

Factors Affecting Operational Quality of District-Level Vocational Training and Continuing Education Institutions in Vietnam

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Abstract: - The research aims to identify factors affecting the operational quality of district-level vocational training and continuing education (VTCE) institutions in Vietnam. The project involved 196 participants including managers, teachers, and staff from 62 VTCE institutions at district levels in Vietnam. In the research, the author adopted exploratory factor analysis (EFA), confirmatory factor analysis, and linear regression analysis to identify the factors. Findings from quantitative analysis show that the operational quality of district-level VTCE institutions in Vietnam is influenced by State policies, which have the biggest impact with $\beta=0.269$, followed by societal perception towards the institutions ($\beta=0.202$), facility ($\beta=0.164$), entrance qualification ($\beta=0.123$) and management and teaching staff's competence ($\beta=0.102$). Based on such findings, the authors recommend that the State offers proper policies (regarding finance, staffing mechanism, etc.) and create a favorable ecosystem boosting strong and sustainable development for district-level VTCE institutions, contributing to the overall success of education and training in Vietnam. The institutions themselves need to improve their training quality and promote professional development for the management and teaching staff, allowing for their increased operational quality.

Key-Words: - operational quality, district-level training, vocational training, continuing education, state policy, career orientation, technical training.

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1 Introduction

The first continuing education institutions in Vietnam were established in the 90s with the view to extending the functionality and responsibilities of Complementary education institutions. The number of continuing education centers at the district level quickly increased nationwide, offering a second chance for workers and youngsters who were unable to enroll in full-time training institutions to continue their study for qualifications and certifications of the national education system, or at least for knowledge and skill improvements. Owing to the continuing education system, everyone can enjoy the opportunity of life-long learning, [1].

In recent years, amid the lack of vocational training centers in certain districts, short-term vocational training for workers in these areas has been assigned to continuing education centers and/or centers of general technical-career orientation – vocational training. In the changing socio-economic world, to satisfy the increasing needs for lifelong

learning and vocational training of the public in general and workers in particular, new vocational training institutions should be established, at the same time the capabilities of the continuing education centers, vocational training centers and general technical – career orientation – vocational training centers should be enhanced. Such current situation urged the Government to issue the Joint circular 39/2015/TTLT-BLDTBXH-BGDDT-BNV involving the Ministry of Labor, Invalids and Social Affairs, the Ministry of Education and Training and the Ministry of Home Affairs to merge these centers into VTCE centers, [2].

In the 2019 Law on Education approved by the National Assembly on June 14, 2019, a separate article specifying the Policy of Continuing Education has been established for the first time, which states that: “The State has an investment policy for continuing education development, offering education for everyone, facilitating adults’ learning and constructing a learning society; it encourages

organizations and individuals to be engaged in and offer quality continue education services, satisfying learners' lifelong learning needs", [3]. Continuing education system is of great significance in study community formation, [4].

2 Theoretical Frameworks

2.1 Previous Studies on Vocational Training and Continuing Education

In [5], the author pointed out two factors affecting a school's operational quality: (1) school culture and (2) work motivation which have significant impacts on the operational quality (t value = 0.00 and 0.000 respectively).

[6], involving 277 reports of the vocational students (aged 15) from three vocational schools in Bangkok, Thailand explored variables affecting learners' loyalty in vocational training. The variables include self-adjustment policy, school engagement, learners' autonomy, right to evaluate schools, and teachers' autonomy, all of which greatly influence the learners' decisions of learning.

The need for a skillful labor force is increasing in the Asian Economic Community; therefore, the Government is likely to require more skillful workers as a way to meet the needs in various fields with a special focus on education aiming to equip learners with necessary life skills in potential fields. The use of the Delphi method has proved that vocational training development is subject to a wide range of factors, assisting the unlocking of regional potentials, [7].

According to [8], vocational training highlights the acquisition of skills. Assuring vocational training quality means ensuring high performance in vocational training activities such as teaching, learning, facility, learners' behaviors, and the whole study process. Vocational training quality involves the curriculum input and output and compliance with standards to achieve certain goals. Similar to quality assurance and its values in tertiary education, the operational indices of vocational training should also get equal attention because good quality is essential in learners' overall development, ensuring proper growth, job outlook, and realization of the learning goals and objectives. However, in fact, there are several factors hindering vocational training quality assurance in universities at present.

[9], points out that the government's current policy for upper secondary schools aims at diversification to include vocational and technical training in the curricula to improve skills for students at different levels. The paper also investigates the policy impacts with consideration of certain factors affecting the government's policy implementation in private schools. With the participation of 50 students, 50 teachers and 50 principals randomly chosen from five private high schools in Edo State, the research adopted interviews, observation, and questionnaires to assess how such policy was deployed in the field of vocational and technical training there.

