APPLYING HUMAN CAPITAL THEORY TO EVALUATE TVET INSTITUTION PERFORMANCE THROUGH MODEL FIT ASSESSMENT

NAWI, F. A. M.[1*] – SHAFIE, D. I.[2] – BAISTAMAN, J.[3] – RAUB, N. A. A.[1]

[1] *Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia.*

[2] *Faculty of Business and Management, Universiti Teknologi MARA Penang Branch, Penang, Malaysia.*

[3] *Faculty of Business and Management, Universiti Teknologi MARA Kelantan Branch, Kelantan, Malaysia.*

**Corresponding author*
e-mail: farahiyahakmal[at]uitm.edu.my

(Received 18th March 2026; revised 26th June 2026; accepted 28th July 2026)

Abstract. Malaysia highlighted 17 Sustainable Development Goals (SDG) to track the performance of its nation. Goals 4 focusing on promoting equitable quality education and promote lifelong learning access including the contribution of TVET to this country. This study aims to develop a model assessment of the SEM SmartPLS application to evaluate the impact of technological infrastructure support on TVET instructors' human capital determinants. As one of the solution the Global Goodness-of-Fit (GoF) was applied to determine the level of model fit. A linear regression model's "goodness of fit" aims to address the potentially surprisingly complex question of how well a model fits a particular collection of data, or how well it will forecast a collection of observations in the future. Specifically, the application of GoF aimed to provide a single global statistic summarizing the fit of the PLS-SEM model. Instate of that, the Standardized Root Mean Square (SRMR) also was verified to test the fit measure. To demonstrate the process research was carried out among lecturers from 9 polytechnic campuses in the East Coast, Malaysia. A survey consisting of 63 items with 7 Likert scale was distributed to 1478 of TVET lecturers and 345 samples were successfully collected using the Stratified Sampling procedure. Next data were then analyzed using the Structural Equation Modelling (SEM) to test the hypotheses. The results confirmed the hypotheses in determining the direct and significant effect between the constructs. Malaysia Ministry believed that as they are essential to achieving the nation's educational goal, a sustained growth of this group is a critical area of concern. As a result, their professional profile must be consolidated alongside the educational environment. Importantly, this study provides a significant finding that aids the TVET institution in identifying the role that technology infrastructure support and HC factors play in combining their human resources.
Keywords: *SDG, Goodness-of-fit, TVET, model fit*

Introduction

The Sustainable Development Goals (SDGs) and Technical and Vocational Education and Training (TVET) in Malaysia are closely connected since TVET plays a key role in developing skilled workers, promoting inclusive economic growth, and supporting the country development. In an increasingly connected and globalized world, TVET has emerged as vital tools for skill development, career growth, and fostering connections between individuals, institutions, and nations. The education landscape is significantly evolving and expanding as an alternative to traditional education institutions in supporting the teaching and learning process by increasing access to quality higher education in Malaysia. Organizations must focus on strengthening the

factors that contribute to improved performance to sustain the quality of their human capital. According to the standard economic model, the accumulation of human capital is viewed as an investment decision, whereby individuals forgo a portion of their income during the period of education and training in exchange for higher future earnings. Human capital is a primary factor in development, driving increased output at the micro level and contributing to long-term economic growth. Investment in human capital is an essential expenditure that should be prioritized in every country, as it enhances the quality of human resources (Thinagar et.al, 2021). Ensuring the sustainability of human capital quality forces organizations to concentrate on enhancing every element that provides a positive outcome towards performance.

Since the job market is constantly changing and technology is developing at a quick pace, employees are generally expected to stay up to date with global economic trends. Equally significant, education has played a major role in Malaysia's rapid development. The Ministry of Higher Education is steadfastly committed to raising educational standards and advancing teachers' careers. For this reason, enhancing the previous framework, the government launched the Malaysia Education Blueprint 2015-2025 (Higher Education) to ensure that the education sector can meet present demands and sustain long-term quality. Therefore, by empowering TVET programs as part of the Malaysia Education Blueprint 2015-2025 (Higher Education), the government plays a major role in strengthening the education industry and developing technically capable human capital. TVET programs can also play a significant role in producing a skilled workforce with high employability for the future. The significance of Technical and Vocational Education (TVE) in advancing the nation's ambitions to become a developed nation is also acknowledged by the Ministry of Education (MOE). Future economic and social well-being could benefit from TVET curriculum development. By fostering the development of human capital, particularly for industrialization and economic development, TVET now functions as one of the most crucial contributors to sustainable development of the nation.

