



Perceived Contribution of Technical Vocational Education and Training as an Intervention Mechanism for Industrial Competitiveness in Oyo State, Nigeria

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Abstract

This study assessed perceived contribution of technical vocational education and training (TVET) as an intervention mechanism for industrial competitiveness in Oyo State, Nigeria. Two research questions guided the study. A descriptive survey research design was adopted for the study, and data were gathered from 160 respondents across two tertiary schools controlled by Oyo State: Emmanuel Alayande University of Education and Oyo State College of Education, Lanlate. Questionnaire was used as study instrument which was face and content validated by three research experts. 0.92 reliability coefficient was obtained through Cronbach Alpha. Results show that TVET contributes to employability, industrial growth, and technological advancement. However, infrastructural decay, outdated curriculum and poor industry linkage hinder its effectiveness. The study recommended that policy reforms, private sector partnerships and investment in infrastructure to revitalize Oyo State TVET system for sustainable development.

Keywords: TVET, Global Competitiveness, Skills Development, Intervention, Nigeria

1. Introduction

Global competitiveness is largely influenced by the quality of human capital particularly technical and vocational skills. Nigeria is a country whose population is characterized by youth with high unemployment rates, and thus, the implementation of the vocational programmes to reduce the skill gaps and economic development is badly needed. Such a solution to this problem can be acquisition of salable skills in Technical and Vocational Education and Training (TVET). Nevertheless, the Nigerian educational system curriculum seems to be an obstacle to self-financing in the Nigerian graduates. The programme was focused on academic achievement rather than skills acquisition, which would adequately equip graduates with job or self-employment opportunities, which proves more advantages and benefits in terms of TVET (Awogbenle and Iwuamadi, 2020). TVET is established in two contextual frames i) in commercial terms (or term), and b) in terms of functionality. The constituent factors are investigated and joined together as a business entity or term. Technology is defined as the science of applied sciences and is applied to technical, which describes the quality of applied and industrial sciences (UNESCO, 2022), and vocational, which means specialised education in a particular profession (Gale Encyclopaedia of Education, 2013).

Technical education is simply defined as formal training, which allows the use of applied sciences and mathematical principles as a means of improving the human race whereas vocational education is the educational preparation and training of providing individuals with specific qualification of a particular profession. Technical education is concerned with the acquisition of skill and development of practicality whereas vocational education lays emphasis on strict adherence to the requirements to ensure the best performance in a particular occupation. TVET is a broad term and it is used to refer to the educational process which is related to the study of technologies and related sciences as well as the training of practical skills, attitudes, understanding, and knowledge in most of the occupations in different parts of economic and social life (Federal Republic of Nigeria, FRN, 2013). Therefore, any form of education that is supposed to enable individuals to acquire skills, combination of the required attitudes and knowledge towards efficient practise of the skills acquired, is known as technical and vocational education. It is an education that is meant to equip certain vocational skills (Butterfield, 2022).

The ultimate goal of the TVET programmes is to equip students with the necessary skills needed to engage in gainful or self-employment in a particular occupation, therefore it can be recognised that it is the most effective method of enabling economically disadvantaged individuals in the world to secure a job. The armed services had a high demand of technicians which the civilian sector was unable to meet, and as a result the focus on vocational education was great during the World War II (1939-1945). Expansion of vocational training as a result of the Servicemens Re

Fadairo, O. O., Shodiende, A. O., Aderibigbe, B. A., Olatunji, O. A. and Akintunde, G. A., (2025). Perceived Contribution of Technical Vocational Education and Training (TVET) as an Intervention Mechanism for Industrial Competitiveness in Oyo State, Nigeria. *The Vocational and Applied Science Journal (VAS)*, vol. 19, no. 2, pp. 59-62.

Adjustment Act of 1944 (the G.I. Bill of Rights) that allowed World War II veterans to get tuition fees and subsistence expenses to continue with lengthy vocational training (Dike, 2024). The TVET delivery system (Audu, Karim and Balash, 2023) can create skilled labour force, provide the young people with employment, reduce poverty, underdevelopment, and technological stagnation. TVET falls into three areas of socialisation i) as a continuation of education, iii) preparation of a professional area, iii) as an addition to general education.

