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POLICY BRIEF
Strengthening TVET capabilities in Malaysia

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Key takeaways

- TVET increasingly important, producing occupationally skilled youth as its dual system focuses on workplace training and hands-on experience.
- Greater focus on skill-heavy education track can be one of the ways to address pressing challenges among youth, such as high NEET and unemployment rates, exacerbated by Covid-19 pandemic.
- International evidence, such as from Germany, suggests strong TVET system results in fewer school dropouts and smoother school-to-work transition.
- Consistent and coordinated efforts needed to tackle longstanding hindrances in TVET ecosystem linked to social stigma,fragmented governance, teaching delivery and inadequate infrastructure.

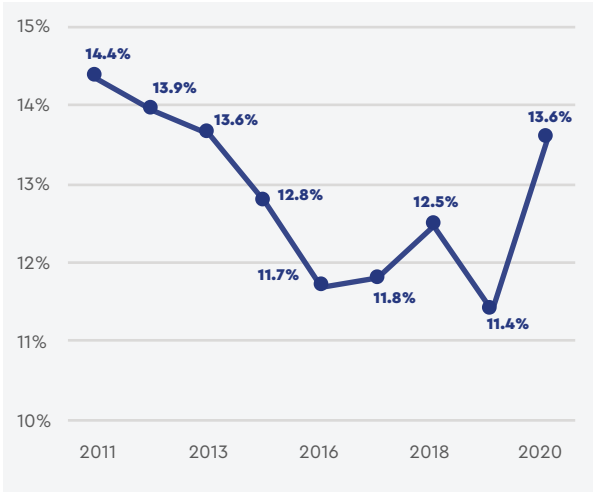
1.0 Background

As part of efforts to produce more skilled workers able to meet industry needs in Malaysia, one overlooked education system is technical and vocational education and training (TVET). Over the years, outcomes from other countries have raised interests on TVET in Malaysia as an "alternative" pathway.[1] This is on the back of the focus on workplace training and hands-on experience, coupled with increasing demand for technical expertise. For example, about 60% of 1.5 million jobs projected to be generated by the 11th Malaysia Plan in 2020 require TVET-related skills.[2]

Experience in countries with strong dual TVET systems, such as Germany and Switzerland, has shown that enrolment in TVET[3] resulted in lower school dropout rates and more effective school-to-work transitions.[4] TVET graduates are just as employable as tertiary graduates in conventional education pathways. Data suggests that in countries like South Korea and Germany, the employment rate of TVET graduates is similar to those with tertiary qualifications.[5] A recent Organisation for Economic Cooperation and Development review indicated that the TVET graduate unemployment rate is lower than or similar to unemployment rates of tertiary graduates. In some countries, TVET graduates also experience shorter time gaps between completing their studies and starting their first job compared to conventional graduates. This was the case in Estonia, Ireland and Latvia.

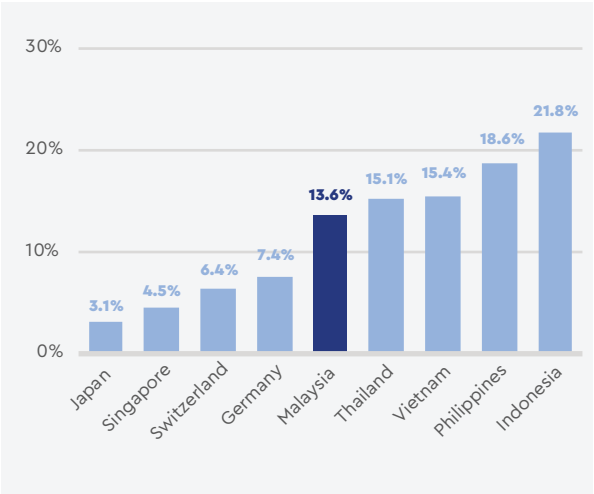
As such, these findings signal that a strong and highly enrolled TVET system in Malaysia can help address critical issues among youth.[6] These include higher share of young people not in education, employment or training (NEET) and their elevated unemployment rate, exacerbated by Covid-19 (figure 1, 2 and 3). The structure of TVET can also equip graduates with skills that suit market needs. As such, they would have an edge over conventional academic graduates in the job market. Producing graduates with occupational skills will help address skills gap in the labour force.