Overall, this study attempts to demonstrate the application of Global Goodness-of-Fit to recognize overall assessment of how well the modal fits the research data on assessing the adaption of human capital theories towards the TVET institutions performance. This study employs Global Goodness-of-Fit (GGoF) to test the model's fit with research data examining the adaptation of human capital theories to TVET institutional performance.

Literature review

The human capital theory

In general, human capital is a key determinant of organizational success and sustainability, as it significantly influences performance, competitiveness, and long-term viability. Organizations must ensure effective management and utilization of their human capital to maximize its value and support strategic goals. Human capital encompasses the collective knowledge, skills, abilities, experience, and talents of employees, which enable them to perform their roles effectively and contribute to the achievement of organizational objectives and directions. Together, the concept of human capital highlights the value that individuals contribute, which can be developed and leveraged to create value for an organization. Moreover, recent developments in Human Capital Theory emphasize that continuous learning, digital skill development,

and employee adaptability are essential for organizations to remain competitive in an environment characterized by rapid technological change and evolving business demands (Akyıldız, 2025). Finally, according to Becker (1964), organizations that invest in their employees through education, training, and skill development are better positioned to enhance productivity, encourage innovation, and achieve sustainable competitive advantage. These investments strengthen employees' knowledge, competencies, and motivation, enabling them to perform more effectively and contribute to organizational success. From the perspective of Human Capital Theory, employee development should be regarded as a strategic investment rather than an operational expense, as it generates long-term benefits for both individuals and organizations by improving performance, fostering growth, and creating lasting economic value.

Institutional performance

By focusing on institution performance, the Malcolm Baldrige measurement was implemented. The Excellence in Higher Education (EHE) model expands the Baldrige model to address the unique demands of higher education by taking into account the standards and vocabulary used in certifying (Ruben, 2007). To evaluate the effectiveness of TVET institutions, the Malcolm Baldrige Criteria for Performance Excellence are modified to focus on four key dimensions, namely Leadership, Business Process Management, Human Resource Development and Management, and Quality and Performance.

Technical and Vocational Education and Training Institutions (TVET)

Many experts and researchers agree that TVET is an integral component of lifelong learning, and that it has a crucial role in this new era as an effective tool to realize the objectives of an environmentally sound sustainable development. The primary job quality requirements for TVET lecturers must be grounded in the core professional tasks and the knowledge, abilities, and attitudes necessary to complete them. Teachers must therefore have a thorough understanding of occupational duties and how they fit into the labor and business processes of the economic or industrial sector to effectively instruct their students. Therefore, the government is seriously focusing on improving the quality of the TVET system which includes the human capital development activity, task assistance and job environment improvement as several initiatives towards the development of the country. However, the need for strengthening and transforming this program has become more crucial in recent years due to the increasingly dynamic and more challenging industrial environment, as the world begins to embrace the Fourth Industrial Revolution (IR4.0). The chalk-and-paper method is no longer appropriate in the traditional classroom; thus technology has now emerged as one of the key media supporting the quality of TVET education. Information technology can also improve a company's performance and that of its human resources. To conduct the learning session, TVET teachers must be able to use ICT tools like e-learning, video conferencing, social networking, and others. Therefore, in the digital age, TVET teachers' teaching abilities are always changing. Since proficiency in information and communications technology (ICT) is necessary to make the workforce employable and knowledge economy-adaptable, TVET teachers are expected to have a better understanding of the six components of teaching competency at the competent phase

since they have already gained enough teaching and learning experience from earlier training and job experience. As a result, some educators may have high expectations to increase their worth by taking part in academic projects, teaching competitions, and achievement reviews (Diao and Qu, 2024). Compared to general education, teaching in TVET responds to a wider range of instructional scenarios and demands for complete competency. Regarding TVET education, the creation and application of the ICT competency framework for instructors continue to pose challenges.

