

A Practitioner Framework on TVET Institution Leadership Transformation through Strategic Leadership Approach and Risk Management

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ABSTRACT

Technical Vocational Education and Training (TVET) is emerging as an attractive alternative to conventional education in most countries. TVET is no longer being perceived as secondary option leading to a career path but an attractive route as a career choice among many youths and people of all ages. Institutions embracing the TVET domain need to not only equip themselves with the best and the right strategies on teaching and learning with focusses on delivery and learning activities but on other elements of the academic system which have critical and direct impact on the overall quality of the education provided to the students. TVET education must be led by people of strategic leadership qualities to oversee strategic transformation of the institution to ensure high-quality academic system and institutional growth that meet the expectations of all stakeholders in the face of rapid technology advancement, ever increasing industrial needs and demands, and the perception of society. This paper presents issues that hindered the potential growth of TVET institutions and proposes strategies based on organizational transformation, risk analysis and management, while focusing on the TVET institutional leadership quality as catalyst for growth and excellence.

Keywords: TVET education, strategic leadership, education transformation, risk management

INTRODUCTION

Technical Vocational Education and Training (TVET) is a branch of education that is different to the traditional and conventional type of education. TVET primary focus in education is the development of practical oriented skills and technical knowledge while traditional and conventional education focuses on academic theory and broad knowledge. Over the years in many countries, TVET has suffered from negative perceptions among the public who view TVET qualification as of lower prestige, low earning potential and lack of jobs satisfaction compared to the more academic and theoretical education. However, positive assessments of TVET education were found in reports from the same study's countries that had developed TVET systems, such as Algeria, Morocco, and Tunisia (UNESCO-UNEVOC 2018). Recently, TVET education has gained considerable attention as many countries shift the attention to the larger part of their society considered lacking or falling behind in normal conventional type education. TVET is seen as a catalyst for economic growth in high-skills areas, a necessity for increasing industrial productivity, narrowing the bridge in skills deficiency, and improving the socio-economic of the population. This has translated to enormous amount of time, resources and energy being directed towards providing greater access to quality TVET education as countries are now seeing the potential that TVET has in further driving the economy and the social development of society. In the context of Malaysia (Abdul Aziz, F. and Subramaniam, N., 2023) the increased focus on TVET was clearly reflected in the 11th (2016-2020), 12th (2021 – 2025) and the 13th Malaysia Five-Year Plan (2026-2030). TVET in Malaysia features over 1,300 institutions being managed across 12 federal ministries. The ecosystem is anchored by the National TVET Policy 2030 and covers qualifications from basic certificates to PhDs, balancing 50-70% practical, and hands-on training with industry standards.

With increased focus in TVET education, attention is now centered on transforming TVET institutions (Aris et al., 2025) into organizations that are governed efficiently, industry-friendly, quality assured, sustainable, and with strong branding and perception of the public. TVET of the future is envisioned as high-technological and mainstream career pathway (Marzuki et al. 2023). Future TVET equips workers with advanced skills for structural economic shifts, focusing on emerging sectors like robotics, green energy, electric vehicles, artificial intelligence, and semiconductor manufacturing. The core pillars of future TVET consists of (i) high-tech curriculum – curriculum that integrates the Internet of Things (IoT), industrial automation, cloud computing, and advanced digital fabrication, (ii) green economy focus – training embedded with sustainable development practices such as renewable energy management and green technology to support national decarbonization efforts, (iii) industry integration - programs that are strongly driven by private sector partnerships to ensure ideal training matching with the real-world labour market demands, and (iv) enhanced employability prospect as a push towards high-impact industries whereby TVET graduates are increasingly placed in high-skill and high-income roles.

To realize this, according to Hadijah, A. (2015), TVET institutions must be led by leaders who are visionary, effective and in-line with the desire to see transformation in TVET education from a secondary option into option of choice among youths and public at large. At the institutional level, the leaders must assume the role of agents of change in TVET system transformation. It is therefore a priority to strengthen TVET educational leadership with strategic governance. This paper presents authors' practitioner framework on TVET institution transformation based on strategic leadership approach and risk management underlying the following research questions:

- i. What are key strategic initiatives that a TVET institution must prepare in fulfilling future needs of TVET graduates?
- ii. How do leaders of TVET institutions consider risk management as guiding principle in dynamic TVET environment?

