

## **Influence of Institutional Capacity on the Competitiveness of TVET Institutions in Nyeri County**

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### **Abstract**

The contemporary labour market and the growing self-employment sector demand a workforce with diverse skills, prompting changes in the training and education landscape at TVET institutions. Despite significant reforms and a regulatory framework, TVET institutions in Kenya, including those in Nyeri County, need to catch up in developing competitive capability. The research aimed to assess the influence of institutional capacity on the competitiveness of TVET institutions. The theory of dynamic capability and balanced scorecard model informed this research. The study utilized a mixed-methods approach, employing a cross-sectional descriptive survey design. The target population comprised 35 principals, 475 department heads and 315 student leaders from 35 TVET institutions in Nyeri County. A sample size of 11 principals, 11 student leaders, and 176 HODs was drawn from 11 TVET institutions. A systematic sampling technique was utilized to select the number of participating TVETs from Nyeri County, while HODs, principals, and student leaders from each sampled TVET institute were selected purposely. The tools for data collection included questionnaires, interviews, and focus group discussions, the quality of which was assured by checking validity and reliability. Descriptive statistics and inferential techniques were applied to quantitative data, while themes were generated from qualitative data. The study established a clear relationship between institutional capacity and competitiveness, indicating that enhancing internal capabilities is significant for the competitive positioning of TVET institutions. However, findings revealed inadequate workshops, technology infrastructure, computer labs, and libraries. The study underscores the need for substantial investment in physical infrastructure, including modern seminar halls, laboratories, computer facilities, and libraries. TVETs should invest in developing these facilities, upgrading technology, and subscribing to e-resources to increase learner engagement and support. Other measures recommended for supporting institutional capacities included up-to-date learning materials, staff training and professional development programs.

**Keywords:** *Institutional capacity, competitiveness, TVET institutions, learning facilities, Nyeri County*

*IJPP 12(2); 57-70*

## 1.0 Introduction

Competitiveness is crucial for Technical and Vocational Education and Training (TVET) institutions, influencing various aspects such as education quality, course accreditation, learner performance, and infrastructure development (KIPPRA, 2019; Sorolla, 2017). The TVET sector is vital in producing skilled labour for self-employment and diverse job opportunities (Tan & Seet, 2020; Okon, 2019; Oviawe & Anetekhai, 2019). Recognizing the significance of TVET, the Ministry of Education must prioritize investment to enhance competitiveness (KIPPRA, 2019). Competitiveness of TVET institutions involves market penetration through growth, unique characteristics, efficiency, and self-sustainability (UNESCO, 2017; Dyllick & Muff, 2016). Successful competitiveness requires strong management support, workable policies, resource diversification, employee empowerment, sustainable funding, partnerships, and accountability systems (Marope et al., 2015; Euler, 2018; Adesewa, 2021). Established criteria for competitiveness include physical and intangible evidence, organizational capacities, financial management, inclusive education access, curriculum relevance, and regular graduation intervals (TVETA, 2018; Inter-Agency Working Group on TVET Indicators, 2012).

Globally, nations invest in TVET for economic growth, emphasizing service delivery and institutional efficiency improvement (Hilbig, 2019; Gyimah, 2020; Peters, 2021). In China, successful models stress effective funding, strategic planning, and technological adaptation for TVET flexibility and competitiveness (Holzer,

2015). Strategies like technology adoption, marketing orientation, academic entrepreneurship, digitization, and private-public partnerships contribute to TVET's competitiveness (Malcom, 2021; Šimić & Štimac, 2012; Lombardi et al., 2017). In Africa, academic entrepreneurship, digitization, private-public partnerships, and skills development contribute to competitiveness (Ngaruko et al., 2014; Odoom et al., 2016). Nigeria emphasizes public-private partnerships for enhancing trainee skills (Oviawe, 2018; Moses, 2016); Ghana focuses on institutional repositioning for employability skills and competitiveness (Osidiye, 2017; Odoom et al., 2016).

In Kenya, the growth of TVET institutions faces challenges, necessitating strategies for enhancing institutional capacity (Muigai, 2021; Rabah, 2015; Masala, 2018). Institutional capacity is crucial in achieving competitiveness, especially in Nyeri County, where low competitiveness persists (Kariuki, 2018; Muriithi, 2013). Inadequate institutional capacity results in poor-quality teaching and learning materials, mainly due to insufficient funding, posing challenges to effectiveness of TVET institutions (Osidiye, 2019).