Human capital determinants

The term "human capital" generally refers to procedures by which TVET lecturers improve their own knowledge, skills, abilities, values, and social assets through education, training, and other professional initiatives. This will ultimately improve the employees' performance and level of satisfaction. To thrive in today's high-performance workplace, TVET professors need to arm themselves with strong capabilities. Cognitive ability, general knowledge, work expertise, and problem-solving skills are required for the task. Furthermore, Bucheli and González (2024) explained that the role of human capital investment in facing the effects on economics output. It shows how important human capital is as one of the development indicators. Importantly, education is an essential means through which development and progress are achieved (Lukhele and Laseinde, 2024). From an economic standpoint, capital is typically understood to represent assets that provide resources for a business. Das (2025) highlights that human capital development has emerged as a crucial factor for economic prosperity, significantly improving the skills of human resources and ensuring more formal employment opportunities from the economic perspective. Furthermore, breaking this cycle and enhancing the economic prospects of informal workers requires strengthening their skill sets. Better educated workers, such as those with university degrees or even those who have completed their secondary education, are less likely to work in the informal sector. Higher education facilitates employees' transfer from the informal to the official sector (Conover et al., 2022). Additionally, Song (2024) suggests that companies emphasize the quality of human capital to enhance their reputation, brand image, and provide a competitive advantage in the market.

Research framework

The proposed research framework is based on two primary theories: Human Capital Theory and the Malcolm Baldrige Quality Criteria. Human capital determinants, namely ability, education, experience, knowledge, skills, and training; serve as the independent constructs. The framework examines the direct effects of these determinants on TVET institutional performance. In addition, technology infrastructure support is introduced as a mediating variable to assess its influence on the relationship between human capital determinants and institutional performance. Finally, the framework evaluates the indirect effects of technology infrastructure support to determine its mediating role in enhancing TVET institutional performance (*Figure 1*).

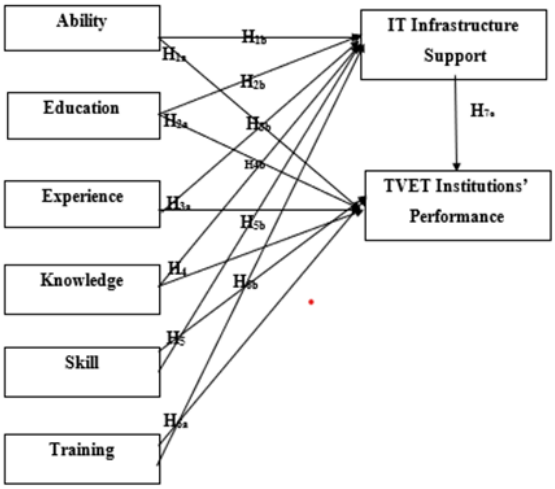

Figure 1. *The role of information technology infrastructure support on the influence of human capital determinants towards the technical and vocational education and training institutions.*

Global Goodness of Fit (GoF) of the model

The Goodness-of-Fit is defined as the square root of average R2 for the endogenous latent variables (reflective) multiplied by the average cross-validated communality, or the average variances extracted (AVE) values (Tenenhaus et al., 2005).

GoF = square root of: (average AVE) x (average R-squared)
GoF = √ R2 * Average Communality (AVE)

The GoF values must be at above 0.1, and depending on the size, values are separated into three categories of large (0.36), medium (0.25), and small (0.10) (Wetzels et al., 2009). It was determined that the overall endogenous variable's R2 average was 0.257, the average variance extracted was 0.614 and the square root of these two multiplied values was 0.397; thus, the model's overall Goodness-of-Fit was shown to exceed the cut-off value of 0.36 for a good model fit. Therefore, according to Wetzels et al. (2009), the outcome (0.397) illustrated that the model's GoF measure was large and adequate for global PLS model validity. Specifically, there are five Goodness-of-fit (GoF) criteria implemented in Smart-PLS:(i) Standardized Root Mean Square Residual (SRMR); (ii) Exact Model Fit Tests; (iii) Normed fit Index (NFI) or Bentler and Bonet Index; (iv) Chi2 and Degrees of Freedom; (v) RMS_theta. The fundamental concept of using the evaluation is to identify the presumption that the model will be helpful, even though it is nearly always certain that the model is incorrect for one or more reasons.