TVET Institution Leadership Transformation

Strategic Leadership Qualities

A strategic thinking-oriented leader (Ibrahim et al., 2017) has the ability to successfully guiding and realising vision of the organization while managing in efficient manner the present-day operations. While some leaders spend their days immersed in related operations and short-term operational issues, strategic leaders focus on the big picture such as in guiding the organization towards its vision using creative problem-solving skills and strategic vision to help team members and the organization achieve long-term goals. A strategic leader is able to forecast industry trends thus setting a clear vision and making deliberate decisions that is aligned with the organization's objectives ensuring adaptability in an ever-changing environment. Also, a strategic leader anticipates future challenges and design strategies to meet the challenges with an eye on the present and a vision for the future. For example, in the era of Industrial Revolution 4.0 (IR 4.0) and even that of Industrial Revolution 5.0 (IR 5.0), TVET institutions need leaders who are innovative and creative (Zulkifle et al., 2021) to anticipate changes in work demands and technology know-how whereby the absent of such traits would leave the institutions with insufficient strength and vision to meet the challenges, opportunities, and requirements of IR 4.0 and that of IR 5.0. The institutions risk becoming obsolete, as it may fail to anticipate external threats or technological shifts. By aligning everyday actions with the broader organizational mission, strategic leaders cultivate a resilient company capable of maintaining a competitive advantage.

Figure 1 illustrates the core principles of strategic leadership qualities in the context of TVET education. A strategic leader must encourage a culture of innovation for employees to propose new ideas and processes with the aims of improving organizational efficiency. At the very same time, a leader with strong listening and communication skills will motivate employees and fellow management team members building trust and gain valuable consensus in charting a way forward for the organization especially during difficult and challenging time.



Figure 1. Principles of strategic leadership qualities

Leaders need to clearly communicate their vision and goals to stakeholders, team members, and other leaders to ensure alignment across the organization. Also, responsibilities are to be delegated efficiently through investment in employees so they can develop themselves into the organization's future leaders thus highlighting the emotional intelligence (Ali et al., 2020) trait of the leader. Finally, a strategic leader must be skilled at making effective decisions especially at the time of under pressure and this requires strategic thinking ability of the leader. Information is to be gathered from multiple sources, weighing the options, prioritize effectively and making the best decision that align with the organizations long-term while focusing on the most important initiatives. These principles are to be supported with elements of visionary thinking that is the ability to project long-term roadmap and articulate a shared purpose that resonates well among the employees boosting the employees' confidence in leadership qualities to bring forward the institution to a higher level of performance. Also, being able to adapt with flexibility to pivot strategies at the time when market, economic, or technological conditions change is also pivotal to the success of the organization. Finally, an effective leader must be able to balance short-term requirements with long-term goals while working in ambiguous or high-pressure situations.

Types and Styles of Leadership

TVET institutional leaders must lead their team members towards success with agility in their leadership style to meet demands of the students, stakeholders, and the TVET systems (Ismail & Yasin, 2020). They must transform their organizations to remain relevant and competitive (Leurent & Shook, 2019). Leadership styles are commonly derived from the organization needs and the leaders' own characteristics. Dianawati, R. et al. (2025) have examined the impact that leadership styles had on promoting innovation in TVET. The study had addressed notable research gap by identifying most effective leadership strategies that foster innovation in the context of ever changing educational and industrial environments. Several strategic leadership styles exist (Abdullah, et al., 2021) and there is no style that is perfect for any organization. Table 1 describes the various types of leadership styles. Among the most notable leadership styles are adaptive, participative, distributed, transactional, servant, transformational, and authoritarian. A strategic leader must be able to blend and choose the best leadership style that serves the purpose of the organization at a particular time and moment (Ramadhan et al., 2021 and Mohd Khalid, et al., 2025).

