERN AFRICA, KENYA.**

Verification by Systems Librarian:

Name: HARUN ..... MAINA ..... Signature: ..... Date: 3/7/2026

The Catholic University of Eastern Africa
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