Materials and Methods

The collection of quantitative data was an integral part of this investigation. The researchers focused on two categories of data sources: primary and secondary. Primary data were obtained through a self-administered questionnaire distributed to the sample, while secondary data were gathered from relevant existing sources. As for this research, the researcher applied a technique in probability sampling which is the simple stratified

sampling. The advantage of this method is involved the division of TVET lecturer's population into smaller sub- groups called as strata. The stratification is formed according to the lecturer's characteristic such as job characteristic and the educational attainment. The east coast campuses were chosen as the study location because of the homogeneity of the TVET campuses, governed by the Department of Polytechnic Education and Community College Education, quality accreditation which applied to all campuses, and lecturer's job grade and qualification. An adapted survey consisting of 63 items with 7 Likert scale was distributed to 1,478 of TVET lecturers and 345 samples were successfully collected using the Stratified Sampling procedure. The data were then analyzed using the Structural Equation Modelling (SEM) approach on SmartPLS3 platform to test the hypotheses.

Construct validity

The cross-loading results demonstrate adequate discriminant validity across all constructs, as each indicator loaded more strongly on its respective construct than on any other construct. This indicates that the measurement items are distinct and accurately represent their intended constructs, with no evidence of problematic cross-loadings. Based on the result in *Table 1*, there are 4 items with low loading which are below than 0.5 that are excluded consisting of items C1, E3, E8 and J1. Therefore, new loading was generated manifest variables with outer loading 0.7 or higher are considered highly satisfactory (Henseler et.al, 2015).

Table 1. *Low loading items 1.*

Items	Loadings
C1	0.362
E3	0.480
E8	0.399
J1	0.083

Results and Discussion

Demographic profile

The research population consists of 1,478 lecturers from nine polytechnics in East Coast Malaysia, as recorded by the Department of Polytechnic Education and Community College Education Malaysia. To evaluate the research hypotheses, the analysis begins with an examination of the measurement model, focusing on internal consistency, reliability, convergent validity, and discriminant validity. Subsequently, the structural model is assessed to examine collinearity, path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), PLS predict, and the effect size of Q^2 (q^2) (*Table 2*).

Table 2. *Numbers of population.*

State	Campus	Sample (N)
Kelantan	Kota Bharu Polytechnic	480
	Jeli Polytechnic	40
Terengganu	Kuala Terengganu Polytechnic	88
	Sultan Mizan Polytechnic	268
	Besut Polytechnic	21
	Hulu Terengganu Polytechnic	43
Pahang	Sultan Hj Ahmad Shah Polytechnic	368
	Muadzam Shah Polytechnic	138
	Polytechnic of Metro Kuantan	32

	Total	1478

Respondent's demographic profile

Table 3 presents the frequency and percentage of the respondents' demographic profiles. A total of 345 lecturers from nine polytechnic campuses in East Coast Malaysia (Kelantan, Pahang, and Terengganu) participated in the study. The demographic information focused on variables such as campus, gender, age, race, marital status, and job grade.

***Table 3**. Respondent demographic profile (N=345).*

Profile	Frequency	%
Campus		
i. Kelantan - Kota Bharu Polytechnic	92	26.7
ii. Kelantan - Jeli Polytechnic	17	4.9
iii. Pahang -Sultan Haji Ahmad Shah Polytechnic	85	24.6
iv. Pahang - Polytechnic of Metro Kuantan	11	3.2
v. Pahang - Muadzam Shah Polytechnic	39	11.3
vi. Terengganu - Sultan Mizan Polytechnic	59	17.2
vii. Terengganu - Besut Polytechnic	7	2.0
viii. Terengganu - Hulu Terengganu Polytechnic	16	4.6
ix. Terengganu - Kuala Terengganu	19	5.5
Gender		
Male	123	35.7
Female	222	64.3
Age		
Below 30 years old	21	6.1
31-40	191	55.4
41-50	89	25.8
51-60	44	12.8