### *Statement of the problem*

The contemporary labour market and the growing self-employment sector demand a workforce with diverse skills, prompting changes in the training and education landscape at Technical and Vocational Education and Training (TVET) institutions (Kipkoge, 2018; Chepkoech, 2021). Despite significant reforms, including the enactment of the TVET Act of 2013 and the establishment of regulatory bodies like the TVET Authority (TVETA) and Kenya

National Qualifications Authority (KNQA), TVET institutions in Kenya, particularly those in Nyeri County, continue to lag behind in developing competitive capability. Notably, there has been a negative perception among some employers about the competencies of TVET graduates, leading to limited employment opportunities (Wakoli et al., 2019; Nyerere, 2018; Mbogo, 2018). Failure to improve the competitiveness of TVET institutions undermines the government's investments in the TVET sector and inhibits development of graduates suited for the labour market. There are several empirical studies which have explored various aspects of TVETs; for example, the role of TVET institutions in achieving economic development, unemployment, and resource mobilization (Nyerere, 2019; Obare et al., 2020; Mbogo, 2018; Musyimi, 2021; Sankale, 2019; Gachunga et al., 2020). However, the influence of institutional capacity on the competitiveness of TVET institutions has not been investigated, hence the justification for this study.

*“Institutional capacity in TVETS is characterized by modern equipment, infrastructure, information resources, laboratories, libraries, workshops, technological resources and adequate qualified staff”*

### **Research Objectives**

To examine the influence of institutional capacity on the competitiveness of TVET institutions in Nyeri County, Kenya.

### **Research hypothesis**

H<sub>01</sub> Institutional capacity does not have a significant influence on the competitiveness of TVET institutions in Nyeri County, Kenya.

### **Literature Review**

This study is grounded in Teece's Dynamic Capability Theory, which emphasizes the strategic integration of internal capabilities within organizations to adapt to dynamic environmental changes. Teece highlights the importance of knowledge management, continuous resource renewal, and organizational reconfiguration to gain competitive advantages (Teece, 2007). The theory aligns with the study's focus on enhancing the competitiveness of Technical and Vocational Education and Training (TVET) institutions in Nyeri County through capacity building in employee competencies, technological skills, and financial management. Competitiveness in TVET is crucial for community well-being and national development, necessitating adequate funding to address challenges in teaching and learning materials and technology adoption (Ahmed, 2019; Chunda, 2015; Osidipe, 2019).

Globally, the context of TVET institutions varies, with diverse challenges and success stories. In the USA, underqualified workforce concerns led to adopting models like Germany's apprenticeship system (Holzer, 2015). China's industrialization focus prompted a shift toward vocational education, requiring substantial funding

and local government support (Holzer, 2015). Southeast Asia, Indonesia, Malaysia, Jamaica, Singapore, Thailand, Vietnam, and South Korea all demonstrate varying strategies, emphasizing the critical role of funding, governance, industry partnerships, and technological adaptation in enhancing TVET competitiveness (Ismail et al., 2018; McIntosh, 2014; Stern, 2015; Paryono, 2017; UNCTAD, 2010).

In Africa, Nigeria needs to work on neglect, which lead to underqualified graduates (Osidiye, 2019). Ethiopia and Zambia face decentralization, resource shortages, and outdated facilities, impacting competency-based education (Huisman & Mauro, 2012; Chileshe, 2020), while Uganda struggles with a theoretical focus, inadequate funding, and obsolete facilities (Kirya, 2018). However, Ghana's strategic plan improved infrastructure, faculty training, and industry linkages (Dasmani, 2011). South Africa's policies ensure lecturer qualifications and competence, thus contributing to success (Bangalu, 2015); while Tanzania's success story pivots on strong linkages with industries and government funding (Kirya, 2018).

