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TECHNICAL, VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS' CAPACITIES IMPACT ON MANPOWER DEVELOPMENT FOR THE REALIZATION OF ECONOMIC PILLAR OF THE KENYA VISION 2030

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ABSTRACT

Developing countries are now looking at Technical, Vocational education and Training as a vehicle to propel them into being among industrialized nations in the world. Efforts are now being concerted in those countries to refurbish and revamp technical institutions to help them realize the dream. It is on this basis that Kenya, just like other developing countries has embraced TVET as a key driver to Human Resource Development to facilitate her ambitious economic development plan Kenya Vision 2030. As such, various reforms were initiated at TVET institutions such as Curriculum reforms to enhance its relevance, provision of adequate and qualified Trainers, enhancement of infrastructural development and provision of adequate teaching and learning resources among other measures. As the clock ticks toward the year 2030, the target year for which envisaged development needs to have been realized, this study aimed at establishing the capacity of TVET institutions to produce relevant manpower for the realization of the economic pillar of the Kenya Vision 2030 development agenda. The study aimed at; establishing the relevance of courses at TVET institutions in view of the country's' development aspirations, the entry qualifications of Trainees and the competency of Trainers as reflected by their qualifications. The study was grounded in theoretical foundations of Human Capital Theory. The correlation research design was used for the study. The study was carried out in 10 TVET institutions that had been in existence more than 5 years prior to the date of the study in Vihiga, Kakamega, Busia and Bungoma Counties and all companies that offer internship opportunities to TVET Trainees. A target population was 8001 Trainees, 100 heads of department, 10 Human Resource Managers and 10 principals. Questionnaires, interview schedules, observation and document analysis guide were principle instruments for data collection. The study established that majority of Trainees were pursuing courses that were irrelevant to development of skills in line with country's' development aspirations; the initial qualification of Trainees had low entry qualifications, a situation that was likely to jeopardize their ability to develop key skills for envisaged economic development and Trainers though majority were university graduates and posted by Teachers' Service Commission, lacked foundation in Technical Training is a critical component of TVET training. The study concluded that TVET institutions were ill- prepared to facilitate manpower development in line with country's economic development aspirations.

KEYWORDS: *Developing Countries, Looking at Technical, Vocational Education and Training*

Article History

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INTRODUCTION

Background to the Study

Technical, Vocational Education and Training (TVET) has been identified to play a critical role in skill development that has propelled many developed countries of the world, especially the seven Tiger countries. Developments in TVET have been identified as a very significant explanatory variable that has contributed to East and South Eastern Asian countries' (seven Tiger countries) economic growth (World Bank, 1991). The approach encouraged and supported knowledge-based economies, skills development and response to modern and emerging technological advancement which have remained the major impetus for the economic developments in those countries. For example, Singapore in the 1960s to 1980s competed globally and favorably ahead of emerging industrial Tigers like Korea, China and India because of her prowess in encouraging and supporting knowledge-based economies, industry-related skills development that responds to modern and emerging technological advancement (Agrawal, 2011). At the heart of this industrial development are revolutionary products of education, such as; technological innovations; Research and Development (RD), science and technology parks; and business incubators (UNESCO, 2004).

African countries are trying to emulate the development agenda of the Tiger countries by emphasizing refurbishment and rebranding of the TVET institutions as reflected in various Poverty Reduction Strategy Papers that governments have developed in collaboration with the World Bank (African Union, 2007). For instance, Sierra Leone mainstreamed youth employment with the government developing Youth Action Plan where TVET was earmarked to play a key role in skill development to alleviate youth unemployment as an agenda for change in its Second Poverty Reduction Strategy (PRSSP11) 2008-2012 (AU, 2007). In recognition of the role of TVET in skill formation in national development, Tanzanian government established Vocational Educational Training Authority (VETA) whose responsibility is to promote development of skills in line with demands of labor markets (AU, 2007).