According to [10], in Germany, there are adult education centers – a type of non-profit organization that was initially established spontaneously by residents. These centers serve similar functionality to district-level VTCE centers in Vietnam and are an open system with diverse contents for any community in Germany. Available almost anywhere with independent and flexible operation, they not only provide basic courses for the people in general but also offer special courses for unique individuals in the society, [10].

In [11], the author investigates the unofficial education model for illiteracy eradication in South Korea which is not covered in the official education system. To be more specific, the model aims to eradicate illiteracy for special individuals and provide short-term courses for many others. The research findings show that the operational quality can be assessed through the performance of illiteracy eradication and unofficial course organization (i.e., vocational training, short-term courses, customized courses, etc.).

2.2 Concepts of Entrance Qualification

According to [12], the admission threshold (or admission floor score) is only a prerequisite for candidates to submit an application for admission. After they have finished adjusting their choices of admission, the universities will assess their scores from high to low as the basis for admission of candidates. Depending on the number of candidates registering for admission to each major, the admission cutoff score for each major may be equal to or higher than the floor score. The entrance qualification baseline refers to the minimum standards used as the basis for higher education admission, which means institutions cannot admit those who do not reach the baseline. The entrance

baseline (or entrance qualification baseline) is considered the minimum requirements regarding candidates' learning capabilities which are reflected through their study outcomes and exam scores so that higher education institutions can assess whether they can follow and accomplish the institutions' curricula.

The above concept is in line with the goals and characteristics of this particular paper; hence, the authors decided to adopt this concept in the project.

2.3 Concepts of Operational Quality

In [5], the author proposes a concept of school operational quality. To be more specific, this quality is reflected through different indices: teachers' work motivation and teaching outcomes, learners' study results and satisfaction, and the school's contribution to the community (economically, in terms of information provision or culture formation).

According to [7], the factors affecting school operational quality include distance (between home and school), population, the number of students, traffic network, public transportation, land prices, natural disasters, natural resources production, societal engagement, governmental commitment (i.e., in policy development), and the school's human resources in management.

In [9], the author explores that the shortage of experienced and competent vocational teachers has negative impacts on school operational quality, not to mention other factors such as poor facility, insufficient equipment, materials, and books. Besides, schools also do not receive full financial assistance. The findings show that the Government has not had proper preparation before the issuance of the direction on vocational training deployment in schools. Several recommendations have been made to aid the Government in raising public awareness of the importance of vocational and technical training which is inevitable in the country's technological and economic growth.

Considering the aforementioned previous studies, the authors of this research have agreed on the criteria to assess school operational quality, which act as the basis for identifying the dependent variables of operational quality as follows:

(1) the Teacher's work motivation and teaching outcomes, the student's study results and satisfaction, and the school's contribution to the community, [5]

- (2) Societal engagement, the government's commitment to improving school operational quality [7]
- (3) Shortage of experienced and competent teachers, poor facilities, and insufficient equipment, materials, and books negatively influence school operational quality, [9].

2.4 Research Gap

Reviewing previous studies and established theoretical frameworks regarding VTCE, the authors realize that there have already been papers focusing on the theoretical background or current situation of VTCE center operations, which have only introduced and shared information without comprehensive analysis with big data. This has resulted in a remarkable research gap: the need to identify factors affecting district-level VTCE centers' performance, which is also the focus of this particular paper.

3 Research Model, Methodology and Sample

The research investigates the factors affecting district-level VTCE centers' performance based on scientific proofs, which can be utilized as a useful reference for the state's policy-making and enforcement to create an ecosystem facilitating VTCE centers' growth and provide them with a wide range of practices to enhance their performance.

3.1 Research Model

Learning from the previous studies, the authors came up with a research model which is illustrated in Figure 1.

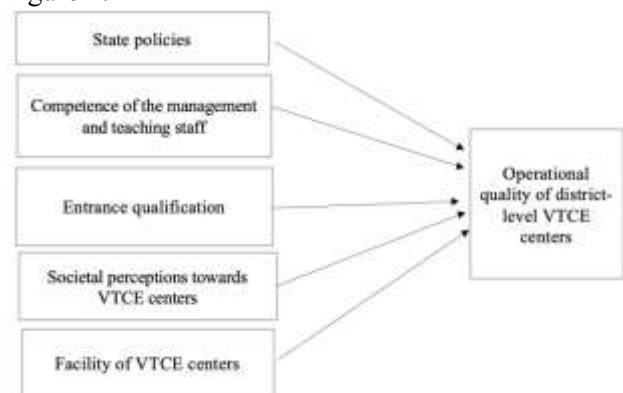


Fig. 1: Research model
Source: Authors' recommendation

The model can be explained as follows:

(1) State policies (Variable code: CSNN): According to [7] and [11], State policies for VTCE centers refer to a system of State's regulations for their operation and development including legal status, policy on investment, provision, budget allocation, staffing policy, and facility, etc., which are specified in the form of a system of State's legal documents. According to [13], VTCE centers refer to district-level public non-business organizations which are legal entities with separate stamps and accounts.