In Kenya, TVET challenges persist in Nairobi, Bungoma, Kajiado, and Nyeri Counties. Workshops and infrastructure resources still need to be improved (Kigwilu & Akala, 2017; Maiyo et al., 2019). Collaboration, staff exchange, and better remuneration are anticipated to address these issues (Maiyo et al., 2019). In Kajiado, outdated tools hinder employability due to a misalignment with changing technology (Sankale, 2017). Nyeri National Polytechnic needs more quality trainers and updated facilities, which determine graduates' competence

(The Nyeri National Polytechnic order, 2020). Investments in modern equipment, infrastructure, and resources are imperative for practical training.

## **2.0 Materials and Methods**

The study was conducted among TVET institutions situated in Nyeri County. The study settled on the pragmatic research philosophy due to its flexibility in identifying the most appropriate methodology. In this study, a cross-sectional descriptive survey research design was adopted. This study collected data from TVET institutions situated in Nyeri County. There is a total of 35 TVETs in the county. The units of observation were the 11 TVET principals, 11 student presidents and 176 heads of departments. A systematic sampling technique was utilized to select the number of participating TVETs from Nyeri County. The principals, students' presidents and heads of departments were purposefully selected to participate in the study. Data was collected using questionnaires, interview guides and focus group discussions. A pilot study was done in Kirinyaga County, where Kaitheri and Ndiriti polytechnics were sampled randomly. Kirinyaga County was selected as it possesses similar characteristics to Nyeri County. The study accordingly observed the constructed tools' content, face, criterion, and construct validity. The reliability of the data was ascertained by computing Cronbach's alpha value. A Cronbach alpha value greater than 0.7 is termed adequate. Quantitative data was obtained, and the descriptive statistics, comprising mean, mode, standard deviation, and percentages, were computed and analyzed accordingly. Qualitative data was also collected and analyzed using

thematic techniques. Data was presented in tables and excerpts.

### 3.0 Results and Discussion

The study involved eleven TVET institutions where 176 HoDs were issued with questionnaires. Out of the 176 questionnaires, 153 valid ones were returned and considered in the analysis. This represented an overall response rate of 87%. For principals of TVET institutes, the study targeted 11 out of 35, and all were available. A hundred percent response rate was also recorded for student leaders, where all 22 turned up for focused group discussions.

#### *Background Information of Respondents*

The participants in this study were HODs, principals, and student leaders from TVET institutions in Nyeri County. The HODs were predominantly male (59.2%), reflecting gender disparity, although policies on gender mainstreaming are reducing the gap. Most HODs held Diplomas (45.8%) or Bachelor's degrees (30.7%), with only 0.7% holding a Master's. This suggests room for improvement, as HODs with at least a Bachelor's degree can more effectively lead departments and contribute to academic

leadership, as evidenced in studies on TVET institutions in Nairobi and Rift Valley. All principals had over seven years of experience, emphasizing the expectation that TVET principals have significant experience in providing effective leadership. The study underscores the importance of educational qualifications and experience for reliable leadership outcomes in enhancing the competitiveness of TVET institutions.

#### *Institutional Capacity and Competitiveness of TVET Institutions in Nyeri County*

This study aimed to examine how institutional capacity influences the competitiveness of TVET institutions in Nyeri County. Various statements were posed to HODs who participated in the study. They were provided with a list of essential learning facilities. They were asked to rate (using a rating scale of 0 to 5); where 0 = Not at all, 1 = to a minimal extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a considerable extent, the extent to which each stated facility was equipped to support training at their institution. The results are summarized in Table 1.

**Table 1**

*Descriptive results from HODs on the adequacy of learning facilities in TVETs in Nyeri County*

The extent to which learning facilities are equipped (N = 153)	We don't have this facility (0)	To a minimal extent (1)	to a small extent (2)	To a moderate extent (3)	To a large extent (4)	To a very large extent (5)	Mean	SD
Science laboratory	131(85.6%)	2(1.3%)	0	12(7.8%)	8(5.2%)	0	0.46	1.164



