



Driving Industrial Development through TVET Policy Innovations in Nigeria: Lessons from Some International Models

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Abstract

Developing skilled human resource for Nigeria's development is at the heart of the introduction of Technical and vocational educational training into the nation's education system at various levels. Efforts were made to make it have lasting results in terms of industrial development in Nigeria where human and material resources can be exploited and utilized to improve the social welfare of the people of that nation. Despite Nigeria's recognition of TVET as a key driver for technological progress, economic growth, and sustainable development, significant gaps remain in policy implementation, funding, and alignment with labor market needs. By analyzing Nigerian TVET policies alongside global best practices, this research identifies innovative strategies such as enhanced government funding, industry collaboration, curriculum reforms, and integration of emerging technologies that can strengthen TVET's capacity to equip youth with relevant skills for employment and entrepreneurship. Meanwhile, international experiences showed that well-crafted TVET policy innovations are powerful drivers of industrial development. These policies are well envisioned, vigorously implemented and monitored in an enabling environment. The paper recommended adopting rigorous policy frameworks, improving resource allocation, and fostering school-industry linkages to ensure TVET programs contribute effectively to Nigeria's industrialization and economic resilience.

KEY WORDS: Technical, Vocational, Education, Policy, Industry and Development

Introduction

TVET is increasingly being acknowledged as a form of education and training that provides people with the knowledge and skills essential for the workforce. It is a practical aspect of education that emphasizes developing certain skills. In order to prepare students for employment in identified occupations as semiskilled or competent workers, technicians, or

subprofessionals in the existing endeavours, Vocational and Technical Education is a specialized form of education, according to Olowe (2024). It also helps people get ready to join programs in advanced technical education. According to the National Policy on Education (2014), the main goals of TVET include offering training for workforce in the special field of business, science and technology; imparting the



knowledge and professional skills required for agriculture, commerce, and economic development; and providing individuals with the training and abilities they need to be economically self-sufficient.

The TVET program, which is generally considered the most effective way to help low-income people throughout the world find work, either paid or self-employed, in a certain field, is designed to equip pupils with the skills they need for such employment. The designation of TVET programmes both the formal (under the supervision of the National Board for Technical Education) and informal (under the supervision of National Board for Technical Education NBTE, National Commission for Mass Literacy, Adult and Non-Formal Education NMEC, and National Directorate of Employment NDE) across all level of education (NBTE, 2019; NBTE, 2020). At the heart of TVET programme is both skill acquisition and industrial development. Skill is being able to learn in new situations from knowledge and experiences of the past. It is formed with time and finally becomes internal with practicing. When a person is able to perform a task not minding thinking about dividing it down into standard steps, it can be considered acquired (Okolocha *et al.*, 2020). This assumes that the skill is learned.

Skill acquisition, which is defined by the use of such abilities in particular situations, is the process of learning new skills. You have the opportunity to learn. Skill development is essential to building a successful career. According to Medun and

Bello (2024), skills can be developed in a number of ways, such as through personal study on a specific task or subject, creative exploration, and relentless practice, or through mindless repetition of particular activities. Talent acquisition is a lifelong endeavor. Toddlers begin to participate in skill development as soon as they start walking. As time goes on, the collection of abilities becomes more complex. Every person will be driven to improve their talents. The outcomes and processes of skill development, however, are beneficial. Becoming an authority requires skill development. Since producing high-quality work and being recognized as a specialist are prerequisites for expertise, honing skills is an investment rather than a cost. Voelkle *et al* (2019) list several benefits of skill acquisition, including increased knowledge, better adaptation to real-world scenarios, and industry development.

Industrial development motivates technical education and technological innovation/development, while technical education drives industrialization and fosters the ability to produce goods, particularly capital goods (Ukomm and Agha, 2018). The adoption of technology is a critical requirement for this shift. The ability to choose, disseminate, create, or modify technology, as well as build upon imported technology, is all part of capacity. The technique of bringing forth technology from abroad has been adopted by nations that have witnessed accelerated growth notably in Singapore, Taiwan and Korea in recent times (Haruna, 2012; Ukomm and Agha, 2018).



Current TVET Policies in Nigeria and the Challenges

Technical and Vocational Education and Training (TVET) in Nigeria has recently undergone significant reforms aimed at revitalizing the sector to address youth unemployment and support industrial development. The Federal Ministry of Education (FME) launched a comprehensive TVET initiative in 2025 under the theme “Advancing Skills and Empowering the Future,” which marks a strategic shift from certificate-driven education to skill-based development (FGN, 2025). The revamped TVET policy framework introduces three main pathways tailored to different age groups and training durations:

Master 12: A one-year programme

Master 6: A six-month programme

Technical College Track: A three-year programme targeting youths aged 13 to 20.

