

The Process of Managing TVET Institutions: A Case Study of Regional Polytechnic Institute Techo Sen Takeo

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Abstract

This study examined the processes of managing TVET institutions in Cambodia, focusing on the management process of Regional Polytechnic Institute Techo Sen Takeo. It purposely determined the systems theory, transformational leadership, and HRM principles. The research investigated how planning, organization, leadership, and HR strategies influenced the training outcomes and graduate employability. By employing a mixed methods-research, the quantitative surveys were conducted with 250 participants, while qualitative data were collected through 15 interviews and 4 focus group discussions. Data were analyzed through descriptive statistics, SWOT analysis, and thematic coding. The Institute demonstrated strong infrastructure, effective leadership, and strategic planning. SWOT analysis revealed internal strengths in facilities, stakeholder trust, and government support; weakness in HR management and student services; opportunities in the policy backing and industry collaboration; and threats from technological change and regional competition. The systematic management processes, visionary leadership, and robust HRM were critical for the institutional performance, which enhanced the leadership capacity, strengthened the HRM practices, expanded industry partnerships, improved student support, and promoted financial sustainability. The contributions of this study theoretically validated systems theory and transformational leadership in the TVET context, empirically provided Cambodian case-based evidence, and practically offered actionable strategies for policymakers and TVET practitioners.

Key words: *Technology, vocational education, training, management process, systems theory*

1. Introduction

TVET played a role in developing human capital, promoting employability, and addressing skill gaps in emerging economies. TVET systems were useful for sustainable economic growth, social inclusion, and poverty reduction (UNESCO, 2015; UNESCO-UNEVOC, 2020). In Cambodia, TVET formed a cornerstone of the national development, aligning with the rectangular strategy for growth, employment, equity and efficiency, and National TVET Policy (MLVT, 2017). These initiatives emphasized the strategic role of the

vocational skills in economic diversification, industrialization, and workforce readiness. Cambodia's TVET system underwent the substantial reform, such as upgrading technical institutes, introducing competency-based curricula, and fostering the private sector partnerships.

However, there were challenges such as uneven institutional capacity, limited the HR development, insufficient industry linkages, and disparities between urban and provincial institutes persist (Chan & Hiep, 2021). The Regional Polytechnic Institute Techo Sen Takeo exemplified these challenges and reforms, offering multi-disciplinary programs in engineering, IT, and applied sciences for the students in Takeo Province. Despite significant investment in infrastructure and policy support, Cambodian TVET institutions faced management challenges, undermining their effectiveness. These included HR capacity, leadership practice, industry linkage, and resource mobilization. Human resource capacity limited the qualified instructors and administrative staff hindered curriculum delivery and institutional governance. On the other hand, leadership practices that concerned with insufficient transformational leadership reduced the innovation and stakeholder engagement. The industry linkages were about the weak connections with employers affected graduate employability and curriculum relevance. Resource Mobilization referred to the dependence on government funding and limited financial sustainability restricts institutional growth.

Understanding of these challenges required an in-depth examination of the management processes, leadership practices, and HRM strategies within the Cambodian context. This study aimed at analyze strengths and weaknesses of RPITST's management processes, examining the role of leadership and HRM practices in institutional performance, and identifying opportunities and threats that shaped the Institute's development within Cambodia's TVET landscape. The study provided policy, institute, and academic significance. Policy significance offered the insights to MLVT and other stakeholders for strengthening provincial TVET management and aligning programs with the labor market needs. Furthermore, the institutional significance assists the administrators and leaders at the RPITST to improve HRM, leadership, and strategic planning. Academic significance mainly contributed to literature on systems theory and transformational leadership in TVET, particularly in the Southeast Asian context.

With the theoretical framework, this study integrated three key theoretical perspectives, such as system theory, transformational leadership theory, and human resource management principles. With the systems theory confirmed by Bertalanffy (1968), institutions were considered open systems interacting with the internal subsystems (HR, curriculum, infrastructure) and external environments (government, industry, community). Bass and Riggio (2006)

defined transformational leadership theory as leadership that inspired vision, innovation, and motivation were critical for the institutional adaptation and effectiveness. With the studied by Armstrong and Taylor (2020), the HRM principles were about the effective HRM practices – including recruitment, professional development, and performance appraisal—ensured institutional sustainability and quality delivery.