Computer laboratorial	26(17%)	18(11.8%)	14(9.2%)	29(19%)	56(36.6%)	10(6.5%)	2.66	1.619
Workshops	4(2.6%)	16(10.5%)	28(18.3%)	41(26.8%)	18(11.6%)	46(30.1%)	3.25	1.452
Studio	104(68%)	14(8.2%)	4(2.6%)	23(15%)	0	8(5.2%)	0.86	1.462
Library	79(51.6%)	25(16.3%)	12(7.8%)	21(13.7%)	0	16(10.5%)	1.25	1.664
Classroom	18(11.8%)	6(3.9%)	9(5.9%)	70(45.8%)	12(7.8%)	38(24.8%)	3.08	1.534
Land for agriculture courses	31(20.3%)	24(15.7%)	6(3.9%)	46(30.1%)	29(19%)	17(11.1%)	2.45	1.686
Students centre	104(68%)	10(6.5%)	4(2.6%)	19(12.4%)	10(6.5%)	6(3.9%)	0.95	1.559

The study reveals significant gaps in the availability and adequacy of learning facilities in TVET institutions in Nyeri County. While 97.4% of these institutions have workshops, only 11.6% are equipped to a large extent, and 30.1% to a considerable extent. Computer laboratories, a crucial resource for IT exposure, were absent in 17% of the institutions. The absence of libraries in 51.6% of TVET institutes is noteworthy, given their importance as learning information centres. Additionally, 68% of the institutions need a student centre, whose absence impact their competitiveness by depriving students of a hub for various activities and academic support.

These findings underscore the need for substantial improvements in the physical and technological infrastructure of TVET institutions. The study aligns with global examples, such as Singapore, where efforts have been made to equip TVET workshops and laboratories with modern machinery and technology (Stern, 2015). As noted in the study, the absence of essential facilities contradicts recommendations emphasizing the importance of well-equipped workshops, libraries, classrooms, and ICT rooms for effective teaching and learning in colleges (Ahmed, 2019). There is a clear

indication of areas for improvement in the policy guiding the establishment of TVET institutes in Kenya, calling for the development of standardized guidelines.

The inadequate learning facilities identified in the study have implications for the competitiveness of TVET institutions. Lack of equipped workshops, libraries, and student centres, along with outdated equipment and scarce teaching materials, is consistent with challenges reported in previous studies in Nairobi and Bungoma Counties (Kigwilu & Akala, 2017; Maiyo et al., 2019). The results emphasize the urgency for governmental, TVETA, and TVET management intervention, including budget allocation and infrastructure procurement, to address these gaps and enhance the overall institutional capacity of TVET institutes.

### ***Competitiveness of TVET institutions***

The study's primary purpose was to examine the influence of financial management on the competitiveness of TVET institutions in Nyeri County, Kenya. The dependent variable was the competitiveness of TVET institutions in Nyeri County. Information was gathered from HODs, principals and student leaders.

The results from HODs are recorded in Table 2.

**Table 2**

*Descriptive results on the competitiveness of TVET institutions in Nyeri County*

Statements on the competitiveness of TVET institutions (N = 153)	This has never happened in our institution (0)	To a minimal extent (1)	To a small extent (2)	To a moderate extent (3)	To a large extent, (4)	To a considerable extent, (5)	Mean	SD
1. Our institution has adopted good financial management practices	2(1.3%)	16(10.5%)	8(5.2%)	52(34%)	67(43.8%)	8(5.2%)	3.24	1.088
2. The established mechanisms for implementing curriculum are yielding fruits	0	10(6.5%)	18(11.8%)	47(30.7%)	54(35.3%)	24(15.7%)	3.42	1.092
3. The established mechanisms for monitoring curriculum are yielding fruits	0	6(3.9%)	34(22.2%)	51(33.3%)	48(31.4%)	14(9.2%)	3.20	1.013
4. The efficiency of our internal systems has been yielding fruits	0	14(9.2)	4(2.6%)	39(25.5%)	70(45.8%)	26(17%)	3.59	1.091
5. There are good leadership practices in our institution	0	6(3.9%)	12(7.8%)	47(30.7%)	32(20.9%)	56(36.6%)	3.78	1.141
6. Trainees complete their courses on time in our institution	0	6(3.9%)	2(1.3%)	29(19%)	44(28.8%)	72(47.1%)	4.14	1.026
7. Students compete /scramble to get admitted to pursue courses at our institution	4(142.6)	2(1.3%)	30(19.6%)	63(41.2%)	48(31.4%)	6(3.9%)	3.09	.976
8. Our courses are accredited	0	0	14(9.2%)	10(6.5%)	36(23.5%)	93(60.8%)	4.36	.957
9. The wide range of programs offered in our institution has attracted students from other counties	0	2(1.3%)	6(3.9%)	38(24.8%)	65(42.5%)	42(27.5%)	3.91	.891
10. The wide range of programs offered in our institution are regularly revised to match what is needed in the market	0	10(6.5%)	48(31.4%)	29(19%)	64(41.8%)	2(1.3%)	4.63	5.788
11. Institutional infrastructure development and equipment are maintained	0	8(5.2%)	47(30.7%)	39(25.5%)	35(22.9%)	24(15.7%)	3.13	1.168
12. The teaching and learning resources at our institution are adequate	6(3.9%)	23(15%)	10(6.5%)	66(43.1%)	40(26.1%)	8(5.2%)	2.88	1.219