Table 1. Description on types of leadership

Types of Leadership	Descriptions
Transformational Leadership	These are visionary leaders who focus on long-term goals and innovation, inspiring others with a clear, future-oriented vision. They are skilled at setting ambitious objectives and motivating teams to achieve them.
Adaptive Leadership	Adaptive leaders excel at navigating change and uncertainty. They remain flexible, adjust strategies when necessary, and lead their teams through transitions effectively by focusing on agility and innovation.
Participative Leadership	Participative leaders engage team members in decision-making, encouraging collaboration and leveraging the diverse perspectives of their workforce. This approach fosters buy-in and collective problem-solving.
Distributed Leadership	Distributed-type leader will take charge through clear guidelines and expectations. These leaders focus on operational efficiency and ensure that everyone follows a defined path to meet strategic objectives.
Transactional Leadership	A transactional leader would reward and punishes team members as a form of motivation. Team members will acknowledge the appreciation or the lack of it as encouragement to do better.

Authoritarian-type leadership is often regarded negatively, but however, at a time of crisis, an authoritarian type of leadership might be the best possible option for the leader. This was demonstrated in full during the COVID-19 crises as institutions braced for the unknown realities where strong leadership style ensures stability to the organization. On the other hand, a participative leader would effectively engage the team members as part of his/her leadership strategy which then fosters collective agreement through diverse participation and engagement. However, on the extreme side, a transactional-type leader would reward and punishes the team members providing motivations but could results in severe backlash. In case of distributed leadership, the various organizational stakeholders were empowered and got involved with shared responsibilities on the decision-making process. In reference to Fix et al. (2021), TVET institutions benefit from distributed-type leader as the leadership style strengthen the culture of collaborative giving way to both leaders and team members to play key roles in major activities of the institutions such as in development of innovative curriculum and beneficial engagement with the industry. Consequently, the institution's adaptation to changes in labour market can be accelerated. Adaptive-type leader would navigate changes, challenges, and uncertainties in a strategic manner by changing leadership behaviour leading the organization effectively and with agility. The primary focus is on the work and system processes required to solve complex problems.

Transformational leadership has been shown to influence the extent to which innovation is implemented as often evident from the development of innovative curriculum and training programs with TVET system being embedded with digital technologies and effective collaboration with the industry (Osman & Kamis, 2019). This is possible as transformational leadership motivates team members through a shared and clear vision, providing empowerment and attention to individual needs (Al-Husseini et al., 2021; Messmann et al., 2022). Transformational leader effectively adapts the institution to the ever-changing industrial needs and technological demands. The different leadership styles are certainly not mutually exclusive and can be effectively combined. For example, a leader can apply the transformational leadership style as inspiration to build trust and rally a team around an important mission while choosing the adaptive-style leadership as a means to navigate the uncomfortable operational changes required to achieve it. Comparative studies by Dianawati, R. et al. (2025) that considers TVET institutions of multiple countries have suggested that certain leadership styles, such as transformational and distributed have significantly enhance the institution's ability to innovate through effective curriculum development and industrial collaboration.

Managing Risk in TVET Institutions

Risk Management

Risks management is important for TVET institutions. Risks must be identified, evaluated, controlled, and

monitored (Mews et al., 2024). Risk factors are critical in TVET due to the rapid advancement of technology making TVET to be highly dependent on the needs and demands of the industries. The fast-changing technologies impacted the curriculum that is slow to adapt to these changes. At the same time, TVET institutions are influenced by the policies and budgetary of the government. These have been enormous constraints on TVET institutions to be independent and grow to their potential. TVET institutions are also being closely monitored in terms of their key-performance index, that is the percentage of graduate employability. Figure 2 illustrates risks associated with TVET institutions. Table 2 describes the risks in more detail.