However, the refurbishing and rebranding of TVET institutions is not enough. Technical, Vocational Education, and Training reform are not just about ways of doing things. It is about changing the mindset of the TVET sector. If the sector is to meet the increasing demands of the global labor market, it needs to focus on becoming flexible, inclusive, efficient and collaborative. For example, in order to meet the labor demands, TVET must deliver quality skills that employers want to know that these needs are constantly changing. Through improving the responsiveness and flexibility of TVET, institutions' reform will enable them to better meet industry needs. In order for quality training to be delivered and assessed, TVET practitioners need to move away from lecturing and towards practical, competency-based methods. This, of course will be possible by building the capacity of managers to understand the need for reforms and by improving TVET teacher training methods.

The reform should not be confined to the TVET institutions it also involves stakeholders. There should be a fostered stronger relationship between training institutions and industry to ensure that graduates have the skills needed by employers. The institutions and employers together must meet the increasing needs of the labor market amidst changing technology. Reforms should encourage these partnerships through skills councils and encourage best practices through the

establishment of centers of excellence. Therefore, among the key reform objective is to make TVET accessible to all including youth with low literacy and numeracy competencies, child workers, women, and rural communities and persons with disabilities. All those who desire to be enrolled and benefit from the reform should be encouraged. To do this, reform should concentrate on removing policy -related barriers, such as minimum education qualifications or levels. The other would be the removal of physical barriers such as transport systems which do not gender friendly.

In Kenya, the Presidential Working Party on the establishment of the second University famously known as Mackay Commission (GoK, 1981) recommended introduction of 8.4.4 system of education to make education more relevant to the world of work while the Kamunge report (GoK, 1988) advocated for Vocational education both of which laid the foundation for the components of the Kenya Vision 2030. The Kenya Vision 2030 economic pillar (GoK, 2007), envisages Kenya to be an industrialized middle- income country with high -quality life for her citizens by the year 2030. Under this Vision, the annual economic growth rate of 10 percent was anticipated by 2012 and was expected to be maintained or exceeded thereafter. To make this a reality, six priority sectors have been identified in the Kenya Vision 2030; Tourism; Agriculture and Livestock, Wholesale and Retail Trade, Manufacturing, Business Process, Outsourcing / IT Enabled Services (ITES) and Financial Services as the potential areas to spur the country's economic development. Oil and Mineral Resources is the seventh priority sector under the Second Medium Term Plan (GoK, 2013a). All these sectors require human resources with relevant skills and knowledge. This requires great emphasis on the link between education and Training and the labor market and the need to create entrepreneurial skills and competencies. To drive this agenda, TVET institutions are earmarked to play a critical role in the development of human labor that will enable the country meet her desired levels of economic development. There is need therefore to examine the reforms in the TVET sector to help this agenda.

The reforms should target the type of courses offered, initial qualifications of students being trained; the state of teaching and learning resources in training institutions; qualifications of trainers as well as the state of infrastructure developments in the institutions. All these would affect the projections and levels of human labor output in the country. The type of education as determined by the courses offered would determine the degree to which knowledge and technologies can be transferred and absorbed in the labor market that affects the capacity of the state to build up its indigenous industries and to compete in World markets with their goods and services (Amsden, 1992). As earlier mentioned, the contribution of the TVET to this end will rely heavily on the policies governing the operations in the sector, institutions' mindset, relevance, efficiency and access to the learners which formed the basis of the research.

The study aimed at assessing the TVET institutions' Manpower Development Capacities' impact on the realization of economic pillar of the Kenya Vision 2030.

The Specific Objectives of the Study Were to;

- Establish the impact of the type of courses offered at TVET institutions on the human labor development capacities for the realization of the economic pillar of the Kenya Vision 2030.
- Determine how the entry qualifications of students at TVET institutions impact on the manpower development capacities for the realization of the economic pillar of the Kenya Vision 2030.
- Determine how the qualification of trainers at TVET institutions impacts on the manpower development capacities for the realization of the economic pillar of the Kenya Vision 2030.