2. Literature Review

2.1 Perspectives of TVET Management in Education

Management in education was the process of planning, organizing, leading, and controlling resources to achieve the institutional objectives (Robbins & Coulter, 2018). In the context of Technical and Vocational Education and Training (TVET), management encompassed curriculum planning, resource management, organization leadership, and quality assurance. Curriculum planning concerned with designing competency-based programs aligned with labor market requirements. Resource management allocated and maintained physical, human, and financial resources. Organizational leadership was about facilitating decision-making, motivating the institutional staff, and engaging the stakeholders. Quality assurance played a role in monitoring teaching and learning processes to maintain institutional standards. In brief, effective management ensured that institutional objectives were aligned with the national development goals and labor market needs, thereby enhancing graduate employability (UNESCO-UNEVOC, 2020).

Planning in TVET involved developing short-term and long-term strategies that addressed infrastructure, curriculum, faculty development, and student services. Mintzberg (1994) argued that strategic planning should be flexible, responsive to environmental changes, and participatory. In Cambodian TVET institutions, planning was influenced by national policies like National TVET Policy 2017–2025 (MLVT, 2017). Effective organizational structure ensured clarity in roles, responsibilities, and reporting lines. Also, leadership played a critical role in motivating staff, fostering innovation and implementing the strategic initiatives (Bass & Riggio, 2006). Transformational leadership in TVET institutions positively correlated with institutional performance and graduate employability (Srisuwan, 2019; Nguyen, 2018).

Quality assurance and continuous improvement significantly influenced education. For this case, education needed to strengthen, improve, and assure the quality. Quality assurance in TVET focused on evaluating the programs, teaching methods, and learning outcomes. In addition to this, continuous assessment of curricula and instructional methods ensured that the graduates met the industry requirements (UNESCO, 2015). Mechanisms such as performance appraisal, student feedback, and accreditation were essential to maintaining institutional credibility and effectiveness. TVET played a role to

equip individuals with the practical skills for specific occupations that encompassed technical, industrial, and service-oriented sectors (UNESCO, 2015), enhanced economic competitiveness by producing a skilled workforce, and promoted equity by increasing access to skills education in urban and rural regions (MLVT, 2017). TVET High alignment with the labor demand (Nguyen, 2018), mixed the employability outcomes (Manasan, 2020), and gaps in industry linkages (Chan & Hiep, 2021).

2.2 Systems and Transformational Leadership

With the studies by Bertalanffy (1968), educational institutions operated as the open systems interacting continuously with their internal and external environments. For this situation, TVET institutions can be conceptualized as the multi-layered systems consisting of interconnected subsystems, including curriculum, faculty, human resources, infrastructure, student services, and administrative governance. In the Cambodian context, TVET institutions met specific subsystem challenges, including a shortage of qualified instructors, limited administrative capacity, and inconsistent professional development, weaken the HR subsystem. Transformational leadership, as conceptualized by Bass and Riggio (2006), emphasizes leaders' ability to inspire, motivate, and facilitate innovation within the organizations. In the TVET context, transformational leadership played a central role in aligning the institutional goals with labor market needs, modernizing curricula, and fostering a culture of continuous improvement.

Transformational leadership significantly impacted TVET with three key domains, including curriculum modernization, faculty development, and student services – improving the institutional responsiveness and promoting curriculum reforms that enhance student outcomes (Srisuwan, 2019). In this case, leaders who prioritize participatory decision-making and innovation strengthened alignment with the industry needs and fostered the graduate employability (Nguyen, 2018). HRM was central to the sustainability and effectiveness of the TVET institutions. HRM encompassed the recruitment, development, motivation, and retention of qualified staff (Armstrong & Taylor (2020). HRM practices and professional development programs were limited or ad-hoc (Chan & Hiep, 2021). Transformational leadership in vocational institutions associated with participatory decision-making, faculty empowerment, and curriculum reform – improving both student learning outcomes and institutional efficiency (Srisuwan, 2019).