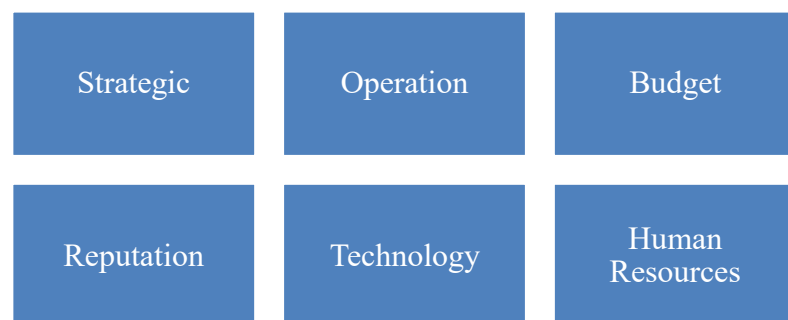


Figure 2. Categories of risks in TVET institutions

Table 2. Descriptions of risks in TVET institutions

Risks	Descriptions
Strategic	Training program that is not relevant to the industrial needs. Changes in TVET policies. Lack of long-term planning. Fragmentations in overall TVET structure.
Operation	Disruption in daily training activities Lack of competent trainers Facilities that are outdated and badly kept. Inefficient training schedule
Budget	Insufficient budget for critical expenditure High maintenance cost of machines and equipment Delayed development project Highly dependable to government
Technology	Current machinery and equipment are not relevant and outdated. Digital gap between user and trainers. Lack of digital infrastructure Poor digital security
Human Resources	Lack of competent trainers Resistance to change Aging workforce Lack of upskilling and reskilling.
Reputation	Perception as secondary career option Inconsistent quality of training Weak institution – industry relation Expectation not fulfilled thus disappointing the stakeholders.

Risks must be managed effectively to avoid the negative impacts that risks could have imposed on the TVET institutions as described in Table 2 above. Figure 3 illustrates steps commonly applied in risk management. It consists of steps such as risk identification, evaluation (to identify risk level and severity), prioritization of risk based on risk level, mitigation and monitoring for risk management effectiveness.

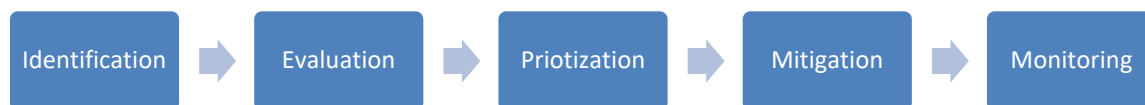


Figure 3. Steps in risk management.

Organization Transformation in TVET Institution

Organizational Transformation

As the world changes as observed in rapid technological advancement, dynamics industrial needs, ever-changing government policies, global competition in training and education and with increase in stakeholders' expectation, TVET institutions must transform in order to remain relevant. TVET institutions must transform and shift from the traditional, supply-driven models to agile, industry-aligned learning ecosystems. This requires efforts in revamping governance, modernizing the infrastructure, educators' capacity building, and integrating green, industrial content, and digital skills into the curriculum. Figure 4 shows the five pillars of organizational transformation that would ensure TVET institutions readiness in meeting current and future challenges.

According to Bass et al. (1994), organizational transformation starts with the leadership itself. The leadership must be clear and consistent in its decision, able to manage at the time of uncertainties, provide effective communication in relaying information, committed in deciding on tough decisions that reflect strong leadership quality, and finally has intense focus on long-term impact of the decision for transformations agenda. To be successful, the following processes as illustrated in Figure 5 are suggested.

