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Technical and Vocational Education and Training and its Relevance in Bangladesh for Youth Employability and Sustainable Career Planning

Md Jahangir Alam[1]
S. M. Ali Reza[2]
Harunur Rashid[3]
Mahbub Hasan Juwel[4]

Abstract

There is a massive lack of jobs in Bangladesh's employment market, but there is a more considerable lack of trained employees. Technical and vocational education and training (TVET) was expected to be the pioneer in generating capable human resources. However, it is seen that TVET institutions could not achivethe expected outcomes. To address the issues related to TVET in Bangladesh; this research explores the impediments to the youth and sustained employment of Bangladeshi TVET graduates. Data in this study were gathered using a mixed-methods strategy via survey and interviews. Data were primarily collected from the Dhaka and Rajshahi divisions, to fully grasp the situation and the enrollment rate of TVET students in various regions of the country. From the findings, it can be seen that, due to a mismatch between expected skills and actual abilities, as well as limited support for the sector from the government, TVET institutions in Bangladesh have been unable to meet the expectations of students. Morevoer, it is demonstrated that the inadequate implementation of regulatory frameworks is one of the primary causes for the dearth of qualified trainers in TVET. The majority of TVETs have a lower level of practical lessons, according to triangulated data. The findings also indicate that most students lack confidence in their abilities to pursue a sustainable career. The study concludes by providing insights for improving the effectiveness of vocational and technical education in Bangladesh.

Keywords: TVET, skills development, youth employability, Bangladesh.

[1] Md Jahangir Alam, PhD, Associate Professor, Department of Japanese Studies, University of Dhaka, email: mjalam.jsc@du.ac.bd
[2] S. M. Ali Reza, PhD, Professor, Department of Political Science, University of Dhaka, email: reza.namirah@du.ac.bd
[3] Md Harunur Rashid, PhD Assistant Director (R&D), NAEM, Ministry of Education, Bangladesh, email: harun.ad.naem@gmail.com
[4] Md. Mahbub Hasan Juwel, Lecturer, Department of Political Science, Barguna Government Mahila College, Barguna, email: nayebjuwel@gmail.com

Introduction

Technical and Vocational Education and Training (TVET) is essential and crucially relevant for the socioeconomic development of Bangladesh in order to boost production integrated to the economy. There are many opportunities in the working sectors; however, skilled hands must be needed to join there with proper guidance. TVET acts to produce trained human power from unemployed and socio-economically dependent citizens (Nugraha et al., 2020). Since Bangladesh enjoys a rapidly growing economy in the South Asia region, hence it will require a professional and robust labor force to ensure this growth. Bangladesh is possessa massive population of more than 160 million people, primarily consisting of youth and proactive, which can be benefical for the economy. It is visible that the country has a vast potential to produce a substantial and skilled workforce (Ismail & Mohammed, 2015). As the job market is highly competitive and many young citizens cannot obtain traditional university education due to poverty and other socio-economic issues, TVET can be a perfect choice for those students. Bangladesh is moving towardsmassive industrialization (Alam et al., 2022a). Many foreign companies choose this country as their future destination for production and manufacturing node and hub, where TVET graduates can play a vital role (Ullah et al., 2018). Through TVET, this country can turn its massive population into its most valuable human resource. Bangladesh can adequately utilize this considerable number of human resources through technical and vocational training; no wonder this country will soon become a leading economy in Asia (Roy, 2020). During the pandemic, the industry kept the economy alive and prevented the economy's collapse (Shammi et al., 2020). Industries are significant for a developing nation like Bangladesh. The country needs to expand its industries, which need skilled workers (Paryono, 2017; Alam et al., 2022b). Vocational education can supply this labor force. Remittance is also an essential part of the economy. Bangladesh can produce skilled workers, who can immigrate else where, and contribute to remittance return (Alam, 2008). There is a high supply of university graduates, and their job fields are saturated and not expanding. However, Bangladesh is working to develop industries more, so vocational institutes should work on training their students in skill-based learning to join the workforce in these industries and contribute to the country's overall development (Nuri, 2012).

Hence, this study focuses on the relevance of TVET in Bangladesh for youth employability and sustainable career planning by conducting an in-depth study on skilled human resources building, socio-economic impact, and sustainable development.