Constructing the measurement model

The PLS model was analyzed and interpreted in two stages. First, the measurement model (outer model) was assessed through confirmatory factor analysis (CFA) to evaluate convergent validity, discriminant validity, and reliability. Second, the structural model was examined to test the hypotheses and evaluate the coefficient of determination (R^2), effect size (f^2), and predictive relevance Q^2). Bootstrapping was then employed to confirm the significance of the hypotheses. Figure 4.8 illustrates the original measurement model, which consists of the independent constructs, mediating construct, and dependent construct. The PLS algorithm operates as a sequence of regressions based on weight vectors, where the weight vectors obtained at convergence satisfy fixed-point equations. The results indicate that the R^2 value for institutional performance is 0.478, while the R^2 value for technology infrastructure is 0.646 (F*igure 1*).

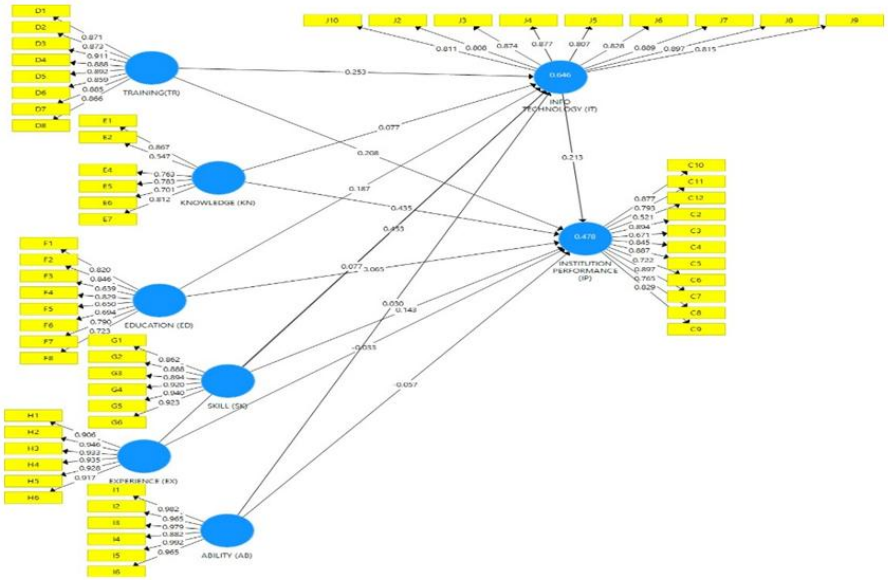

Figure 1. *PLS algorithm model.*
Note: (TR)-Training, (KN)-Knowledge, (ED)-Education, (SK)-Skill, (EX)-Experience, (AB)-Ability, (TS) Technology Support, (IP)-Institution Performance)

The assessment of convergent validity

At this stage, convergent validity was assessed using the Average Variance Extracted (AVE). An AVE value greater than 0.5 indicates acceptable convergent validity. Similarly, composite reliability (CR) values of 0.7 or higher are considered acceptable, and factor loadings should also exceed 0.7 (Hair et al., 2022). All the loadings which exceed the recommended value of 0.708 (Hair et al., 2022) are retained. In addition, all 7 constructs meet the threshold values/minimum cut-off values for CR and AVE, where all CRs are greater than 0.7 and all AVEs are greater than 0.5 (*Table 4*).