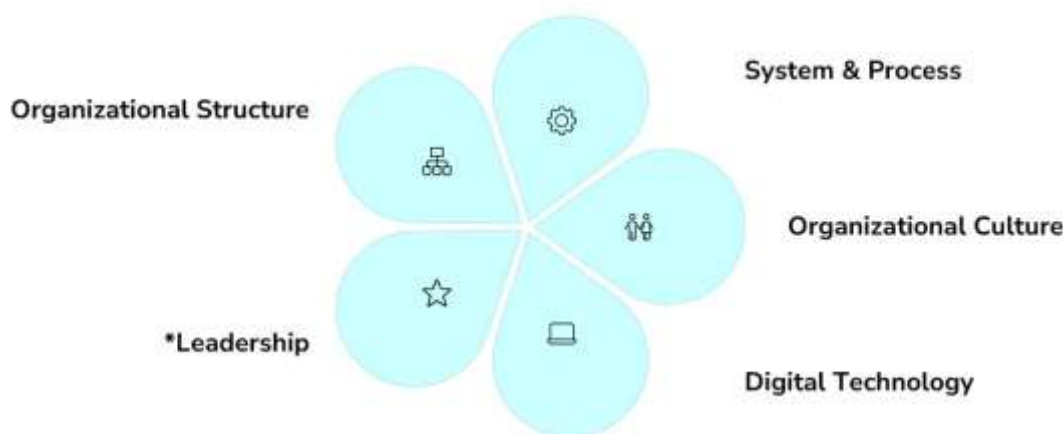


Figure 4. Five pillars of organizational transformation



Figure 5. Processes for effective organizational transformation

Transformation starts with careful planning that charts the processes or actions required to fulfill the organizational goals and missions. These outlined activities must be developed with full engagement of the team members with clear communications to every member of the organization. Team members buy-in would ensure their total support and understanding on the purpose and direction of the transformation avoiding future confrontations that most likely derail the transformations processes. People's tasks with the transformation activities are to be trained and equipped with necessary knowledge and skills to undertake the various transformation activities. This would ensure a smooth transition, reducing wastage in time and efforts. Finally, these transformations must be monitored and observed over certain periods to ensure their success and to perform

any corrective actions if needed.

Challenges in TVET Organizational Transformation

An effective organizational transformation of a TVET institution requires the involvement of all relevant ministries and the accreditation bodies, industries as the major stakeholder of TVET institution, management of the TVET institution, the training officers, students and the community. Any transformation activities would most likely invite certain level of criticism, resistance and negative opinions among the members of the organization. Figure 6 summaries some of the challenges expected in any organizational reform or transformation. Understanding these challenges is indeed the first step in addressing them.

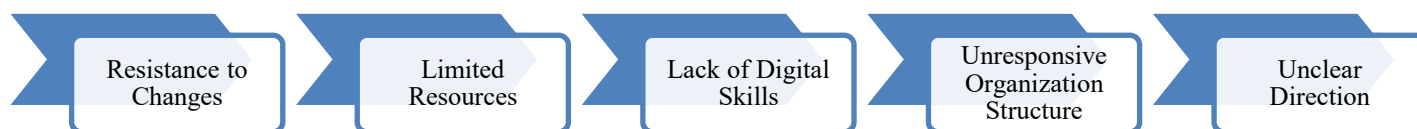


Figure 6. Factors impeding successful organization transformation

These challenges are to be expected and in fact a normal observation in most organizations undergoing some extent of transformation. The institutional leader should be able to address these challenges with clear and effective strategies and consistent communication throughout the organization. The most critical challenge is the rejection of changes by members of the organization. This must be resolved proactively and effectively in order not to undermine the transformation. Among factors contributing to this are presence of old minds in the organization – people who are complacent in the work culture, work system that is rigid and not flexible hindering future changes to the organizational structure and work process, internal communication that is weak and unreliable, and employees who are burden with heavy workload. A strategically thinking leader must address these issues effectively.

Framework For TVET Institutional Transformation Through Strategic Leadership And Risk Management

A framework for TVET organizational transformation via strategic leadership approach is shown in Figure 7. Institutional transformation of TVET institutions must be lead through strategic leadership qualities. TVET institutional leaders must come out with actionable framework to successfully transform the organization churning out market-ready graduates with technical competence meeting that of industrial demands. This requires a structured and phased approach to ensure sustainability (Sharma et al., 2021) and buy-in from all stakeholders. Four core pillars of TVET institutional transformation through strategic leadership include assessment and audit of the organization status, establishing strategic partnership with high-stake stakeholders such as that of the main industries and the government, development of the infrastructure both physically and digitally, and risk mitigating management activities.

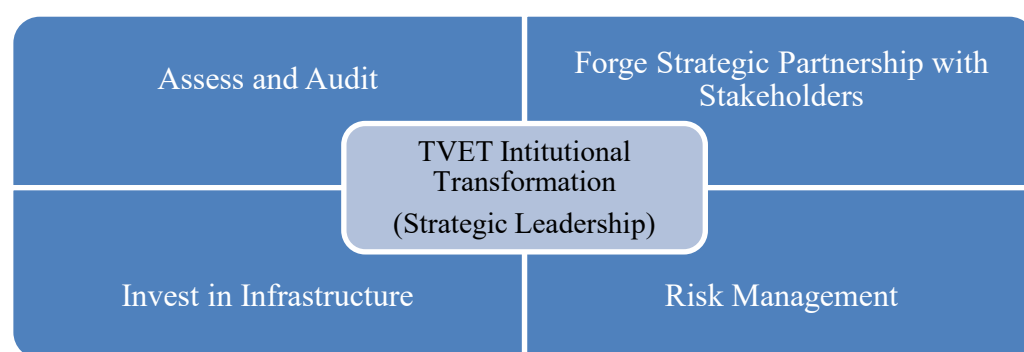


Figure 7. Framework for effective organizational transformation

TVET institutional leadership must identify issues within the organization by adopting risk management and