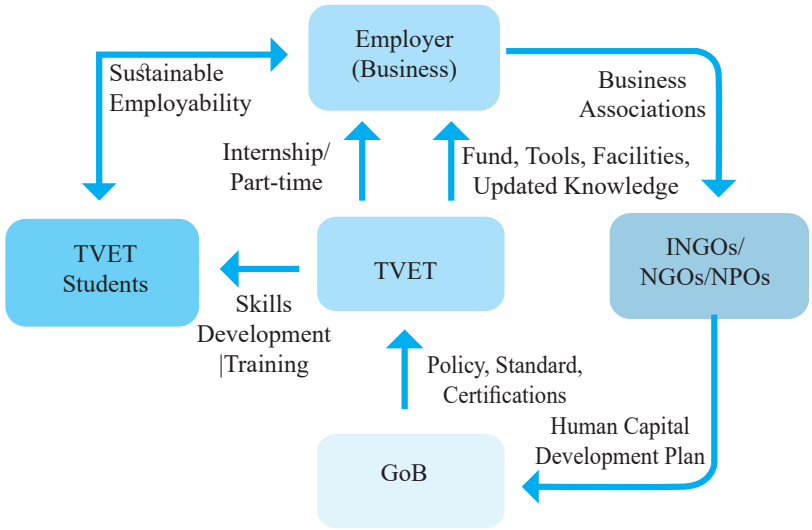
Background of the Research

In Bangladesh, skill development is not a very well-coordinated and lacks a planned process. The academics who develop curricula for TVET institutions have little or no awareness of industry requirements or local needs. Implementing market-responsive TVET is still a work in progress in Bangladesh and a fresh experience in developing economies or those transitioning away from a centralized, controlled, command and dominated past. In most developing nations, academics and industry function in separate worlds and seldom interact. Technical schools should have good relations with the world of work to elicit industry assistance to improve practical training via equipment and equipment grants, internships or

part-time, and the placement of teachers and students on professional experience attachment. The National Skills Development Policy (NSDP) 2011 was formed to coordinate efforts and resources. A Sector-Wide Approach (SWAp) was required to combine operations and investments in Bangladesh's skills and TVET sectors. The Government of Bangladesh (GoB), the European Union (EU), the International Labour Organization (ILO) sponsored it in 2018. The Technical and Madrasah Education Division (TMED) Secretary established TVET SWAp, which was finally sanctioned by the ILO and headed by the EU (Khan, 2019). TVET SWAp hasn't made enough progress despite Asian Development Bank (ADB) and World Bank (WB) investments in the sector.

Figure 1

Different Stakeholders' Collaboration in TVET



Note.The abbreviation of the acronyms in the graph are as followed: NGOs stands for Non-Governmental Organizations; INGOs stands for International Non-Governmental Organizations; and NPOs stands for Non-profit Organizations

In Bangladesh, the official TVET education framework, options for creating structural credentials, and instructional strategy are pretty well. Due to several industry efforts in Bangladesh, several TVET programs effectively foster skill development.Figure Idepicts the coordination between numerous stakeholders and the TVET education system in Bangladesh. Over a million individuals, usually youth, join the labor market, with barely half a million receiving training. According to World Bank (2021) development report, many working-aged people remain jobless, underemployed, or working in the informal economy. Labor market-oriented training has the potential to transform these individuals into human capital and fulfill industry needs, as well as achieve Sustainable Development Goals (SDGs). Economic structure has shifted significantly from traditional agronomy and export-oriented business and service industries. This shift has resulted in a demand for qualified personnel, especially in export-oriented industrial businesses. Around 63% of the country's entire population is aged

between 15 and 49, while 37% of the labor force is aged between 15 and 29 (Islam, 2014). This youthful population is sometimes called the country's 'demographic dividend.' Bangladesh must capitalize on its youth force via skills development before this demographic dividend vanishes in a decade (Islam, 2019). GoBhas implemented a strategy of foreign job promotion in response to the country's massive unemployment and underemployment. Furthermore, 14% migrant workers are just low-skilled and about 52% are semi-skilled (Hoque, 2016).New fields must be created to contribute while also benefiting from extracting the most advantage from these people. TVET may have been one of the mediums, but it still needs time to develop in Bangladesh due to the many issues surrounding this sector.