Figure 1. Share of inactive youth has risen since pandemic



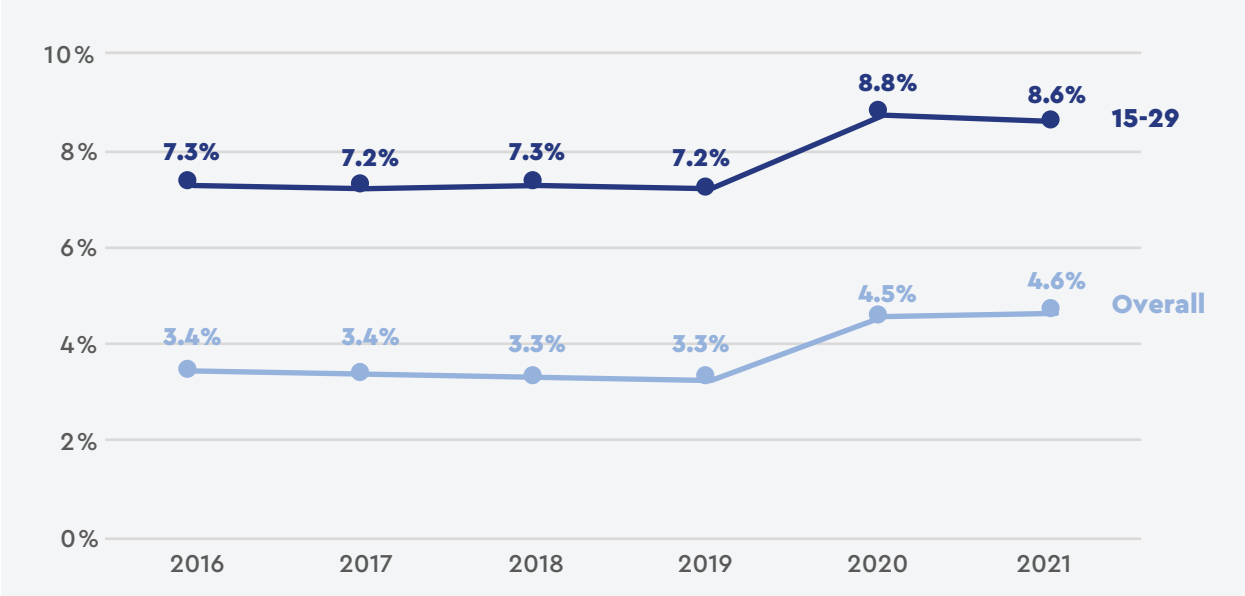
Source: ILOSTAT database

Figure 2. NEET rates by country, 2019-2020



Source: ILOSTAT database

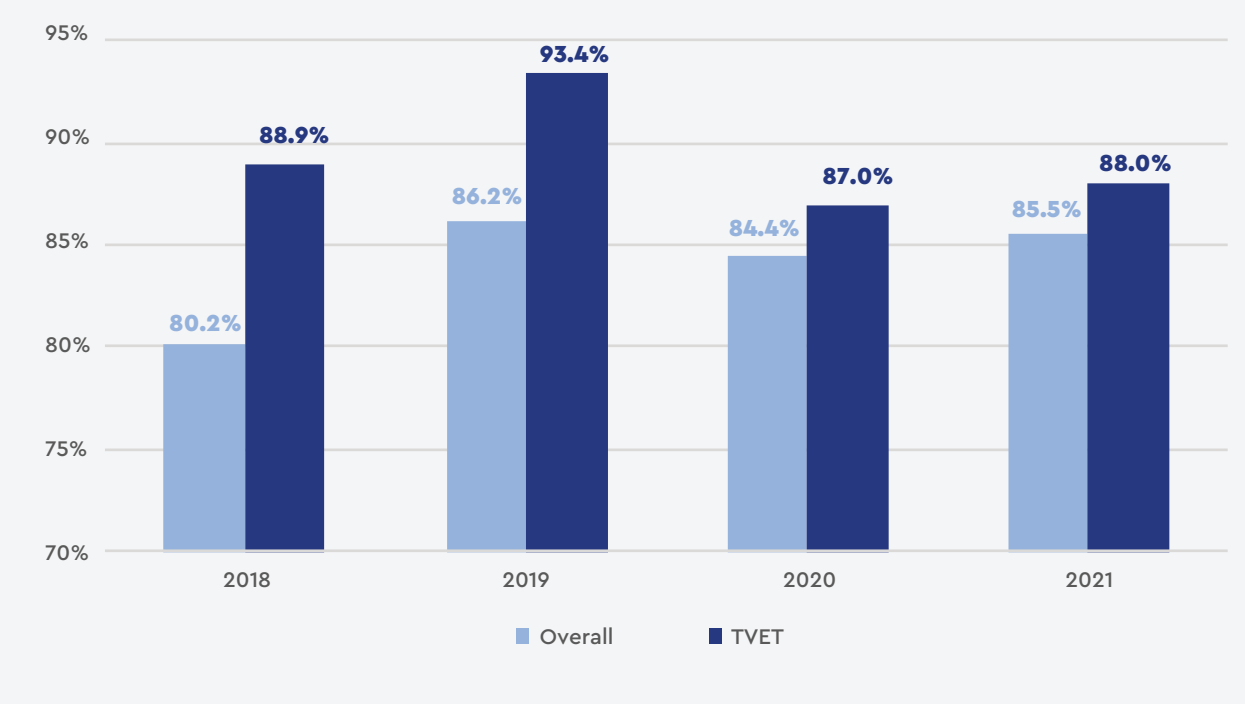
Figure 3. Youth unemployment rate remain elevated



Source: DOSM

Years' worth of emphasis and efforts on uplifting the status of TVET in Malaysia have led to progress. More than two decades later, progress includes a dual system, introduction of occupational standards, launch of code of practice for TVET programme accreditation and establishment of the Malaysian Board of Technologists (MBOT). The TVET graduates' marketability rate[7] has also surpassed the national figure in the past three years (see figure 4).