13. There has been steady growth of accredited courses in our institution	0	29(14%)	10(3.7%)	29(12.8%)	55(30.5%)	30(39%)	3.31	1.373
14. There is a strong liaison between our institution and industries	0	27(17.6%)	12(7.8%)	54(35.3%)	50(32.5%)	10(6.5%)	3.03	1.175
15. There are reports of students transferring from other TVETs to our institution	0	25(16.3%)	16(10.5%)	68(44.4%)	42(27.5%)	2(1.3%)	2.87	1.037
16. The adoption of technology places our institution ahead of other TVETs	0	20(13.1%)	40(26.1%)	56(36.6%)	37(24.2%)	0	2.72	.976
17. The courses offered at our institution are in high demand	0	19(12.4%)	10(6.5%)	23(15%)	37(24.2%)	64(41.8%)	3.76	1.380
18. Other TVET institutes come to benchmark with our institution	4(2.6%)	23(15%)	30(19.6%)	19(12.4%)	57(37.3%)	20(13.1%)	3.06	1.392
19. Stakeholders have a positive image of our institution	2(1.3%)	2(1.3%)	4(2.6%)	38(24.8%)	79(51.6%)	28(18.3%)	3.79	.908
20. The brand name of our institution is attributed to our competitive programs	6(3.9%)	15(9.8%)	16(10.5%)	29(19%)	69(11.8%)	18(11.8%)	3.27	1.308
21. Student enrolment at our institution has been growing gradually	2(1.3%)	15(9.8%)	10(6.5%)	47(30.7%)	63(41.2%)	16(10.5%)	3.32	1.145
Average							3.34	1.343

The competitiveness of TVET institutions in Nyeri County reveals a moderate level, with a summation mean of 3.34 and a standard deviation of 1.343. The respondents' rating on the competitiveness scale further supports this observation, with 55.6% indicating a moderate level. Despite ongoing structural changes and government support through TVET-related acts, the competitiveness remains below the anticipated high levels (KIPPRA, 2019; TVET Act, 2013).

Specific indicators and aspects characterizing high competitiveness include various programs revised to meet market requirements and accredited courses. Timely course completion, skilled graduates, and the ability to attract students

from other countries also contribute to competitiveness. Other key aspects include a positive institution image, good leadership practices, high course demand, and efficient internal systems with high mean ratings and standard deviations of around one.

However, certain elements show reservations among Heads of Departments (HoDs), with mean scores below 3.0. These aspects include the adequacy of training facilities, learning resources, students transferring from other institutions, low staff turnover, modern training facilities, human resources development programs, technology adoption, and the attraction of qualified staff. These findings highlight weaknesses in training facilities, learning



resources, technology adoption, and human resources, emphasizing financial planning to address these gaps and enhance TVET's competitiveness (Sankale, 2019; Helbing, 2019). The study underscores the importance of effectively addressing specific aspects to bolster TVET's competitiveness.

The study's null hypothesis stated that institutional capacity does not have a significant relationship with the competitiveness of TVET institutions in Nyeri County. A Pearson correlation was conducted to assess the hypothesized relationship between institutional capacity and the competitiveness of TVET institutions. The correlation results are shown in Table 5.