Rationale of the Research

This study aimed to identify the factors for TVET failing to reduce the youth unemployment rate in the country. There are few trained workers in the labor market due to public misunderstanding about the industry and budgetary constraints on TVET's ability to expand its activities. Several career opportunities are accessible in TVET, but adequately qualified individuals are in short supply. This research illuminated how the TVET sector mightaddress the issues to contribute to accomplishing the SDGs by assuring the sustainability of youth employment; which would eventually complement the SDG 1, 5, 8, and 9. Additionally, this research contributed to the current body of knowledge regarding the TVET sector, particularly with public perceptions of technical and vocational institutes. The research offered insight into existing trends and difficulties hindering the growth of the TVET sector and how policymakers could address them. As the research area required a larger-scale study, this study was conducted with the response of students, teachers, policymakers, and stakeholders of different categories related to TVET and Technical Training Centers (TTCs) of Bangladesh. Hence, this study was limited to the government TVET institutions only due to budgetary and time constraints.

Objectives of the Research

The study was conducted with the specific objective:

1. To analyze the TVET system to identify why it is unable to develop qualified human resources.

Research Questions

To address the mentioned research objective, the following research question was generated considering the examined literature and research gaps:

1. What are the causes behind the failure of TVET to address the skill gaps and future employability?

Limitations of the Study

The study has been conducted in a very short period of time and faced time constraint. This was due tovery short timeline allowed for the completion of the study. In the interim,

the COVID-19 pandemic scenario hampered ordinary operations in the nation and caused significant difficulties in data collection. Consequently, the pandemic condition emerged as one of the most significant impediments to study, as data collection during the COVID-19 pandemic was very difficult.

Methodology

To obtain a better insight, this study employed a mixed-method approach to acquire a clear perception and comprehensive insight of the TVET skills development program's importance, experience, and needs of TVET graduates for future employment. The ultimate purpose of this strategy was to add significance to existing knowledge by expanding and strengthening the study's findings by integrating qualitative and quantitative research elements. This study followed the triangulation design of a mixed-method approach. The qualitative data as well as the quantitative data inthis methodology is obtained and evaluateed within the same phenomenon independently. During interpretation, the divergent findings are then brought into alignment; it is done by comparing and contrasting the various outcomes. 'snowball sampling' was the method of contact utilized for this study. In this method, existing responders attract additional volunteers through their respective networks(Fraser et al., 2019).

Sampling

This exploratory study used inductive reasoning to weave new information into ideas. The sample size consisted of a deliberate random sample selected to comprehend demand and supply-side issues. Regarding TVET student enrollment, the researchers considered Dhaka the most significant and Rajshahi division the country's average. Considering the field research, the researchers selected ten of the country's seventy TTCs.

This study followed a mixed-method, and the total sample size was 223. The sampling framework outlined as follows:

a. Qualitative sample size was 23;

b. Quantitative sample size was 200.

This study examined primary as well as secondary data sources to better comprehend TVET within Bangladesh for employment prospects. This study used the survey research technique as well as interviews, which includes key informant interview (KII) and focus groupd discussion (FGD), with semi-structured and structured questionnaires to collect primary qualitative data from participants. This assisted in better understanding the stakeholders's perspectives and objectives of TVET institutions.SPSS and NVivowasused to analyze the data obtained from these surveys.

Additionally, the demand-side intervention was critical for understanding the future employment gap for SDGs. The research data was obtained from two locations, Dhaka and Rajshahi. Dhaka had the highest proportion of TVET students; while Rajshahi had an average number of students enrolled in TVET institutions.