Figure 4. Graduate marketibility rate

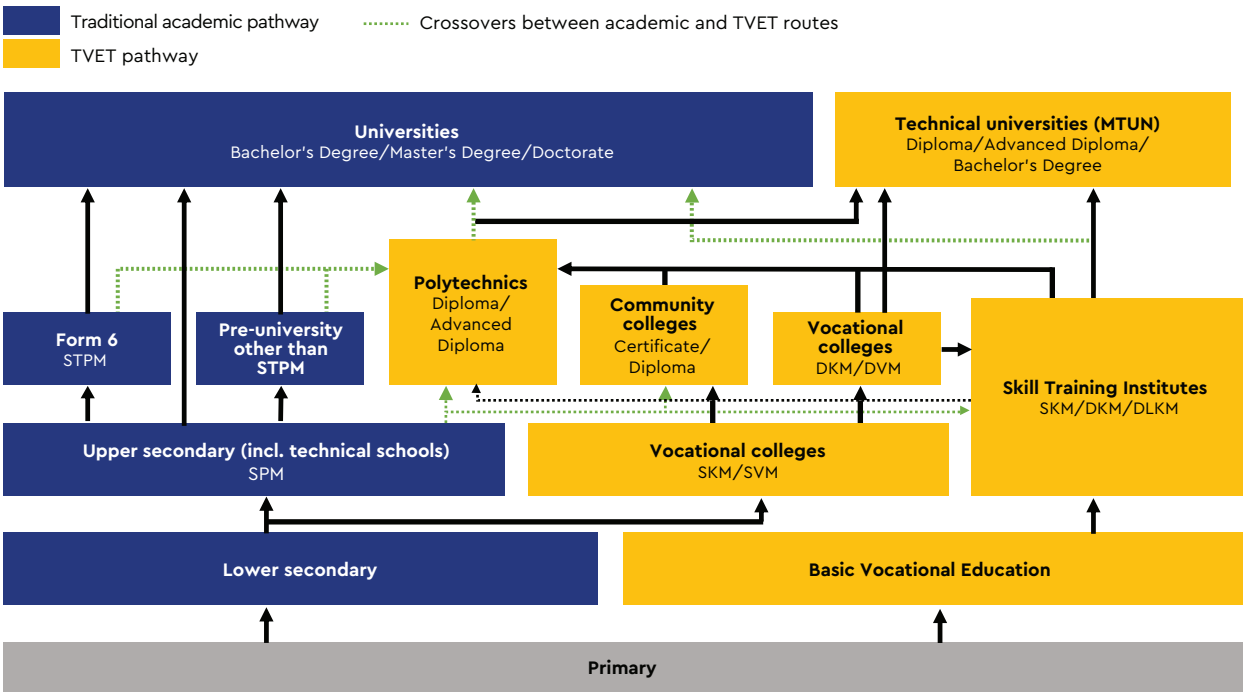


Source: MOHE

2.0 Overview of TVET in Malaysia

TVET institutions have existed since pre-Merdeka. They are intended as an alternative education route for those as early as lower-secondary level with the aim of providing greater occupational or work-related training skills as opposed to the traditional academic pathway (figure 5). Since 2004, TVET in Malaysia has been based on the national dual-training system, emulating Germany's system. TVET students spend about 70-80% of their training via industrial placements while the remaining is taught at TVET institutions. In countries with similar dual systems such as Germany, more than 90% of students hold upper-secondary vocational qualifications and more than one-third of graduates are offered high-skilled jobs. In Malaysia, the dual system had also led to greater chances of TVET graduates getting employed.

Figure 5. Comparison between conventional academic and TVET system



DKM = Diploma Kemahiran Malaysia, DVM = Diploma Vokasional Malaysia, DLKM = Diploma Lanjutan Kemahiran Malaysia, SKM = Sijil Kemahiran Malaysia, SVM = Sijil Vokasional Malaysia. Malaysian Technical University Network (MTUN) comprises UTHM, UTeM, UMP and UniMAP.

Source: Author's illustration based on information from UNESCO-UNEVOC & SEA-VET.net

In terms of qualification, TVET programmes are mostly offered from certificate to bachelor's degree level.[8] Postgraduate courses are offered at several institutions including UniKL and Universiti Tun Hussein Onn Malaysia (UTHM). Accreditation and quality assurance are under the purview of two agencies – Department of Skills Development (DSD) and Malaysian Qualification Agency (MQA) (table 1). Given the dual channel of certification, students may cross over between education routes via credit transfer and recognition of prior learning. However, these multiple pathways have caused issues related to the value of certification or recognition among students and employers.