TVET operated within a decentralized governance framework, creating HRM and coordination challenges (Manasan, 2020). While local autonomy enabled context-specific decision-making, inconsistent HR policies, and leadership capacity gaps undermined program quality. With the quality assurance, inconsistent monitoring and evaluation systems reduced program quality and

accountability (ADB, 2019; Chan & Hiep, 2021). Empirical evidence from ASEAN TVET systems demonstrates that well-implemented HRM correlates positively with graduate employability, student satisfaction, and institutional innovation (Nguyen, 2018; Manasan, 2020). In Cambodia, strengthening HRM through formalized recruitment, continuous professional development, and transparent appraisal systems can enhance institutional effectiveness, faculty engagement, and labor market alignment. According to the results confirmed by ADB (2019), institutional strengths, weakness, opportunities, and treats must be leveraged, addressed, exploited, and mitigated for the improved performance.

2.3 Insights of TVET Practice and Management

TVET systems provided valuable lessons for institutions to examine the successful practices and challenges across the region with the identified strategies – enhancing institutional management, leadership, human resource practices, and industry engagement (Chan & Hiep, 2021; Nguyen, 2018). Transformational Leadership provided a strong example of impact on the institutional effectiveness (Srisuwan, 2019). TVET system illustrated both opportunities and challenges by decentralized governance (Manasan, 2020). HRM Systems standardized the recruitment, professional development, and appraisal practices to improve staff motivation, teaching quality, and institutional performance. TVET institutions operated as open systems, such as curriculum design, faculty, HR, infrastructure, and student services (Bertalanffy, 1968). Applying systems theory allowed administrators and policymakers to adopt a holistic perspective. This perspective justified the integration of planning, leadership, and HRM strategies to enhance overall institutional performance.

Transformational leadership provided the human-centered mechanism for aligning subsystems with institutional goals – inspiring faculty engagement, fostering innovation, and improving institutional responsiveness (Bass & Riggio, 2006). Empirical evidence increasingly supported the importance of transformational leadership – driving curriculum modernization and industry alignment (Nguyen, 2018) and improving institutional responsiveness and innovation (Srisuwan, 2019). HRM practices served as the operational backbone of TVET institutions, ensuring that qualified staff were recruited, continuously developed, and effectively appraised (Armstrong & Taylor, 2020). Continuous professional development provided structured training to enhance teaching skills and adapt to evolving technical requirements. Faculty and administrators reported appraisals, limited training, and challenges in attracting specialized instructors (Chan & Hiep, 2021).

3. Methodology

This study adopted a mixed-methods case study design to examine the

management processes of Regional Polytechnic Institute Techo Sen Takeo in depth. Quantitative surveys and qualitative interviews/FGDs were combined to triangulate data and ensure reliability (Yin, 2018). Quantitative surveys was used to measure perceptions of management effectiveness, HRM practices, leadership impact, and student outcomes. However, qualitative interviews and FGDs were employed to explored administrators’ and faculty experiences in planning, leadership, and HRM implementation. Study population included administrators, faculty, students, and graduates. A total sample of 250 participants was used to ensure representativeness.

Category	Population (N)	Sample (n)	Sampling Method
Administrators	15	15	Purposive
Faculty	45	30	Purposive
Students/Graduates	400	205	Stratified random sampling

For data collection methods, this study employed primary and secondary data. Primary data included surveys (5-point Likert scale measuring perceptions of infrastructure, leadership, HRM, and student), semi-structured interviews (Conducted with 15 administrators), and focus group discussions (Four sessions with faculty and students). On the other hand, secondary data included institutional reports (strategic plans, HR records), MLVT policy documents, and previous research on Cambodian TVET and regional best practices.

This study analyzed quantitative and qualitative data to examine the mean, SD and percentage, SWOT, and correlation. Descriptive statistics analysis was employed to analyze Mean, SD, and Percentage. SWOT analysis also used for institutional strengths or weaknesses and opportunities or threats. In addition to this, correlation analysis tested relationships between leadership, HRM, and student outcomes. Thematic coding of interviews and FGDs were the analytical approaches for analyzing leadership, HRM, planning, and industry linkage themes. Triangulation ensured credibility.

By focusing ethical Considerations, it provided voluntary participation with informed consent. Confidentiality maintained and data anonymized. Greatly, Institutional approval obtained from the Polytechnic Institute.