mitigation strategies to move towards organizational excellence as training providers that meet market demands and industrial needs. Audit and assessment of current state of the organization are essential to evaluate the current institutional capabilities (physically and humanely), state of equipment, instructional abilities, and digital readiness against national or regional labour market demands. This would provide the leadership with critical information to forge best strategy in organizational transformation. A thorough understanding of the organization strength and weaknesses will enable institutional leader to plan, engage the various stakeholders through effective communications, providing training while adapting best possible leadership style, optimizing potential of the organization as a whole while minimizing risks for failure through mismanagement.

For TVET institutions, effective partnership with the industries is critical to ensure long-term relevancy of the training programs and this is commonly translated into the training curriculum requirements. There is a need to break-away from the rigid, multi-year text syllabi where the curriculum is redesign towards learning delivery around compressed, modular formats based on the industrial needs. Curriculum can be embedded with elective tracks addressing current and future needs of emerging high-growth industries specific to the country such as Electric Vehicles (EV) assembly and diagnostics, Solar, Hydrogen, and Renewable Energy systems Automation, AI, and Industrial IoT applications. A strategic leader would strengthen institution-industry partnership beyond classical passive engagement of Industrial Advisory Panel (IAP) roles into a more strategic partnership engagement. Industrial attachment for the instructors, industry in campus concept, and industrial problem-based solving as core activities for the trainees are some examples of strategic initiatives that can be undertaken by an TVET institutional leader ensuring the institutions to remain relevant to the industry, community, and the government as the major stakeholders.

In addition, there exist needs to transition from the classical internships training program into deep, integrated collaborations with private enterprises either through work-based learning program and / or institution-industry joint certification. To support effective teaching and trainings, investment in the infrastructure would ensure upgrade in workshops, laboratories equipment and digital ecosystems to mirror that of current industry standards. Institutions must move away from the ever-passive advisory boards and grant the industry partners co-ownership over workshop procurement checklists, active curriculum evaluations, and structural masterclasses. Also, transition the standard technical classrooms into hybrid digital ecosystems by deploying for example, advanced multi-tenant Learning Management Systems (LMS) to move fundamental theoretical lectures completely online thus freeing up crucial, high-contact workshop hours for hands-on, high-risk, or high-cost technical simulations through immersive Virtual and Augmented Reality (VR/AR) learning modules.

Finally, to nationalise TVET as premier education hub for the youth and people of all ages, the institutional qualifications must be aligned with national frameworks and accrediting bodies such as to remove the stigma of TVET as secondary career path. The TVET institution strategic leader should play an important role in engaging the community highlighting the strength of TVET education as a career pathway of choice supplementing advanced industries with skill and reliable workforce meeting the technological demands of the future.

CONCLUSIONS

Technical Vocational Education and Training (TVET) has recently gained attention of the public as alternative route for education, aside from the traditional and conventional education that is based on theoretical studies and knowledge. TVET faces pressures to remain relevant in the form of rapid technology changes, budgetary constraint, competence gap, poor infrastructure, and poor public perception among others. In order to remain relevant, TVET institutions must embrace transformation. This transformation must be led through strategic leadership approach to ensure success and sustainable future of the TVET institutions. Organizational transformation must take place by applying effective processes with the right risk mitigation strategies and management. TVET-industry relation must be enhanced from current passive status. Industries should be accorded a more prominent role in their relation to TVET institutions. Also, TVET institutions should be empowered with the right initiatives and incentive to freely engage their stakeholders, especially the industry partners. The time is here for TVET institutions to take the centre stage as the preferred education pathway.

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