Table 1. Malaysian Qualification Framework

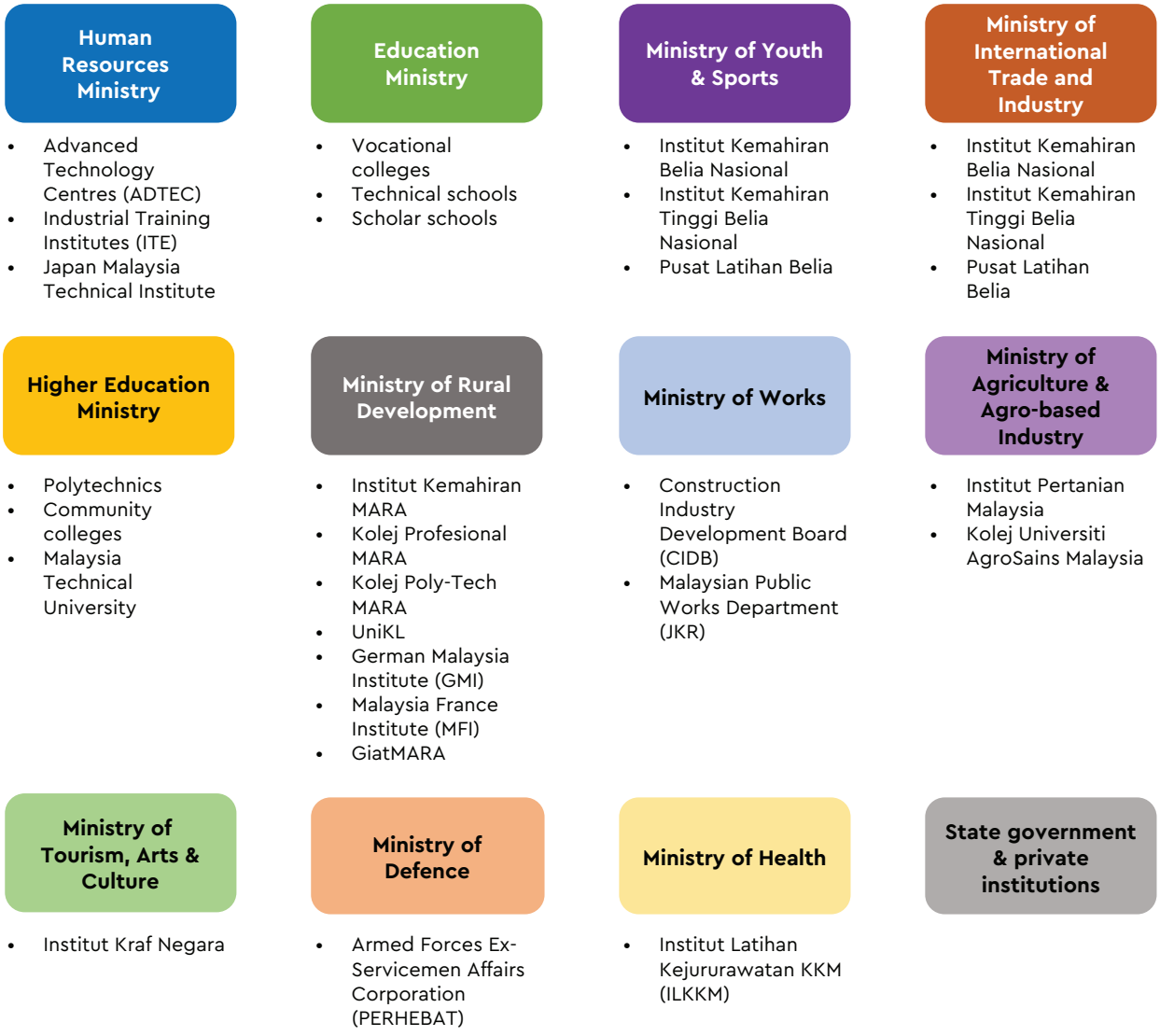
MQF Level	TVET	Academic
8		PhD
7		Master's Degree
		Postgraduate Diploma/Certificate
6	Bachelor's Degree	Bachelor's Degree
	Graduate Diploma/Certificate	Graduate Diploma/Certificate
5	Advanced Diploma	Advanced Diploma
4	Diploma	Diploma
3	Certificate	Certificate
2	Certificate	Certificate
1	Certificate	Certificate

Source: MQA

Development of the TVET curriculum in Malaysia has been strongly influenced by economic expansion and industrialisation. As such, to ensure the relevance of its training, the Industry Lead Bodies (ILB) regularly updates the national occupational skills standards (NOSS) to cover emerging skills sectors. More recently, a government-industry TVET coordination body (GITC) was formed as a platform for deeper collaboration between government and industry players.