4. Results and Findings

2.2 Strength and Weakness of TVET Management and Practice

Table 4.1 indicated the key elements of TVET management, addressing the industrial and technical skills, technology and service sector, multi-sector skills, and engineering/IT and applied science. TVET equipped individuals with practical skills for specific occupations, and its scope encompassed technical, industrial, and service-oriented sectors. This meant TVET

institutions can be conceptualized as multi-layered systems consisting of interconnected subsystems such as curriculum, faculty, human resources, infrastructure, student services, and administrative governance.

Table 4.1 Key elements of TVET Management Process

TVET Focus	Key Features	Relevance to Labor Market
Industrial & technical skills	Competency-based training Strong industry partnerships	High alignment with labor demand
Technology & service sectors	Transformational leadership Curriculum innovation	Improved institutional performance
Multi-sector skills	Decentralized governance HR challenges	Mixed employability outcomes
Engineering/IT Applied sciences	TVET reforms, HR capacity	Moderate alignment Gaps in industry linkages

Table 4.2 highlighted the best practice of the HR management in the TVET institution. HR management was prioritized with recruitment, professional development, and performance appraisal – strengthening alignment with industry needs. HRM deficiencies was crucial for enhancing institutional performance and aligning TVET with labor market demands.

Table 4.2 Best practices of HRM in the TVET institutions

HRM Practice	Best Practice	Importance
Recruitment	Merit-based selection, transparent hiring	Ensures qualified personnel fill critical teaching and administrative roles
Professional Development	Structured, continuous training programs	Enhances teaching quality, faculty motivation, and adaptation to new technologies
Performance Appraisal	Regular, transparent evaluations	Aligns staff performance with institutional objectives and incentivizes excellence

Recruitment partially adheres to merit principles; gaps exist in attracting qualified instructors for specialized programs. Faculty expressed need for structured continuous development programs to maintain teaching quality.

Appraisal processes are irregular and partially transparent, limiting staff motivation and accountability.

Table 4.3 Implications of HR practices for TVET Institution

HR Practice	Current Status	Implications
Recruitment	Partially merit-based	Difficulty attracting skilled instructors; gaps in specialized programs
Professional Development	Limited and ad hoc	Teaching quality and curriculum delivery are inconsistent
Performance Appraisal	Irregular and opaque	Staff motivation and accountability are reduced; institutional innovation is limited

Table 4.3 stated the implications of HR practice for the TVET institution. Transformational leadership facilitated innovative teaching, competency-based training, and continuous adaptation to industry trends. These practices offered lessons for Cambodian TVET institutions seeking stronger employer alignment. These approaches improved both student learning outcomes and institutional efficiency. However, the leadership style significantly influenced both organizational performance and graduate readiness for workforce. This experience underscored the importance of leadership systems for achieving sustainable TVET outcomes. HRM practices significantly influenced TVET performance. HRM through formalized recruitment, continuous professional development, and transparent appraisal systems can enhance institutional effectiveness, faculty engagement, and labor market alignment. Furthermore, HR practices were not isolated interventions but part of a holistic approach to improving institutional performance and student outcomes.

Table 4.4 SWOT analysis for Cambodian TVET Management

Category	Findings
Strengths	Modern infrastructure, government support, stakeholder trust
Weaknesses	Limited HR capacity, weak student support, inconsistent HRM
Opportunities	Policy support, labor market demand, international collaboration
Threats	Technological change, financial sustainability, regional competition

Table 4.4 highlighted the SWOT Analysis of TVET Management. Synthesis of empirical studies and institutional reports informed a SWOT analysis for

Cambodian TVET. SWOT framework highlighted institutional strengths, weaknesses, opportunities, and threats.

Table 4.5 Perceptions of Institutional Management

Domains	Mean Score (1–5)	Interpretation
Infrastructure	4.2	High satisfaction
Learning Environment	4.0	Positive
HR Capacity	3.2	Moderate concerns
Student Support Services	3.0	Needs improvement

Table 4.5 indicated the perceptions of institutional management. By managing TVET institution, it focused on domains, including infrastructure, learning environment, HR capacity, and student support services. With the correlation Analysis, leadership effectiveness correlated positively with student satisfaction ($r = 0.62, p < 0.01$). HRM practices correlated positively with graduate employment ($r = 0.56, p < 0.05$). These correlations indicated that leadership and HRM significantly influenced institutional performance.