**Table 5**

*Correlations analysis on institutional capacity and the competitiveness of TVET institutions*

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

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

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

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

The study explores institutional capacity in TVET institutions through interviews, group discussions, and questionnaires. Principals emphasize the crucial role of proficient trainers in enhancing critical thinking, academic achievements, and competitiveness (Sankale, 2019). Qualified teaching staff are noted to influence classroom supervision, learner performance, and curriculum alignment with job requirements. A 70% average pass rate attributed to proficient teachers enhances the institution's competitiveness and attracts prospective students. The need for competent, knowledgeable, and motivated staff underscores the importance of implementing staff professional

development programs in TVET institutions.

Concerning learning resources, the study identified adequate information sources as a challenge. Principals stress that learning resources, including textbooks and e-books, enhance the academic experience, fostering excellence and practical learning (Sankale, 2019). Limited resources, particularly for technical courses, impact competitiveness, as learners prefer institutions with sufficient and updated materials. The study aligns with findings emphasizing the significance of adequate infrastructure and well-equipped institutions for skills development and competency (Sankale et al., 2017). To enhance TVET competitiveness, the study advocates for capacitation through funding models, infrastructure development committees, and maintenance.

The impact of infrastructure on competitiveness is highlighted, with respondents noting that appealing facilities attract learners (Acakpovi & Nutassey, 2015). The appearance and condition of infrastructural facilities significantly contribute to skill acquisition and shape the institute's image. Modern, spacious facilities are deemed attractive to trainees, emphasizing the need for maintenance, repair, and technological upgrades to stay competitive. Overall, the study underscores the interplay of proficient staff, adequate learning resources, and well-maintained

infrastructure in determining TVET competitiveness and calls for strategic investments and policies to address identified gaps.

## 4.0 Conclusion

The study exposed significant deficits in TVET learning facilities like workshops, computer labs, and libraries, with many needing more resources for practical training. This hinders students from gaining competitive skills for the job market. The need for well-equipped libraries also restricts access to reference materials, impairing education quality. Quantitative and qualitative data emphasized the need for targeted interventions to address infrastructure and resource gaps in order to strengthen institutional capacity, which ultimately influences the competitiveness of TVET institutions.

## 5.0 Recommendations

The study highlights a critical need for substantial investment in TVET's physical infrastructure, emphasizing modernization of workshops, laboratories, and computer facilities through strategic fund allocation and industry partnerships. The noted gaps call for standard guidelines in policy development regarding institutional capacity. TVETA should enforce guidelines that ensure essential facilities are present in every TVET institute.

## References

- Nyerere, J. (2018). Youth Unemployment in Kenya: Incorporating Entrepreneurial and Transferable Skills in Education. *Youth Entrepreneurship and Africa's Sustainable Industrialization*, 125. Spears Media Press.
- Acakpovi, A., & Nutassey, K. (2015). Adoption of competency based education in TVET institutions in Ghana: a case study of Mechanical Engineering Department, Accra Polytechnic. *International Journal of Vocational and Technical*

- Education*, 7(7), 64-69.  
<https://academicjournals.org/journal/IJVTE/article-full-text/A6917D654367>
- Ahmed, N., & Malik, B. (2019). Impact of psychological empowerment on job performance of teachers: Mediating role of psychological well-being. *Review of Economics and Development Studies*, 5(3), 451-460.  
<https://doi.org/10.26710/READS.V5I3.693>
- Chepkoech, S. (2021). *Impact of public technical, vocational education and training institutions on economic development in Western Kenya* [Doctoral Thesis, University of Nairobi]. Kenya.  
<http://erepository.uonbi.ac.ke/handle/11295/155786>
- Chunda, M. B. (2015). *Agencification of quality assurance in Zambia: A case study of Technical Education Vocational Entrepreneurship Training Authority (TEVETA)*. [Master's thesis, University of Oslo]. Europe.  
<https://core.ac.uk/download/pdf/30816851.pdf>.
- Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, 29(2), 156-174.  
<https://doi.org/10.1177/1086026615575176>
- Holzer, B. (2015). *Politische Soziologie: Baden-Baden: Nomos (UTB)*. 205 Seiten. 24, 99. Politische Vierteljahresschrift.
- Ismail, N., Kinchin, G., & Edwards, J. A. (2018). Pilot study. Does it really matter? Learning lessons from conducting a pilot study for a qualitative PhD thesis. *International Journal of Social Science Research*, 6(1), 1-17.  
<https://doi.org/10.5296/ijssr.v6i1.11720>.
- Kigwilu, C. P., & Akala, J. W. (2017). Resource utilization and curriculum implementation in community colleges in Kenya. *International Journal for Research in Vocational Education and Training (IJRVET)*, 4(4), 369-381.  
<https://files.eric.ed.gov/fulltext/EJ1165155.pdf>.
- Kipkogei, K. J. (2018). *Influence of partnerships on quality of technical Vocational education and training (TVET): A case of TVET institutions in rift valley and Western Kenya region* [Doctorate thesis, University of Eldoret].  
<http://41.89.164.27/handle/123456789/766>
- Maiyo, J. K., & Wasike, J. N. (2021). Utility of government initiatives in technical, vocational and training institutions on student enrolment in Bungoma County, Kenya. *European Journal of Education Studies*, 7(4), 771-782.  
<http://41.89.175.45/handle/123456789/2539>
- Mbogo, R. W. (2018). Enhancing Relevance in Education through a Contextually Designed Curriculum. *Advances in Social Sciences Research Journal*, 5(11), 621-630.  
<http://dx.doi.org/10.14738/assrj.511.5693>
- Moses, K. M. (2016, October). Improving the quality and competence of technical vocational education and training output through vocational school cooperation with industry: A