Presently, there are more than 10 ministries alongside the private sector and state governments administering more than 1,200 TVET providers in Malaysia, in which a majority are public.[9] Each public TVET provider is under a different ministry, offering its own programmes and training (figure 6). For instance, the Education Ministry is responsible for formal TVET programmes in secondary schools while the Higher Education Ministry oversees higher education programmes. For industrial training and informal programmes, responsibilities fall under several ministries including the Human Resources Ministry and Ministry of Rural Development.

Figure 6. TVET providers



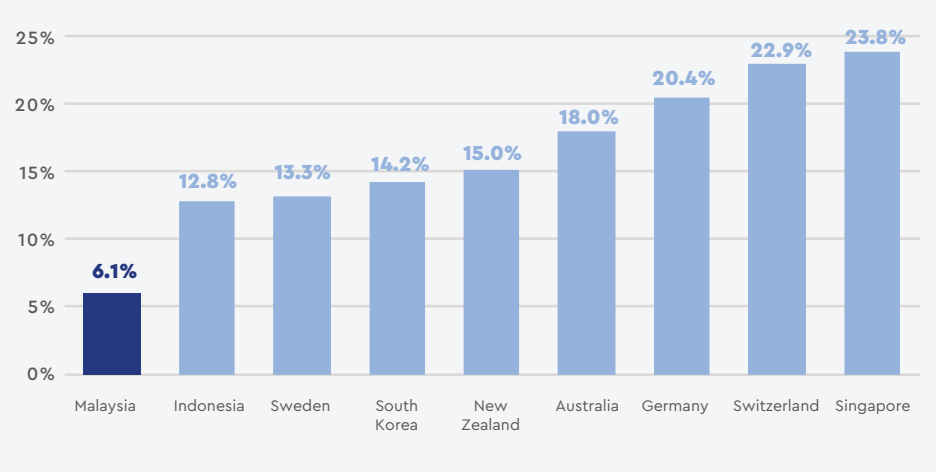
Source: Author's illustration based on information from MyRIVET & UNESCO-UNEVOC

Greater focus coupled with growing interest on TVET in Malaysia can be reflected from the extensive efforts laid out in the various Malaysia Plans, education blueprint, annual budgets and other reforms. These development plans emphasise on TVET's "game-changer" ability to produce skilled graduates who can fulfil industrial requirements. This is to be realised through an industry led TVET curriculum, improved public awareness, quality education and training, harmonisation of curriculum and standards and deeper cooperation between stakeholders.

3.0 Main challenges in TVET system

Despite the milestones mentioned in the beginning, there are several impediments hampering the efforts to strengthen and promote TVET in Malaysia. This is likely due to misconception or negative perception, lack of quality in TVET education, fragmented governance and shortfalls in infrastructure. The dearth of substantial reforms could have also contributed to low enrolment at TVET institutions. Recent data reveals that the enrolment rate in Malaysia was the lowest compared with the benchmark countries (figure 7).

Figure 7. Malaysian youth enrolment rate at TVET institutions in the lowest



Source: UNESCO Institute for Statistics, MOF

1. **Negative public perception.** One of the key factors influencing public support for TVET is social stigma. The vocational pathway is commonly perceived as the second or last choice after conventional academic stream. This is reinforced by assumptions that vocational schools or colleges are intended for certain groups, such as poor performers or dropouts.[10] This perception is worsened by views that TVET graduates are likely to be involved with 3D jobs (dirty, dangerous and demeaning), as opposed to higher paying white-collar jobs. In reality, the Education Ministry's latest survey found that a majority of skilled graduates were from the TVET stream (42.8% in 2021).[11] This can imply lack of effective messaging to the public. Additionally, there is an unclear directive on the pathway for TVET students who wish to pursue a higher level of education. Generally, these circumstances can be attributed to a lack of awareness about the vocational pathway and future career opportunities.