5. Discussion

5.1 Effectiveness of HR Managing in TVET Institution

Leadership is effective for participatory decision-making and vision-driven leadership were appreciated. However, it is about the challenges, including limited staff capacity to implement strategic initiatives fully. With the HRM practices, faculty indicates the lack of structured professional development programs. Performance appraisal is irregular and partially transparent. Likely, industry linkages concern about the students who requested internships and industry projects to gain practical experience. Faculty further recommended formal agreements with local industries to improve employability.

SWOT analysis plays to address the strength, weakness, opportunities, and treat of managing the TVET institution. Strengths of TVET manages infrastructure, government support, stakeholder trust. Weaknesses also highlights the HR capacity, student support, and management inefficiencies. In addition to this, opportunities focus on the policy support, labor demand, and international partnerships. Threats is about technological change, financial sustainability, and regional competition. In brief, TVET management sheds a light of insight, such as management processes, effective leadership, and HRM practices that directly impact the TVET outcomes, aligning with systems theory and transformational leadership principles.

5.2 Alignment of TVET Systems and HR Management

Regional Polytechnic Institute Techo Sen Takeo operates as an open system, consistent with Bertalanffy's Systems Theory (1968). Subsystems, such as

curriculum, HR, infrastructure, and leadership interacted dynamically with external environment, including government policies, labor market demands, and industry partners. With the TVET management and practice, internal subsystem strengths concerned with the robust infrastructure, competent administrators, and supportive policies contributed positively to institutional performance. On the other hand, internal subsystem weakness highlights limited HR capacity, inconsistent faculty development, and weak student support services constrain the system's effectiveness. By aligning the TVET system and HR management, weakness in one subsystem can reduce overall institutional performance. In this study, HRM gaps and insufficient industry linkages are observed to directly affect graduate employability and student satisfaction.

5.3 Effects of Transformational Leadership on TVET Institution

Transformational leadership is emerged as a critical factor that influences the institutional performance. Administrator has a role to demonstrate the vision-driven and participatory leadership, consistent with Bass and Riggio's (2006) model, fostering stakeholder engagement and motivating faculty. In this case, curriculum development is important for leaders encourages the integration of industry-relevant skills. Faculty motivation, however, helps construct the participatory decision-making and recognition of achievements to improve staff engagement. Student services sheds a light with leadership initiatives that influence development of student support programs. Transformational leadership significantly enhances institutional innovation, program relevance, and graduate outcomes (Nguyen, 2018; Srisuwan, 2019) – reflecting similar patterns, though HR and industry integration remain areas for improvement and sustainability (Armstrong & Taylor, 2020).

Strengthening HRM through formalized recruitment, training, and appraisal systems is essential to align staff performance with institutional objectives. This aligns with practices observed in Vietnamese and Philippine TVET institutions, where HRM reforms improved teaching quality and graduate employability (Nguyen, 2018; Manasan, 2020). Government support through the National TVET Policy 2017–2025 provides resources and policy backing for institutional growth. Labor market demand for skilled technical workers encourages the curriculum alignment with the industry needs. International collaboration (e.g., donor-funded projects, ASEAN networks) offers the potential for capacity building. Rapid technological advancements require continuous curriculum updates and staff training. Financial sustainability remains uncertain due to reliance on the government funding. Regional competition from other ASEAN TVET institutes may challenge student enrollment and graduate placement.

4. Conclusion

The study confirmed relevance of systems theory, institutional subsystems interacted, and weaknesses in HR and student support that reduced overall performance. Transformation leadership is critical for vision implementation, stakeholder engagement, and institutional innovation. HR management, such as particularly merit-based recruitment, continuous professional development, and structured performance appraisal, was essential for sustainability and graduate employability. Strengthening leadership capacity provided training in transformational leadership, strategic planning, and participatory decision-making. Enhancing HRM Practices provided implementation of structured recruitment, professional development, and performance appraisal. Industry Linkages established the formal partnerships, internships, and apprenticeship programs with the local and regional industries. Student support services expanded Career counseling, soft-skills training, and mentoring programs. Promote Financial Sustainability: Explore alternative funding, including donor programs, tuition models, and income-generating projects.

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