Research Questions of the Study

To help in examining the objectives set, the following research questions guided the study:

- How do the courses offered at TVET institutions affect the manpower development capacities for the realization of the economic pillar of the Kenya Vision 2030?
- To what extent is the qualifications of students admitted at TVET institutions influence the manpower development capacities for the realization of the economic pillar of the Kenya Vision 2030.
- How does the qualification of trainers relate to the manpower development capacities at TVET institutions on the realization of the economic pillar of the Kenya Vision 2030?

It is anticipated that the findings from the study may be beneficial to several stakeholders. First, at the policy level of policy formation and implementation, the findings may provide concrete evidence to guide policy makers to come up with policy reforms to enhance the operations of the TVET institutions to increase their capacity to develop required manpower in both quantitative and qualitative terms to meet the country's development aspiration. Secondly, study recommendations may form a basis on how to improve TVET institutions' service delivery ,especially in the training of Trainers in their effort to address issues that affect human capital capacity development. The study findings may contribute to the enrichment of existing knowledge in the area of human capital development in TVET institutions.

The limitation of this study arose from the fact that relevant offices did not respond promptly to the questionnaires citing busy schedules and too much workloads. This was overcome by the researchers extending the time for them to respond.

The study was carried out in Public TVET institutions in the four counties of the western region of the country Kenya; Vihiga, Kakamega, Bungoma and Busia Counties. The institutions that participated in the study were those that have been in existence for a period of more than 5 years at the date of the study. The study focused on key tenets of human capacity building ,namely; courses offered; entry qualifications of student and qualifications of trainers. The respondents were the students, heads of departments, principals of technical institutions in the four counties and human resource managers of two major companies where students take their practicum experiences within the area under study.

The Following Terms Feature Very Prominently in the Report: Access, Capacity Building, Industry, Manpower Development, TVET

This study was founded on theoretical foundations of Human Capital Theory (HCT) propounded by among others; Schultz (1961); Becker (1964) and Weisbrod (1966). The theory is found on three basic assumptions. First, labor skills are durable and malleable. Secondly, the current productivity contributes to current earnings and affects future productivity and thirdly,there is a positive association between the amount of schooling and individual earnings. According to Becker, Human Capital is useful in the production process as it increases workers' productivity in all tasks, though possibly differentially in different tasks, organization, and situations. The HCT theory advocates for investment in education just as capital is invested in the business to generate returns.

Under Kenya vision 2030, TVET institutions are charged with the responsibility of skills training of the people to propel the country the status of a medium industrialized nation by the year 2030. However, Fritz (1982) questioned the ability of investment in education neither alone promoting country's economic development considering that education is

not homogeneous good, neither an output nor input in other factors of production processes. He noted that much depends on whom you educate and how, in what kinds of knowledge or skill, at what levels, for how long and much depends also on the state of the economy in which the educated plan to work and earn a living.

Conceptual Framework

The variables in the study were conceptualized as seen in the figure;

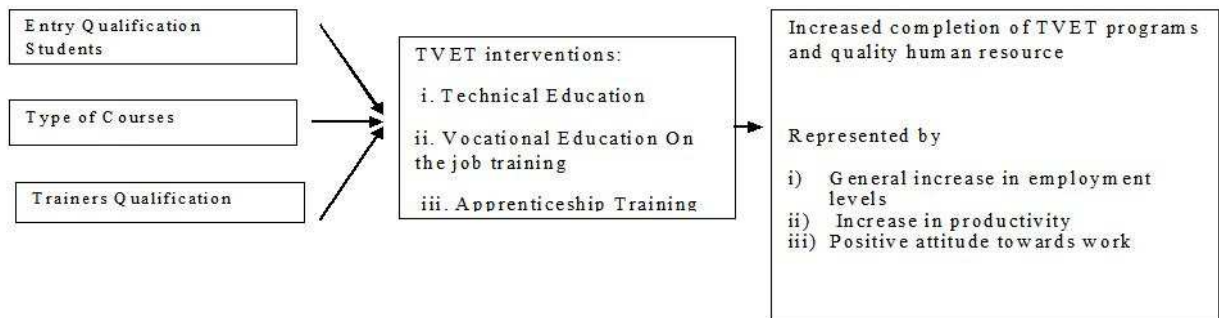


Figure 1: Interrelationships between Input Variables and Output Variables in Refurbished Technical Institutions

The Conceptual framework of the study is based on the fact that the effectiveness of TVET institutions' skill development is a function of multiple factors. These are; Courses offered at TVET institutions, Teaching, qualification of Trainers, and initial qualification for students.