2. **Shortfalls in quality of TVET education.** The competency of TVET instructors is a main concern. Past studies revealed that a shortage of staff had jeopardised teaching quality at the institutions.[12] Many instructors were hired solely based on academic achievements while less attention was given to industrial experience.[13] The lack of emphasis on industrial experience is worrying, particularly from Level 1 to Level 3 because a NOSS-based curriculum[14] comprises about 70% hands-on experience with 30% on theory. In one of our engagements, a stakeholder highlighted three main components for the consideration and selection of TVET instructors – professional ethics, method of delivery and technical knowledge. This suggests that industrial exposure is crucial to ensure the effectiveness of training. The other factor which has affected teaching quality is ICT proficiency. Despite this skill becoming more important, especially after Covid-19, it is still lacking among educators based on our engagement with stakeholders. Many are used to the conventional pedagogies because of the nature of education. Resistance among these educators could affect their capability and willingness to integrate frontier technologies into the classrooms.

3. **Fragmentation of governance and delivery.** As TVET ecosystem in Malaysia involves multiple providers and certification pathways, it has resulted in unclear division of responsibilities with institutions operating in their own directions.[15] There are also duplication of programmes between ministries, leading to inefficient allocation of resources.[16] Despite the establishment of DSD as a dedicated agency to harmonise TVET standards and curriculum, there appears to be lack of evidence of its effectiveness. Multiple accreditation agencies providing different sets of certifications can also be a source of misunderstanding for students and employers. For instance, MQA focuses on the vocational sector and DSD on skills sector. Additionally, several TVET providers have their own certification systems. As such, non-uniform curriculum and standards are a source of confusion among employers and students in terms of the standard and value of certifications.

4. **Lack of infrastructure.** The other challenge which impedes TVET learning is a shortfall in infrastructure. This was apparent during the movement-control order (MCO) as learning moved online and new pedagogies needed to be implemented. Globally, students experienced difficulties, ranging from poor internet connectivity to expensive data packages and lack of equipment.[17] Converting TVET training to e-learning is also not a straightforward process since vocational education emphasises on practical training and hands-on experience.[18] Likewise, TVET students in Malaysia faced learning difficulties caused by a lack of infrastructure. For instance, a survey conducted among polytechnic students in Sabah showed that there were problems with online learning and limited interaction with the educators.[19] As such, this implies that students living in poorer socioeconomic condition and at remote geographical locations are the most affected.

Although Malaysia has long-emulated Germany's dual system, these problems stem from gaps between both ecosystems. In Germany, stakeholders work in a coordinated manner to ensure proper planning and implementation. Each ministry has a specific role to play, which helps to develop a clear pathway for students. Second, regular monitoring and sustainability are part of the key elements to ensuring the success of TVET system following implementation (i.e. suitability of training centres or supervision of training programmes). Third, progressive development of TVET is also ensured given the strong role of Federal Institute for Vocational Education and Training as the primary consultant to the federal government

and vocational training providers. Last, in terms of curriculum, there are strong collaboration and partnership between the ministries and private sector whereby employers and trade unions play central roles in the formulation of initiatives and policies.

4.0 Policy recommendations

Given that these issues are not new to Malaysia because they have been talked and debated about for years, we highlight six recommendations to move forward.

1. **Improve awareness of TVET.** As advocated by researchers, the public's misleading views need to be reshaped.[20] Feedback from the stakeholders suggested that the negative perception towards TVET has gradually improved due to wage improvements and increased job opportunities for graduates. However, they emphasised that greater efforts are needed to improve the effectiveness of information on TVET and its progress. For example, students need to be informed clearly of the progress to higher education and career. This can be done by educating students and parents about vocational alternatives and career opportunities through counselling and guidance services.[21] Other major avenues to showcase TVET talents, its successes and for networking reasons can be through national apprenticeship week and skills competition.