These programs will be administered across the nation via vocational enterprise institutes (VEIs), skills training centers (STCs), and public technical schools (FGN, 2025), and they are intended to be inclusive by mandating that participants have a National Identification Number (NIN). In accordance with industry needs, the curriculum places a strong emphasis on real-world abilities, with instruction organized as 80% practical and 20% theoretical coursework (FGN, 2025).

Its main components are:

1. Free tuition in public technical institutions, supported by the government via organizations like NELFUND.
2. A monthly stipend for trainees, which was initially set at N22,500 and has been reported in some sources as being as high as N45,000, to help them during their studies.
3. Starter kits and low-interest loans to promote entrepreneurship and self-employment among graduates.
4. Standardized certification.
5. A focus on 25 priority skill areas that have been identified as essential for Nigeria's industrial development (FGN, 2025; Cable, 2025). The policy also supports the wider governmental agenda, particularly the renewed hope agenda, which focuses on economic transformation and inclusive education.

Imperativeness of TVET Policy Reform

Nigeria’s current TVET policies represent a significant and commendable effort to transform technical and vocational education into a powerful engine for industrial development and youth empowerment. The 2025 TVET initiative’s focus on practical skills, inclusive access, standardized certification, and entrepreneurship support aligns well with global best practices and Nigeria’s socio-economic needs. However, the success of these policies hinges on overcoming persistent challenges as enumerated below among others.



Equitable Access and Inclusivity: One major concern raised by stakeholders during the 2025 TVET initiative launch was the equitable access to training opportunities, especially for rural populations and vulnerable groups (FGN, 2025). Nigeria's vast geographic and socio-economic diversity means that many youths in remote or underserved areas face barriers to accessing quality TVET programs. Although the government has committed to an inclusive, data-driven strategy with designated centres in all 36 states and the Federal Capital Territory (FCT), ensuring actual participation and outreach remains a challenge (Cable, 2025).

Funding and Resource Constraints: While the government provides free tuition and stipends, sustaining adequate funding for infrastructure, equipment, and qualified instructors is a persistent challenge. Many existing technical colleges and vocational centres suffer from dilapidated facilities and outdated equipment, which limits the quality of practical training (FGN, 2025). The success of the new TVET policy depends heavily on continuous and increased investment to upgrade training centres and expand capacity.

Alignment with Industry Needs: A critical challenge in Nigeria's TVET system has been the mismatch between skills taught and the demands of the labor market. Previous TVET programs were often criticized for being too theoretical and disconnected from real-world industrial requirements. The new policy's emphasis on 80% practical training and collaboration

with private sector partners aims to address this gap (Cable, 2025; FGN, 2025). However, establishing and maintaining effective partnerships with industries to ensure curricula relevance, apprenticeship opportunities, and job placements remains a work in progress.

Certification and Recognition: Standardizing certification through NABTEB and the NSQF is a positive step toward formal recognition of TVET qualifications. However, the broader societal perception of TVET to be education for inferior individuals has hampered enrolment and employer acceptance of TVET credentials (FGN, 2025). Overcoming this stigma requires sustained advocacy and demonstration of TVET graduates' contributions to economic development.

Capacity Building for Trainers and Institutions: The quality of TVET largely depends on the competence of instructors and the capacity of training institutions. There is a shortage of skilled trainers who are themselves up-to-date with current technologies and industry trends. The policy framework recognizes this and calls for continuous professional development, but actual implementation faces logistical and financial hurdles (Cable, 2025; FGN, 2025).

Data Management and Monitoring: Effective policy implementation requires robust data collection and monitoring systems to track enrolment, graduate outcomes, and program impact. The government's commitment to a data-driven



approach is promising, but Nigeria's education sector has historically struggled with accurate and timely data management, which could impede evidence-based decision-making (FGN, 2025; Jinadu, 2020).

Imperativeness of TVET Policy Reform in Nigeria

TVET policy reform is essential to address the country's pressing socio-economic challenges, particularly youth unemployment, skills mismatch, and industrial development. The imperativeness of the policy reform in Nigeria lies in its potential to transform technical education into a key driver of industrial development, youth empowerment, and economic resilience. With over 70% of Nigeria's population under the age of 30, youth unemployment remains a major national concern. Traditional education systems have largely focused on theoretical knowledge, leaving a significant gap between graduates' skills and labor market demands. The reform prioritizes practical skills acquisition, shifting the curriculum balance to 80% practical and 20% theoretical learning, thus fostering employability and entrepreneurship (Jinadu, 2024; Salisu, 2020). This shift is imperative to transform the youthful age of the country to a more functional citizen who will be able to meet the demands of a rapidly evolving industrial sector.