The prediction is that in case graduates earned in Oyo State receive proper preparation through skill-based academic model of technical vocational education and training (TVET) programmes, a range of skills will be identified and honed in the graduates to be employed or venture into self-reliant businesses. This would decrease the number of jobs that are government subsidised. However, according to the projection, technical complexity would grow exponentially, driven by undisputed needs of the labour market; the lack of practical skills would make the latter considered incompetent and unemployed by the employer. It follows that graduates should have a wide range of technical skills, which require them to be creative, have problem solving capacity, be of the high order of cognitive skills and flexible talents in order to maximise their relevance in the labour market. The graduates that possess these application skills form the workforce whose professional responsibilities are significant to effective operations within the competitive and dynamic labour market.

In Nigeria, majority of the youngsters are undergoing university and other postsecondary education programmes without taking good employment opportunities into consideration. After graduating, a good number of graduates are faced with unemployment as a result of the insufficiency and irrelevancy of skills acquired in relation to the labour market demands (Okafor, 2011). Some have even argued in the national and international arenas that Technical and Vocational Education and Training (TVET) equips one with the required marketable skills and attitudes to perform well at work. The paper is an analysis of the TVET system in the country regarding the emerging global economic productivity issues. This paper examines Technical and Vocational Education and Training (TVET) as one of the strategic interventions to enhance the global competitiveness of Nigeria by providing individuals with the necessary practical skills needed in the new sectors.

1.2 Statement of the Problem

Many developing nations, such as Nigeria, the potential of Technical and Vocational Education and Training (TVET) as a driver of competitiveness remains largely untapped. Despite national policies emphasising skills development, sectors continue to encounter shortages of skilled technicians, inadequate technology transfer, and a lack of alignment between

training institutions and labour market needs. The persistent gap between the skills cultivated by TVET institutions and those required by modern enterprises has led to reduced productivity, increased youth unemployment, and a widening technological divide. Employers frequently assert that numerous graduates lack practical problem-solving abilities, digital competence, and hands-on experience with modern equipment. As a result, local industries are less competitive compared to those in countries with more adaptive, industry-focused, and technologically advanced TVET systems.

Moreover, poor funding, outdated curricula, insufficient industry partnerships, inferior physical infrastructure, and limited opportunities for experiential learning continue to hinder the effectiveness of TVET in fulfilling its goals. These limitations not only reduce graduates' employability but also hinder the nation's ability to compete, where innovation, technical proficiency, and productivity are critical indicators. Thus, there is an immediate need to examine how TVET may be enhanced and redefined as an effective intervention approach for augmenting industrial competitiveness.

1.3 Purpose of the Study

The main purpose of the study was to determine TVET as an intervention mechanism for global competitiveness: An empirical study from Oyo State, Nigerian. Specifically, the study sought to:

- I. Assess the students' perception on TVET contribution to employability in Nigeria.
- II. Examine the role of TVET in enhancing Nigeria's industrial and technological development.

1.4 Research Questions

The following research question were answered in the study

- I. What are the students' perception on TVET contribution to employment creation in Nigeria?
- II. How does TVET enhance technological and industrial competitiveness?

2. Methodology

The study employed a descriptive survey research design. The study was carried out at two tertiary institutions in Oyo State: Emmanuel Alayande University of Education and Oyo State College of Education, Lanlate. The study's population comprised 160 Technology Education students from two higher education institutions in Oyo State: 130 students from Emmanuel Alayande University of Education and 30 students from Oyo State College of Education, Lanlate. Due to the manageable population size total enumeration was adopted to select the entire population as sample size for the study. The data

Table 1: Mean, standard deviation on the extent does TVET contribute to employment creation in Nigeria?

S/N	Items	Mean	Std. Dev.	Remarks
1	Technical Vocational Education and Training improves job readiness.	3.16	0.83	Strongly Agreed
2	Technical Vocational Education and Training reduces unemployment.	3.14	0.80	Strongly Agreed
3	Technical Vocational Education and Training enhances self-employment.	3.08	0.77	Strongly Agreed
4	Technical Vocational Education and Training have acquainted me with what it takes to own my business.	3.00	0.82	Strongly Agreed
5	Technical Vocational Education and Training manage business effectively.	3.06	0.86	Strongly Agreed
Grand Mean		3.09		Strongly Agreed

Source: Author, 2025.