   TVET's progress can also be assessed by making statistics on enrolment rates available and easily accessible at the respective institutions. More effective training of TVET counsellors or employment of qualified counsellors is also important. This is to ensure the accuracy of information and guidance about occupational criteria and job prospects.

2. **Strengthen educators' competency.** The capacity of teachers is known to be a critical factor in TVET delivery – shaping individuals for the world of work and to acquire employable skills.[22] As such, industrial experience should be a requirement for all TVET instructors. At present, industrial experience is only required for teaching staff in Level 4 and 5 certificates.[23] Instructors' capabilities should also be evaluated from a broader viewpoint. This should not be limited to technical expertise but also soft skills. Past research suggests a competency framework for TVET instructors which covers five main constructs.[24] These include technical competencies (i.e. technology application, classroom management), non-technical competencies (i.e. critical thinking, analytical, lifelong learning), personal attributes (i.e. emotion control) and physical fitness.[25] As part of the monitoring initiative, competencies of instructors should be assessed regularly via the centralised database for TVET trainers or e-profiling system.

3. **Continuously address governance issue.** TVET providers and accreditation agencies operating in different directions have led to overlaps in programmes and qualifications. There is a need to consolidate the TVET programmes into fewer niche ones.[26] This should be complemented with regular and proactive monitoring to ensure the removal of less-effective or low-performing programmes. The establishment of the National TVET Council[27] as a single body, replacing the original role of DSD, to harmonise TVET courses is also expected to facilitate this recommendation. For accreditation, a single quality assurance body, which falls under the responsibility of the TVET joint technical committee, is crucial to streamline the certifications and to avoid further confusion. Germany can be a good model for this purpose. All certification paths must go through the

national accreditation body, namely the Federal Agency for Labour (*Bundesagentur für Arbeit*).

4. **Address infrastructure shortfalls.** As highlighted earlier, there have been unequal impacts in learning among TVET students, particularly for those in poor socioeconomic conditions. Specific needs of each household should be assessed when deciding the type and number of devices provided to each household. For instance, increasing the provision of internet-enabled digital devices distributed to students could help bridge the learning and digital gaps. This is to ensure that TVET trainees can still experience hands-on training remotely via web-based tools and labs without further disruption.

   At times of crisis, a centralised TVET digital learning platform can be one way to facilitate online teaching and learning (T&L). The implementation of a digital TVET learning platform by UTHM following Covid-19 disruptions was a good start.[28] The platform should be a one-stop centre for TVET providers and students to gather digital knowledge and skills. This effort is important to address the challenge pertaining to lacking ICT expertise among educators. To help with the execution, effective engagement with and cooperation between industry players and relevant bodies, such as TVET providers, National Digital TVET Innovation Centre (NDTIC) and Malaysia Research Institute for Vocational Education & Training (MyRIVET) is necessary to develop content and strengthen T&L methods.

5. **Strengthen cooperation among key stakeholders.** There is a need to enhance regularly industry-led curriculum with strong emphasis on skills relevant to the Fourth Industrial Revolution and soft skills through effective cooperation between the government and private sector. Like Germany, one of the major strengths of its dual system is attributed to the high degree of engagement and partnerships with employers and other social partners, such as industry associations and non-profit organisations. Moreover, employers, trade unions and the government also play crucial roles in the decision-making of content and form of TVET.

5.0 Conclusion

Our brief finds loopholes in the TVET ecosystem, which have not been addressed sufficiently, even without pandemic-induced disruptions. Despite the works that have taken place over the years, the enrolment rate at TVET institutions remains low and society still favours the traditional academic stream. This is mainly because of the lack of information about TVET capabilities and pathway, uncoordinated governance and teaching quality. Therefore, more proactive measures need to be taken to address the longstanding challenges. These should tackle the areas of awareness level, teaching proficiency, governance, syllabus and infrastructure. More importantly, the rebranding of TVET must come with greater and effective collaboration from all stakeholders.

Endnotes

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