Nigeria's industrialization depends heavily on a skilled workforce. TVET policy reform is crucial to produce graduates with competencies aligned to industry needs,

thereby reducing dependence on foreign expertise and boosting local innovation. The reforms emphasize mutual connection of TVET schools and the private section of the society to ensure curricula relevance and facilitate apprenticeships and job placements. This alignment is vital for fostering self-reliance, entrepreneurship, and sustainable economic development (Salisu, 2020). Despite the importance of TVET, Nigeria's system has faced longstanding challenges including underfunding, outdated curricula, weak regulatory frameworks, poor infrastructure, and limited industry collaboration. Negative societal perceptions of TVET as inferior to academic education have also hindered enrollment and investment. Policy reforms are imperative to address these issues by introducing a unified national quality assurance framework, strengthening teacher training, updating curricula to include digital and entrepreneurial skills, and fostering stakeholder collaboration (Salisu, 2020).

Reforming TVET policies is critical for Nigeria to achieve the SDGs, most especially quality education, decent work, and economic growth. A dynamic and responsive TVET system will contribute to poverty reduction and inclusive growth by preparing youths for the jobs of the future, including in emerging sectors. The fragmented approach to TVET interventions has limited their impact. Recent government efforts call for a harmonized and coordinated system that engages government agencies, civil society, development partners, and the private sector



in a unified skills-based education strategy. This collective approach is necessary to maximize resources, ensure accountability, and achieve measurable results (UNESCO, 2022).

Some International TVET Models and Lessons Learnt

Workable framework such as PPP of TVET was created in an effort to bring TVET colleges around the world closer to actual industry work experiences. These models comprise dual mode in the following countries Switzerland and Germany. Other countries where such are practiced although not totally are Denmark, Norway, Australia, Luxembourg, and the Netherlands. This system, which is the German model for collaboration, is regulated by a 1969 legislation that establishes a specific administrative structure for TVET. In Germany, the system is founded on the tripod responsibility for curriculum and assessment where labour representatives, business, and educators are met at a point. By overseeing the company's training in this way, the organization has a specific challenging role in managing the system. Trainees in this vocational training model receive 34 days of training in businesses and 12 days of instruction in public training facilities. The dual system depends on the government and companies sharing expenses. For example, the government pays for the schools, but the firms pay the apprentices.

In Japan, the system although very dissimilar to the one Germany, it is applicable to the United States and other

countries with social networks. It relies on a local relating well and the ability of college personnel to accurately assess the skills of prospective graduates as well as their compatibility with employers' academic and professional needs. The manufacturing system in Japan originates in colleges with a collection of connections via recruiting managers which enables them to give their best trainees preference in placement. The model promotes the use of tax incentives by the government to encourage training.

Singapore's Factory School, the factory school model which promotes company-level training through government policies called 'Human Resource Development' or 'Workforce Development System', is the VET system's model in Singapore, according to Tucker (2012). It allows the country trains its workforce genuinely and engaging industry to partner closely in training, and provide trainees with a training environment that is designed for training but is also realistic enough to present challenges similar to those they will encounter in the workplace.

Drawing lessons from international cases, Leo (2022) illustrates how the Chinese government's focus on integrating social entrepreneurship into the national innovation system has led to prolonged economic resilience. Similarly, successful models in regions such as West Africa and South Africa have demonstrated that clear vocational pathways, enhanced industry partnerships, and revisited funding mechanisms can significantly improve TVET outcomes. These international



experiences highlight that Nigeria can leverage global best practices by designing policies that emphasize Entrepreneurial skill acquisition in TVET institutions (Salisu, 2020; Leo, 2022); Strong alignment between curricular offerings and the demands of targeted industries (Mitchell & Buntic, 2022) and Enhanced funding and resource allocation mechanisms coupled with industry partnership frameworks (Abdullahi & Othman, 2021).

Conclusion

Driving industrial development in Nigeria through TVET policy innovations necessitates a multifaceted approach that integrates entrepreneurial training, robust innovation systems, and streamlined industry partnerships. Evidences suggest that aligning TVET curricula with national economic policies as well as adopting strategic funding and institutional reforms can address existing challenges, thereby ensuring that TVET graduates contribute meaningfully to the industrial sector. By drawing lessons from international models, particularly those from Germany, Japan, Singapore, China and other regions within West Africa, policymakers in Nigeria can develop tailored strategies that enhance the relevance and effectiveness of TVET, ultimately facilitating sustainable industrial growth and enhance economic development.

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