- case study of Uganda. In *AIP Conference Proceedings* (Vol. 1778, No. 1, p. 030060). AIP Publishing LLC. <https://aip.scitation.org/doi/abs/10.1063/1.4965794>
- Muigai, A. (2021). *Strategies That Private Universities in Kenya Use to Gain Competitive Advantage: A Case Study of Daystar University* [Doctoral dissertation, Daystar University]. Kenya. <http://dspace.daystar.ac.ke/handle/123456789/3830>
- Muigai, N. N. (2017). *Effect of competitive strategies on the performance of Strathmore University in Kenya* [Doctoral dissertation, University of Nairobi]. Kenya. <http://erepository.uonbi.ac.ke/handle/11295/103188>
- Mureithi, E. W. (2019). *Organizational Factors Influencing Implementation of Strategic Plans in Universities in Mount Kenya Region, Kenya*, <http://repository.embuni.ac.ke/handle/embuni/2196>
- Muriithi, S. W. (2013). *To find out Factors that contribute to low enrolment in youth polytechnics in Nyeri zone, of Nyeri South District, Nyeri County* [Doctoral dissertation, University of Nairobi]. Kenya. <http://erepository.uonbi.ac.ke/handle/11295/63575>
- Obare, M. M., Wamutitu, J. M., & Ndirangu, M. (2020). Influence of Adequacy of Physical Facilities on Quality of Youth Polytechnic Graduates in Kisumu County. *Journal of education & pedagogy*, 6(2), 1-12. <http://nec-india.org/IssuesImages/37Journal%20of%20Education%20&%20Pedagogy%20Vol.%20XII%20No.%202%20%20Dec.%202020.pdf#page=6>
- Okon, E. E. (2019). Vocationalisation of TVET through institution industry collaboration: bridging the skill gap. *Nigerian Journal of Business Education (NIGJBED)*, 6(2), 421-443. <http://nigjbed.com.ng/index.php/nigjbed/article/view/374>
- Osidiye, A. (2017). Prospects for TVET in Developing Skills for Work in Nigeria. *Journal of Education and Practice*, 8(21), 101-109. <https://core.ac.uk/download/pdf/234640762.pdf>
- Oviawe, J. I., & Anetekhai, A. O. (2019). Reinventing Appropriate Strategies for Curriculum Development and Implementation in Technical Vocational Education and Training in Nigeria for Global Competitiveness. *Journal of Education and Vocational Research*, 10(2), 31-40. <https://ojs.amhinternational.com/index.php/jev/article/view/3002>
- Sankale, J. (2019). *Determinants of Demand for Technical and Vocational Training among the Youth in Kajiado County, Kenya* [Doctoral dissertation, JKUAT-COHRED]. Kenya. <http://ir.jkuat.ac.ke/handle/123456789/5021>
- Sankale, J. (2019). *Determinants of Demand for Technical and Vocational Training among the Youth in Kajiado County, Kenya* [Doctoral dissertation, JKUAT-COHRED]. Kenya. <http://ir.jkuat.ac.ke/handle/123456789/5021>
- Sankale, J., Sakwa, M. M., & Ndegwah, D. J. (2017). Technical and vocational skills competitiveness as a determinant of demand for technical and vocational training