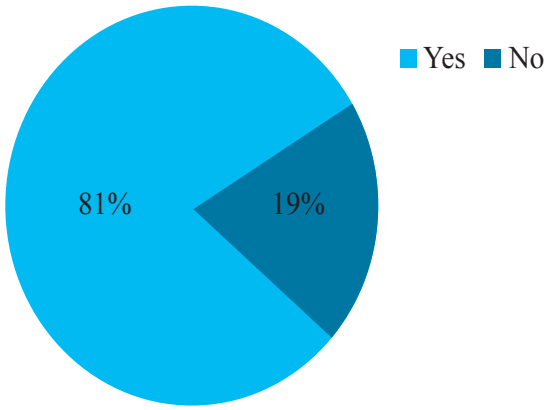
Findings

Mismatch Between Expected and Actual Skill Levels

The degree of skills that TVET colleges provide and supply and the stakeholders' expectations do not align. The data analysis results from questionnaires, interviews, and KIIs indicated a significant mismatch between the expectations of employers and the skill sets of TVET graduates. A respondentshowed concern by mentioning, '*the skills taught in TVET can quickly be gained by working in any factory for one or two weeks. So, what is the point of getting admitted into an institution, for example, learning how to do welding?*'The respondent added, '*so TVET is not up-to-date when introducing new skills. They should focus more on the new trends and develop new courses. That is how both the supply and demand sides are sure of getting a mutual benefit*' (KII 4).

Figure 2

Stakeholders'response to the Mismatch between Current and Required Skills



Over eighty percent of respondents, as depicted in Figure 2, believe the skills acquired by graduates of TVET instittues were inconsistent with said prevailing industry skill demands for sustainability in the work spaces. Respondent from the demand side strongly expressed, '*the companies want more competent and confident workers from TVET graduates. Our company hired more confident graduates with hard skills and various soft skills that complement their working style and add value to the company*' (KII 3). Many policymakers and educators concur that there are significant skill gaps at the intermediate profession level. Another respondent mentioned, '*we have always known that our labor market has a gap between the skills people need and people's skills. Many jobs usually require very high skill levels, but we do not have enough people who can do simple and intermediate things*' (KII 2). These perspectives need to be changed by upgrading the skills of the employees who seek jobs as technicians or other relevant jobs connected to TVET.

Effect of COVID on the Teaching-Learning Process

It was asked the respondents if COVID harmed their study and their future concern. FromTable 1, it is seen that 75% of the respondents answered that COVID indeed had a devastating effect on their education, whereas 18% think that the pandemic affected somewhat on their study. Only 7% of the participants answered that the pandemic had not affected their study. Looking at the results and the situation back in the pandemic, it can be seen that the outbreak and lockdown of COVID-19 impacted several students.

Table 1

Effect of COVID on Respondents' Study

Criteria	Frequency	Percentage
Affected a lot	150	75.0
Somewhat affected	14	7.0
Did not affect	36	18.0
Total	200	100.0

One of the participants shared his experience during the lockdown,'*the main target of getting into TVET for me was to support my family as early as possible. Nevertheless, this pandemic has taken away about two years of my life. Though it was said that online classes would be initiated, it did not see much success as most of my friends do not even have the device or internet facilities to attend the class.*'The participant continued, '*the most difficult issue was learning the practical skills. How can we learn about the machines' functions if we do not get to see one in front of us?*'(P022).For these issues, the period of pandemics could be counted as a total loss for the TVET students.

Students' Perspective on the Absence of Appropriate Employability Skills

The case processing summary of the survey was done in response to the questions 'is the present level of skills sufficient for the employment of students?' and 'what are the likelihoods of employability with the existing skill sets?'From Table 2,it can be seen that, 13.5% of respondents say it is unlikely they will find employment with their abilities. 24% are also somewhat unfavorable of their skill sets. The most significant proportion of respondents, 38.5%, believe they have little interest in obtaining employment based on their qualifications. Based on their soft, hard, and technological skills, 9,5% of respondents, the lowest percentage, believe they have strong employability possibilities. While evaluating their degree of hard skills, 60.5% of respondents believe they need to be more advanced in hard skills, while just 9.5% believe they possess abilities that would guarantee employment. Regarding soft skills, 61 percent of respondents believe they need further improvement to obtain a job, while 25.5% believe they possess sufficient soft skills. 61% of respondents need to enhance their technical abilities to qualifyfor the job market, while 20% believe they possess sufficient technical skills to get employed.