Table 4*. Convergent validity.*

Construct	Cronbach Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Ability (AB)	0.985	0.987	0.925
Education (ED)	0.901	0.912	0.567
Experience (EX)	0.968	0.974	0.861
IT Support (IT)	0.950	0.958	0.715
Institution Performance (IP)	0.941	0.950	0.638
Knowledge (KN)	0.844	0.885	0.566
Skill (SK)	0.955	0.964	0.818
Training (TR)	0.959	0.965	0.776

Assessment of Goodness-of-Fit (GoF)

Table 5 demonstrated the value of model fit summary. A good match is defined as having an SRMR value of less than 0.10 or 0.008. The model fits the saturated model well, and it also meets the estimated model's result with the SRMR value of 0.069. According to Henseler et al. (2015), SRMR is evaluated as a goodness of fit in order to prevent model misspecification. The NFI results in values between 0 and 1, and the closer the NFI to 1, the better the fit. NFI values above 0.9 usually represent an acceptable fit. The NFI result (saturated=0.700 & estimated=0.700) suggests that it does

not achieve the criterion suggested by Byrne (2008), where the NFI values above 0.90 are considered acceptable. The data are still acceptable even though the NFI does not meet the usual requirement. This is because the value has been impacted by the reflective and formative models (mixed model characteristic) used in this study. According to Byrne (2008), an NFI value greater than 0.9 is only relevant in the case of a reflective model or effect indicator. To determine the extent of correlation between the outer model residuals, Lohmoller (1989) defined the RMS_theta as the root mean squared residual covariance matrix of the outer model residual. Since it explains that the correlations between the outer model residuals are very minor and are very close to the zero value, the measure should be around zero to indicate a successful model fit. According to preliminary simulation results, RMS_theta should have a (conservative) cutoff value of 0.130. Accordingly, a model that fits well is indicated by an RMS-theta value less than 0.112, whereas a model that does not fit is indicated by a value more than 0.112 (Henseler et al., 2015). The RMS_theta value of 0.10 to 0.17, according to Henseler et al. (2015), produces the desired outcome. Thus, 0.132 met the recommended threshold (*Table 6*).

***Table 5**. Model fit summary.*

Goodness-of-fit (GoF)	Saturated Model	Estimated Model
SRMR	0.069	0.069
d_ULS	8.691	8.691
d_G	6.367	6.367
Chi-Square	8436.364	8436.364
NFI	0.700	0.700

***Table 6**. The RMS_theta.*

Category	Frequency
RMS_theta	0.130

Discriminant validity result: Fornell-Larcker and Heterotrait-Monotrait Ratio (HTMT)

The outcome shows that all the notions have discriminant validity. The values of the inter-construct on the same columns and rows are lower than the square roots of AVEs on the diagonal (bolded value > not bolded value). The results demonstrate that the square root of AVEs is always larger than the off-diagonal elements in the corresponding row and column, thereby meeting the Fornell-Larcker requirement for discriminant validity. The outcome shows that all of the notions have discriminant validity. The values of the inter-construct on the same columns and rows are lower than the squared roots of AVEs on the diagonal (bolded value > not bolded value). The results demonstrate that the square root of AVEs is always larger than the off-diagonal elements in the corresponding row and column, thereby meeting the Fornell-Larcker requirement for discriminant validity. Henseler et al. (2015) state that a PLS model's discriminant validity can be determined using the Heterotrait-Monotrait (HTMT) ratio (*Table 7*).

***Table 7**. Discriminant validity using Fornell-Larcker Criterion (n=345).*

Items	AB	ED	EX	IT	IP	KN	SK	TR
AB	0.962							
ED	0.019	0.753						
EX	0.080	0.199	0.928					
IT	0.079	0.452	0.500	0.846				
IP	-0.013	0.167	0.287	0.499	0.799			
KN	0.039	0.065	0.131	0.216	0.524	0.752		

SK	0.067	0.371	0.581	0.749	0.468	0.176	0.905	
TR	0.025	0.300	0.438	0.651	0.467	0.142	0.655	0.881

Notes: Diagonals represent (bolded) the square root of the AVE while off-diagonal represent the correlations.