- among the youth in Kajiado County, Kenya. *African Journal of Education and Practice*, 2(2), 17-34.  
<https://www.iprjb.org/journals/index.php/AJEP/article/view/464>
- Selina, C. (2021). *Impact of public TVET institutions on economic development in western Kenya*. [Doctoral thesis, University of Nairobi].Kenya.  
<http://erepository.uonbi.ac.ke/handle/11295/155786>.
- Šimić, L. M., & Štimac, H. (2012). Competitiveness in higher education: A need for marketing orientation and service quality. *Economics and sociology*, 5(2), 23-34.  
[https://economics-sociology.eu/files/06\\_Stimac\\_Leko\\_1\\_1.pdf](https://economics-sociology.eu/files/06_Stimac_Leko_1_1.pdf)
- Sorolla, R. M. (2017). The Philippine TVET Qualification System: Issues and Concerns for Implementation. *Quality TVET in Asia Pacific Region: National Vocational Qualification Systems of CPSC Member Countries*, 45.  
<https://pub.cpsctech.org/nvqs2017/pdf.pdf#page=55>
- South Africa. *European Journal of Business and Management*. ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.13, No.3, 2021
- Stern, N. (2015). *Driving sustainable development through better infrastructure: Key elements of a transformation program*. Brookings Global Working Paper Series.
- Tan, S. H., & Seet, I. (2020). Infrastructure and Pedagogy Innovation—A Differentiating Factor in TVET. In *Anticipating and Preparing for Emerging Skills and Jobs* (pp. 109-115). Springer, Singapore.  
[https://library.oapen.org/bitstream/handle/20.500.12657/42910/2020\\_Book\\_AnticipatingAndPreparingForEmer.pdf?sequence=1#page=126](https://library.oapen.org/bitstream/handle/20.500.12657/42910/2020_Book_AnticipatingAndPreparingForEmer.pdf?sequence=1#page=126)
- Technical Vocational Education and Training Authority - TVETA. (2018). *Strategic plan 2018- 2022*. Government Printer, Kenya.  
<https://pdfs.semanticscholar.org/0424/8d37bc73ab8209208c6ecfacb30592566805.pdf>
- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and micro foundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350.  
<https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.640>
- The TVET Act (2013). *Technical and Vocational Education and Training Act*. Government printers.  
<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/98807/117649/F1763223240/KEN98807.pdf>
- UNESCO (2017). *Tackling youth unemployment through TVET: Report of the UNESCO UNEVOC online conference*. United Nations Education, Scientific and Cultural Organization.  
<https://unevoc.unesco.org/home/Tackling+youth+unemployment+through+TVET>
- United Nations Educational, Scientific and Cultural Organization -UNESCO (2015). *Sub-Education Policy Review Report: Inclusive Education*.  
[https://en.unesco.org/sites/default/files/tvet\\_final\\_-\\_january\\_2021.pdf](https://en.unesco.org/sites/default/files/tvet_final_-_january_2021.pdf).



- United Nations Educational, Scientific and Cultural Organization -UNESCO (2018). *Technical and vocational education and training (TVET)*. <https://en.unesco.org/fieldoffice/beirut/TVET>.
- Wakoli, M., & Kitainge, K. (2019). Relationship between financial resource mobilization and internal efficiency of technical training institutions in bungoma county, Kenya. *European Journal of Education Studies*. <https://www.oapub.org/edu/index.php/ejes/article/view/2707>
- Wakoli, M., Maiyo, J., & Limo, A. (2019). Institutional Staffing Capacity and Internal Efficiency of Technical Training Institutions in Bungoma County, Kenya. *European Journal of Education Studies*, 6(4), 369-384. <https://oapub.org/edu/index.php/ejes/article/download/2555/5193>.
- World Bank (2018). *Learning to actualize education promise*. The World Bank International. <https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-1096-1>