Table 2

Case Processing Summary of Evaluation of Personal Skills

Question	Response	N	Marginal Percentage
Employability Chances Based on Your Existing Skills: [Chances of Employability]	Highly Unlikely	27	13.5%
	Unlikely	48	24.0%
	Neutral	77	38.5%
	Likely	29	14.5%
	Highly Likely	19	9.5%
Evaluate Your Current Technical Skills for Future Employability	Enough for Employment	17	8.5%
	Needs More Development for Employment	120	60.0%
	Not Enough for Employment	63	31.5%
Evaluate Your Current Hard Skills for Future Employability	Enough for Employment	51	25.5%
	Needs More Development for Employment	122	61.0%
	Not Enough for Employment	27	13.5%
Evaluate Your Current Soft Skills for Future Employability	Enough for Employment	40	20.0%
	Needs More Development for Employment	122	61.0%
	Not Enough for Employment	38	19.0%
Total		*200*	

While responding to these questions, several participants responded that their perspective is predominantly negative or moderate. Following are some samples of their reflections:

P01: *'I believe our work opportunities are limited compared to other university grads. Because we lack sufficient resources to develop our English proficiency, practical and other relevant abilities are crucial to my comprehension.'*

P02: *'We are not receiving enough current technological information. In addition, if I wanted to enhance my abilities on my own, it would be impossible because my family cannot afford to buy me a computer.'*

P03: *'University students have the opportunity to acquire soft skills, such as teamwork and effective communication. However, our university solely provides us with course-related*

instruction. I believe this to be a significant shortcoming of technical institutes.'

The findings represent the state that the students are in regarding their future.

Inadequate Policy Implementation

One responder stated that according to Bangladesh's constitution, '*the government is accountable for developing the nation's human capital regardless of gender and assisting with employment based on the talents of each citizen*' (P06).TVET industry, as per the NSDP, is diversified, with varying quality requirements. It advocates the establishment of the NTVQF, which abbreviates to National Technical and Vocational Qualifications Framework, to regulate credential levels. In addition, it encourages certifications to be based on competency profiles developed in conjunction with the industry.It also suggests a method for ensuring the quality of competencies in the nation. Following the approval of the NSDP, a comprehensive action plan is to put the vision into action that has been agreed upon. In connecting TVET graduates and institutes to industries within Bangladesh, the research has been able to identified 2 different policy criteria.

Initially, several joint efforts on both sides will need to establish a collaborative partnership between industries and TVET organizations. Categorizing industry skill demands, developing education systems and training courses to respond to market demands, emphasizing professional internships, arranging seminars and workshops, and conducting research in this field, production processes, and instructional materials.

Secondly, a supporting public policy that promotes industrial collaboration with curriculum and training keeps educators and learners updated on market demands and technological developments. Consequently, it carries out the public-private-partnerships (PPP) together with the National Skills Database (NSD), and the NSDP. It also helps develop a dual structure with a stronger emphasis on professional learning or OJT.

The Gender Gap in the TVET Sector

Bangladesh's Sixth Five Year Perspective Plan outlines its seven categories of attainable goals, one of which is the gender equality and empowerment.Within Bangladesh, 49.4 percent of the population is female, and only 27.6 percent of vocational students are female, according to a study published by the UNESCO-UNEVOC International Centre in 2021. This is a low proportion of female involvement in a country with a female majority. The sector of TVET lacks contemporary information on the proportion of women who select TVET as a career route. In addition, few institutions offer women disciplines that they would find fascinating since gender-based stereotypes remain a social reality in Bangladesh, particularly in rural regions. Therefore, practical skills like sewing, tailoring, housekeeping, computer training, and electrical repairs attract more women to vocational training institutions, especially those provided by government agencies. On the other hand, males dominate more valuable market skills such as auto repair, welding, and equipment operation.

Table 3

Male-Female Participation Percentage in Survey

Frequency	Percent	Valid Percent	Cumulative Percent
Female	30	15.0	15
Male	170	85.0	85
Total	***200***	***100.0***	***100***

Table 3 depicts the male and female participant percentage in the survey. It shows the gender disparity among TVET graduates and also indicated that the courses offered in TVET are not women-friendly. Only a few courses have women involvement such as cooking and culinary. Even though the private stakeholders provide vocational training for the female population, the scopes and facilities are scarce. Also, families and the society of Bangladesh frown upon femalesgetting vocational education. As a result, the females stay illiterate instead of learning different skills and being a human capital for the country. Also, unequal pay is another issue for women to be disinterested in TVET.