Table 2: Mean, standard deviation of students on the Role of TVET in Technological and Industrial Growth

S/N	Items	Mean	Std. Dev.	Remarks
1	Competency-based training(CBT) in TVET improves the quality of industrial output.	3.08	0.80	Strongly Agreed
2	TVET promotes technological innovation that helps industries compete globally	3.17	0.82	Strongly Agreed
3	TVET promotes technological adaptation	3.16	0.80	Strongly Agreed
4	TVET is seen as a catalyst for technology adoption and Innovation in Nigeria's industries, especially in ICT and manufacturing sectors.	3.17	0.82	Strongly Agreed
5	Continuous professional development in TVET enhances work-force technological competence	3.09	0.80	Strongly Agreed
Grand Mean		3.13		Strongly Agreed

Source: Author, 2025.

collection instrument was a questionnaire survey entitled Technical Vocational Education and Training (TVET) as an Intervention Mechanism for Global Competitiveness (TVETIMGC). The instrument was divided into two halves, A and B. Part A collected information pertaining to personal data. Part B collected data on Technical and Vocational Education and Training (TVET) as a strategic measure for enhancing global competitiveness: Insights from Oyo State, Nigeria. The questionnaire was subjected to face and content validation by three research experts from the Department of Technology Education at Emmanuel Alayande University of Education, Oyo. A preliminary assessment of the instrument was performed with 12 students from the Industrial Technical Education program at Tai Solarin University of Education, Ijagan, with a reliability coefficient of 0.92, considered adequately high for the study. The researchers distributed the questionnaire, attaining a complete response rate of 100 percent. The gathered data were analyzed using mean and standard deviation.

3. Results

3.1 Research Question One

What are the students' perception on TVET contribution to employment creation in Nigeria? The data presented in Table 1 indicated that the respondents for items 1-5 exhibited mean scores of 3.16, 3.14, 3.08,

3.00, and 3.06, with corresponding standard deviations of 0.83, 0.80, 0.77, 0.82, and 0.86. This suggests that the students unanimously concurred that the questionnaire items reflect the degree to which TVET contributes to employment generation in Nigeria. The whole mean score is 3.09, indicating significant agreement. Consequently, the advancement of TVET will substantially enhance job preparedness and self-employment, mitigating unemployment among the youth in Oyo State.

3.2 Research Question Two

How does TVET enhance technological and industrial competitiveness?

The findings presented in Table 2 indicated that the respondents for items 6-10 exhibited mean scores of 3.08, 3.17, 3.16, 3.17, and 3.09, with corresponding standard deviations of 0.80, 0.82, 0.80, 0.82, and 0.80. This suggests that the students strongly concurred that the questionnaire item indicates that TVET serves as a catalyst for technological adoption and innovation in Nigeria's industries, particularly in the ICT and industrial sectors. The whole mean score is 3.13, signifying excellent agreement. Consequently, the government and other stakeholders in Technical and Vocational Education and Training (TVET) should cooperate to strengthen TVET for improved

technological and financial competitiveness.

4. Conclusion

Technical Vocational Education and Training (TVET) is an essential avenue for cultivating a productive, innovative, and technologically proficient workforce equipped to compete in the global economy. Data indicates that nations emphasizing skills development, technology-oriented training, and robust industry connections achieve greater productivity, elevated industrial production, and increased global competitiveness. In numerous developing environments, including Nigeria, the TVET system encounters obstacles such as antiquated curricula, insufficient finance, substandard infrastructure, inadequate industrial collaboration, and a continual misalignment between the skills imparted and industry demands.

These obstacles impede TVET colleges' capacity to generate graduates who are employable, innovative, and adaptable to technology advancements. For TVET to operate efficiently as an intervention strategy for global competitiveness, systematic reforms, policy endorsement, and strong institutional–industry collaborations must be instituted. Enhancing Technical and Vocational Education and Training (TVET) is not only an educational need but also a crucial strategy for national advancement, economic diversification, and global competitiveness. A reformed TVET system will provide learners with the skills necessary to propel industrialisation, technical progress, and sustainable economic growth.

5. Recommendations

This study therefore recommends that;

- I. Enhance Industry–TVET Collaborations: TVET institutions must engage in close cooperation with industry to guarantee that curricula, training apparatus, and skill benchmarks correspond with contemporary labour market requirements.
- II. Enhance TVET Infrastructure and Facilities: Government and commercial entities should allocate resources towards modern laboratories, workshops, digital tools, and training equipment to improve practical education.
- III. Ongoing Curriculum Evaluation: TVET courses must be routinely revised to incorporate changing technologies, global industrial trends, and the requisite skills for the future workforce.
- IV. Augment Teacher Training and Professional Development: TVET educators must obtain

regular industry exposure, training in contemporary technology, and refreshed pedagogical skills to elevate instructional quality.

- V. Establish Monitoring and Evaluation Systems: Government agencies must assess performance, graduate employability, and institutional efficiency to guarantee the effectiveness and sustainability of TVET reforms.

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