RESEARCH METHODOLOGY

The correlation research design was used in this study. Several researchers Cohen and Manion (1994) and Saunders; Lewis and Thornhill (2007 say that correlation research design is suitable for studies where the random assignment of subjects to treatment and manipulative control of the independent variable is not possible. This design made it possible for the researchers to determine the relationship between TVET institutions and other variables which cannot be manipulated on the impact of the institutions on human labor developments for the realization of the Kenya Vision 2030.

A target population consisted of all public TVET institutions in Western Kenya that had been in existence for a period of at least five years prior to the study and all companies within the region that offered internship opportunities to trainees from the TVET institutes. According to the records at the Ministry of Youth Affairs and Sports at County Headquarters in Counties under study, there was one National Polytechnic, seven Public Technical institutes, two institutes of Technology and ten factories. The total target population was 8121 consisting of 10 principals, 100 heads of departments, 10 human resource officers and 8001 trainees as respondents from the institutions and factories.

All TVET institutions were used in the study and two sugar factories were purposively sampled out for the study. It was established that two major factories offer almost 100 percent of the internship opportunities to the trainees in the region, hence their selection. Two Human Resource Managers in those factories were used in the study. A ten percent population of the enrollments in the TVET institutions was used to sample trainees who participated in the study. According to Cohen and Manion (1994), a sample of 10 percent can be used in the study when dealing with a large target population. A total of 800 trainees participated in the study.

In this study, four instruments were used for the purpose of data collection: questionnaires, interview schedules, observation checklist guide and document analysis guide. Questionnaires for Students had structured items that required students to fill in the provided blank spaces. It included questions on personal information and the courses taken. Questionnaires for the Heads of Department sought information on; courses offered entry behavior of students to various courses and qualification of trainers. Interview Schedule was used to collect data from principals of TVET institutions and Human Resource Managers of the two companies in the study region to collaborate the information gathered from the questionnaires on the courses offered, qualifications and adequacy of trainers and challenges faced by TVET institutions in their day to day activities. The Interviews also elucidated information on the competency of the TVET graduates as reported by the Human Resource managers of the two major companies in the study region. The researchers used the Observation Check List Guide to examine the day to day process of teaching and learning Document Analysis Guide was used to collect information that required documentary evidence. Backer and Foy (2008) advise that because the quality of information is variable, the researcher needs to be guided by rules of evidence. However, document analysis was used with caution such that information was retrieved from the sources that were deemed useful for study.

STUDY FINDINGS

Questionnaire Return Rate

A total of 900 questionnaires were distributed to 800 Trainees and 100 Heads of Department (HoDs) out of which 696 Trainees and 90 HoDs responded giving an average questionnaire return rate of 87.3 percent.

Establish the Impact of the Type of Courses Offered at TVET Institutions on the Human Labor Development Capacities for the Realization of the Economic Pillar of the Kenya Vision 2030

The first objective of the study was to establish the impact of the type of courses offered at TVET institutions on the human labor development capacities for the realization of the economic pillar of the Kenya Vision 2030. This was examined under the following themes; Courses offered at TVET institutions; Trainees understanding of marketability of courses and relationship between courses pursued by Trainees and human resource development for the achievement of economic development in Kenya.