Discussion

Ineffective Curriculum

As the study by Hemstock et al. (2017) opined, even though the stakeholders are trying their best to provide quality education in TVET, the curriculum is still not meeting the international standard. As a result, not many students feel interested in vocational education. According to the Bangladesh Economic Review of 2021, the enrolment rate in technical education was 17.14% in 2020. TVET has a large field to offer and cover, and it is assumed that courses will not have a restricted textbook. Rather than that, the curriculum should be developed following international standards, one of the most critical measures regarding TVET. Additionally, the survey demonstrates that the students' satisfaction level is lower than they would anticipate for employment and sustainable growth, and institutional or curricular improvement alone will not ensure high-quality education or long-term career growth (Khirotdin et al., 2019). Establishing institutional ties between programs and graduates' future application and employability is critical in creating a sustainable career development planParvin and Alam, 2016.

Improving Skills Development Program

From the data obtained from the survey, it can be seen that the students expressed their dissatisfaction and uncertainty about their skill attributes, which includes both soft and hard skills as well as technical skills, for landing a sustainable career. The issue should be addressed by implementing new and realistic initiatives for skill development. As the institution primarily responsible for generating skilled human resources, TVET should take the initiative in this regard. Alhasan and Tyabo (2013) have argued that introducing fresh and timely talents is as important as anything else for a country's growth. To stay up with the rest of the world, the government should also implement new initiatives for skill development.

Insufficient Quality Assessment and Training of Trainers

The NTVQF framework did not wholly accomplish the task and could not generate the desired output. Additionally, the National Skills Quality Assurance System (NSQAS) does not appear to function as designed to evaluate programs (National Skills Development Council Secretariat et al., 2015). There is a dearth of recommendations for applying the NTVQF framework in the country, which might significantly improve the effectiveness of the TVET sector. So, it is essential to implement these quality frameworks to ensure the proper development and flourishment of technical and vocational institutions (Hossain & Tisdell, 2005). In contrast, training of trainers (ToT) is an additional policy that can dramatically boost the outcomes of TVET graduates and relevant sectors' productivity. Similar findings are suggested by Karim (2017) as the study suggested that the skills development by ToT should provide continued professional development to the trainees to help, cultivate, and maintain their best degree of confidence while serving (Alhasan &Tyabo, 2013).

Addressing the Gender Gap

This study indicates fewer female trainees in the TVET industry than male trainees. Bangladesh has achieved tremendous progress in boosting education and training accessibility, equity, retention, quality, graduation rates, and gender parity during the past decade (Asadullah et al., 2020). However, Najoli's (2020) studies indicate that women's enrollment in STEM-based TVET courses remains persistently low. According to Keevy et al. (2021), the same barriers prohibit women in developed and developing nations from enrolling in TVET-related programs. These categories include social, cultural, institutional, and curriculum-related aspects. Various societal and cultural norms may influence young women's decisions about their participation in STEM fields (Ong et al., 2018). These factors have significantly led to the lack of women participation in the STEM areas.The report advises that the government should make efforts to ensure the involvement of female students.

Conclusion

Given the significance of skills development and human capital development, TVET interventions may be more substantial and successful, advancing Bangladesh's national economic growth to its full potential. To ensure that Bangladeshi TVET graduates have marketable capabilities and other numerous elements; more importance must be given to TVET and proper initiatives must be taken. The Ministry of Education should collaborate with relevant stakeholders to improve elementary and post-secondary education. Policies and reforms should emphasize the quality and relevance of education from the elementary to tertiary levels by enhancing the learning and teaching facilities and resources. Bangladesh's regulatory authorities should collaborate with technical education institutes to organize and deliver bridging courses that fulfill the requisite quality requirements and general themes. Institutions must have access to high-quality educational resources. The curriculum should be frequently revised, and industry internships should be enhanced. Ensure that female student are actively involved. Above all, technical schools should design and implement career guidance, counseling, and research to upgrade and grow technical students' appropriate skills and knowledge.

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