Assessment of collinearity

Next, *Table 8* shows the inner VIF values for all research constructs. The values range from 1.009 to 2.878

***Table 8**. Assessing the Inner Variance Inflating Factor (VIF) values.*

AB	AB	ED	EX	IT	IP	KN	SK	TR
ED				1.009	1.011			
EX				1.168	1.267			
IT				1.529	1.546			
IP				-	2.825			
KN				-	-			
SK				1.035	1.052			
TR				2.297	2.878			
AB				1.783	1.964			

Conclusion

The traditional Goodness-of-Fit (GoF) index introduced by Tenenhaus et al. (2005) is no longer considered an appropriate measure for evaluating PLS-SEM models, as recent studies have shown that it cannot effectively differentiate between valid and invalid models (Schuberth et al., 2023; Hair et al., 2022). Scholars recommended that, to evaluate the model, researchers should consider evaluating the SRMR, d_ULS, d_G, RMS-theta and predictive power (R2 , Q2 , and PLSpredict). Therefore, this study evaluates the overall model fit using the Standardized Root Mean Square Residual (SRMR), alongside predictive measures such as R^2 and Q^2. This approach aligns with current PLS-SEM recommendations and provides a more reliable assessment of the model's explanatory and predictive capabilities. Between 2000 and 2025, the scholarly and policy communities came to agree that investments in human capital, particularly those that enhance learning and health at an early age, are essential to long-term growth. TVET education program demands that lecturers be competitive in facing the 21st century learning delivery approaches such as ‘immersive centered learning’, requiring TVET institutions to expand access to knowledge and skills enhancement through teaching quality enhancement.

Acknowledgement

This research is self-funded.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

REFERENCES

[1] Akyıldız, İ.E. (2025): Human capital approach: Historical development and modern approaches. – Sosyal Bilimler Metinleri 19p.
[2] Becker, G.S. (1964): Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. – University of Chicago Press, Chicago 187p.
[3] Byrne, B.M. (2008): Structural Equation Modeling with EQS: Basic Concepts, Applications, and Programming. – Routledge, New York 440p.
[4] Bucheli, M., González, C. (2024): Investment in human capital by socioeconomic status in Uruguay. – The Journal of the Economics of Ageing 27: 11p.
[5] Conover, E., Khamis, M., Pearlman, S. (2022): Job quality and labour market transitions: Evidence from Mexican informal and formal workers. – The Journal of Development Studies 58(7): 1332-1348.
[6] Das, P. (2025): Unlocking potentials: The impact of human capital investment in youth informal employment in emerging markets and developing economies. – International Journal of Educational Development 116: 12p.
[7] Diao, J., Qu, Y. (2024): Teaching competence of TVET teachers in the digital age: Implementation and evaluation of a training program in China. – Evaluation and Program Planning 103: 10p.
[8] Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M. (2022): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). – SAGE Publications, Thousand Oaks, California 384p.
[9] Henseler, J., Ringle, C.M., Sarstedt, M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. – Journal of the Academy of Marketing Science 43(1): 115-135.
[10] Lukhele, B.N., Laseinde, O.T. (2024): Exploring mechanical engineering equipment at TVET colleges in South Africa, towards integrating virtual and cyber-physical learning. – Procedia Computer Science 232: 2690-2700.
[11] Lohmöller, J.-B. (1989): Latent Variable Path Modeling with Partial Least Squares. – Physica-Verlag, Heidelberg 286p.
[12] Schuberth, F., Rademaker, M.E., Henseler, J. (2023): Assessing the overall fit of composite models estimated by partial least squares path modeling. – European Journal of Marketing 57(6): 1678-1702.
[13] Song, J. (2024): Corporate ESG performance and human capital investment efficiency. – Finance Research Letters 9p.
[14] Tenenhaus, M., Vinzi, V.E., Chatelin, Y.-M., Lauro, C. (2005): PLS path modeling. – Computational Statistics & Data Analysis 48(1): 159-205.
[15] Ruben, B.D. (2007): Excellence in Higher Education Guide: An Integrated Approach to Assessment, Planning, and Improvement in Colleges and Universities. – National Association of College and University Business Officers, Washington, D.C. 102p.
[16] Thinagar, S., Ismail, M.K., Vy, L.A., Haron, A.A. (2021): Human capital investment and economic growth: A study on ASEAN countries. – International Journal of Academic Research in Business and Social Sciences 11(18): 12-24.
[17] Wetzels, M., Odekerken-Schröder, G., Van Oppen, C. (2009): Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. – MIS Quarterly 33(1): 177-195.