The study sought to determine the type of courses offered at TVET institutions in order to evaluate the relevance of such courses towards human resource development in line with the achievement of Kenya's envisioned economic development. To answer this objectively, Trainees and HoDs were asked to list the various courses offered in TVET institutions. The findings are presented in Table 1

Table 1: Courses offered at TVET Institution

Course	Trainees		HoDS	
	Frequency	Percentage	Frequency	Percentage
Institutional Management	100	14.4	15	16.7
Electrical and Electronics	80	11.5	10	11.1
Medical and Applied Mathematics	90	12.8	10	11.1
Mechanical Engineering	70	10.1	10	11.1
Business and Entrepreneurship	130	18.7	25	27.7
Building and Construction	60	8.6	05	5.6
Liberal Arts	86	12.4	10	11.1
ICT	80	11.5	05	5.6

From Table 1, it can be deduced that TVET institutions offer a variety of courses. However, only 43 percent of the courses as reported by the trainees and 35 percent by the HoDs are related to the mandate of the TVET institutions. The study further sought to find out the most popular courses among Trainees. Data to address this objective was captured through the Trainers and Trainees questionnaires. Most of the Trainees (130) (18.7%) and 25 (27.7%) HoDs asserted that business courses were the most popular at TVET institutions. This would mean that the trainees have very little interest in engineering -related courses as the case should be for TVETs. This observation concurs with that of Herbling, (2012) who found out that there is a low investment in technical courses such as engineering and electronics in TVETs in Kenya. This is a major setback to Kenya's economy since technical skills are critical in supporting industrial development envisaged in the Kenya vision 2030.

Determine How the Entry Qualifications of Students at TVET Institutions Impact on the Manpower Development Capacities for the Realization of the Economic Pillar of the Kenya Vision 2030

The second objective of the study was to determine how the entry qualifications of the trainees (students) would impact on the development capacities for the realization of the economic pillar of the Kenya Vision 2030

Before checking on the trainee's entry marks it necessary to determine the institutions' pre-qualifications for the courses they offered. To do this the study sought to establish minimum qualification for various courses at TVET institutions as set by the ministry. The findings are presented in Table 1.

Table 2: Course Entry Requirements of Trainees

Course	Entry Grade
Artisan	KCSE D- or KCPE
Craft	KCSE D
Ordinary Diploma	KCSE C-
Advanced Diploma	relevant Diploma/Degree

Table 2 shows that Artisan and craft courses required least the qualifications of KCSE grade D- or a mere KCPE certificate and KCSE grade D for one to be admitted. These qualifications are in line with the government policy for promotion of transition rates from primary schools and among the form four leavers who cannot be admitted into other tertiary institutions. It was established that although government set the basic minimum qualifications for those wishing to join TVET institutions, some diploma courses such as pharmacy had a higher minimum entry requirement set at a mean grade of at least C plain at KCSE and locking out the KCPE leavers. These findings imply that the entry requirement for most TVET courses is generally low. The low entry requirements for various courses were likely to impact negatively on skill development of Trainees especially in technical courses.

It was imperative to establish enrollments in various courses by the trainees. The information on this is tabulated in table 2.

Table 3: Trainees Response on Courses they were Pursuing at TVET Institutions

Variable		Area of Specialization				Total
		Artisan	Craft	Diploma	Higher Diploma	
Gender	Male	75	163	110	2	340
	Female	28	188	140	0	356
	Total	103(14.8%)	351(50.4%)	250(40%)	2(0.3%)	696

Table 3 indicates that the majority of the Trainees at TVET institutions pursued Artisan and Craft courses (65.2 %). Even though the Kenya National Strategy Paper 2014-2018 indicated a shortfall of 30,000 Engineers, 90,000 Technicians and 400,000 Artisans the TVET institutions may not have the capacity to fill in the gaps.

At this point, the researchers wanted to know the actual qualifications of the trainees in the various programs in the institutions. This was aimed at establishing a quality of Trainees at TVET institutions as reflected by their entry academic qualifications. Data on this is presented in table 3.

Table 4: Actual Qualification of Trainees at TVET Institutions

Qualification	D	D+	C-	C	C+	B-	B	Total
Frequency	130	315	136	65	20	24	6	696
Percentage	18.67	45.25	19.54	9.33	2.87	3.45	.862	100

The findings in Table 4 showed that the majority of the trainees 445 (63.9%) had a qualification of a D plus (D+) and below. This means that still, a majority of the trainees at TVET institutions were relatively weak. The low grades were likely to compromise the ability of the trainees to master necessary skills that had been envisaged to be a key ingredient for attainment of economic pillar of the country's' Vision 2030 development aspirations as Nkirina (2010) observed on the VET entrepreneurship students in Tanzania whom he found to have had difficulties to understand the educational materials used in teaching and learning since they had only elementary level of education. Even though one institution as established during the interviews with the principals was providing bridging courses to trainees who wanted to be admitted to pursue engineering courses most of them did not well either.

The numbers alone may not mean much and the government should raise the entry qualifications of the trainees to attract competent people to be equipped with the necessary knowledge and skills. As it is the TVETs may not supply adequate and competent human resources in the near future to meet the demands of various sectors of the economy for the realization of the economic pillar of the Kenya Vision 2030 if the trend continues.

Determine How the Qualification of Trainers at TVET Institutions Impacts on the Manpower Development Capacities for the Realization of the Economic Pillar of the Kenya Vision 2030.

The third objective of the study was to determine how qualifications of the trainers impact on the human labor development capacities for the realization of the economic pillar of the Kenya Vision 2030. Professional and academic qualifications of trainers' are critical in determining the type of courses to be offered at any institution of learning. This follows since you cannot offer courses whose trainers you do not have. It was prudent therefore to establish the capacity of the trainers to at the TVET institutions. The data on the academic qualifications of the trainers is captured in table 4.

Table 5: Highest Academic Qualifications of Trainers at TVET Institutions

Category	M.Ed.	B.Ed.	Bsc	H Dip	Dipl	Total
Frequency	35	412	78	23	102	650
Percentage	5.4	63.4	12	3.5	15.7	100

From Table 5 the majority of trainers 80.8 percent had a minimum qualification of the first degree and above. Even though the data may indicate that trainers are of high academic qualifications, it was important to know their areas of specializations. It was established that the trainers had not done any technical courses that were required in the institutions. A majority of them were teaching business -related courses and ICT.

It was only the diploma holders who had the pre-requisite qualifications to teach engineering related courses.

During the interview with the institution principals on where the trainers come from, a majority of them said that the trainers are usually posted by the Teachers' Service Commission from among the university and college graduates. On further inquiry, it came out clearly that there is no institute of higher learning in Kenya that trains technical teachers at degree level except the Kenya Technical Teachers Training College at diploma level. That means the TVET institutions did not have the human resource capacity to impact technical skills to the trainees that can make Kenya realize her vision by 2030. This was confirmed by the employers through the human resource officers as one commented;

....the major problem of the TVET graduates is that most of them do not seem to have knowledge on the use of modern equipment and machines, we have to train them a fresh. Some even do not have basic knowledge and theoretical understanding of the engineering knowledge.

The statement prompted the researchers to find out from the employers, their rating of the performance of the employees of the TVET institutions. All the employers agreed that though TVET institutions were producing graduates with soft skills such as communication, professional innovations, teamwork, respect for others and work safety consciousness, graduates lacked practical and technological skills practice when they entered the workplace. The situation was mainly linked to lack of appropriate equipment and trainers who lacked practical exposure disadvantaging trainees, especially when confronted with technology that was too advanced for them to operate.

CONCLUSIONS

The study revealed that business- related courses are the most courses offered at TVET institutions in Western Kenya. The bulky of Trainees in TVET institutions had a minimum qualification of D+ and below. The trainers were not trained in technical or engineering courses which the bulk of the knowledge and skills required of TVET graduates. Technical Vocational Education and Training institutions may be ill prepared to make an impact on the development of human labor capacities for the realization of the economic pillar of the Kenya Vision 2030.

From the study findings, it is recommended that; since the study was done in Public TVET institutions of Western Kenya, a comparative study with other regions or Countries need to be carried out; this research mainly concentrated on Public TVET institutions, there is need for comparative study to be done in private institutions to find out the situation there.

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