(2) Management and teaching staff's competence (Variable code: NLDN): According to [8] and [14], management and teaching staff's competence is reflected in their work outcomes with regard to their positions in VTCE centers, which have been specified in detail in the Ministry of Education and Training's regulations on organization and operation of VTCE centers.

(3) Entrance qualification (Variable code: CLTSDV): In [15] the author claims that entrance qualification refers to the admission cutoff score which distinguishes those admitted to VTCE centers from those who are not. Compliant with the regulations on the organization and operation of VTCE centers, candidates must submit their national high school exam scorecards as the base for admission consideration.

(4) Societal perception towards VTCE centers (Variable code: QNNTXH): According to [1], the societal perception towards VTCE centers represents the evaluation of the stakeholders (including students, parents, partners, etc.) of the centers in terms of their position, role, functions, duties, prestige, brand, etc. Considering such factors, the learners and their parents decide on which center to enroll.

(5) Facility (Variable code: CSVN): In [7], the facility of VTCE centers include all state assets (i.e., land, buildings, classrooms, equipment, etc.) granted to VTCE centers and managed, used and operated by the centers to carry out their assigned duties specified in the regulations on organization and operation of VTCE centers. The facility has been shown to contribute to VTCE centers' operational quality.

Dependent variable: District-level centers' operational quality, as in [1], [2], [5], [6], [7], [8], [10], [11], and [13], is determined using the following factors:

(1) Direct training results of the labor force in production, business, and services at the primary level, in under-3-month vocational training, on-job training, internship, skill improvement for workers in corporations, professional skill fostering for workers, vocational training for workers in rural areas and implementation of supporting policies for primary and under-3-month training.

(2) Continuing education results in such programs as illiteracy eradication, continuing education at lower and upper secondary schools, education curricula tailored to learners' needs, knowledge and skill updates, technological transfer, professional development, and education programs for degrees in the national education system.

(3) Program, coursebook, and learning material development and deployment results in the primary level, in under-3-month training for allowed careers, training programs, professional development, knowledge and skill update, and technological transfer.

(4) Admission planning and organization results

(5) Staff management results of the center, complying with the regulations

(6) Production and training-aid technical services implementation results

(7) Results of applying scientific research findings in the fields of vocational training, continuing education, and career orientation, adopting and transferring new technologies to support the local socio-economic growth.

(8) Results of teaching and learning activity organization, testing and certification granting

(9) Results of career-related consultation for learners, cooperation with secondary schools to provide information and streamline learners

(10) Results of cooperation with corporations, organizations, learners, and their families in vocation training, continuing education and career orientation, organization of internship and field trips in corporations

(11) Results of practicing democracy and openness in the implementation of vocational training, continuing education, and career orientation duties

(12) Results of the management and use of land, facility, equipment, and budget, complying with the regulations

(13) Results of the facilitation and organization of training for the center staff for professional development

(14) Results of periodic and urgent reports as required

In short, there are 14 observed variables.

3.2 Research Methodology

In this particular paper, the authors adopted the following research methods: (1) exploratory factor analysis to identify factors contributing to the operational quality of district-level VTCE centers, (2) confirmatory factor analysis and Delphi method to confirm the factors of operational quality of district-level VTCE centers, variables in each factor and the linear regression equation to determine the impact weight of each factor: State policies, management and teaching staff's competence, entrance qualification and the societal perception towards VTCE centers. Moreover, the researchers also used testing methods to confirm the acceptance or rejection of the research hypotheses.

3.3 Research Sample

To collect the necessary data, the authors administered 214 questionnaires in which there were 196 valid responses (accounting for 91.58%) from the State administrative staff (including those in the Ministry and local Departments of Education and Training), managing and teaching staff of VTCE centers across Vietnam. The data was then analyzed using SPSS 2022 software.

The details of the sample are as follows:

In terms of gender, there were more female participants than their male counterparts. To be more specific, there were 92 male participants (46.94%) and 104 female ones (53.06%) out of 196 valid responses.

In terms of the participants' job positions, the majority of the participants were the managing staff and leaders in VTCE centers. To be more specific, there were 48 State managers (including those in the district-level units and departments) (24.49%), and 148 managing and teaching staff in VTCE centers (75.51%).

In terms of the participants' academic degrees, the majority of the participants held master's degrees (115/196 or 58.67%). The number of doctoral and bachelor participants respectively three and 78 (equivalent to 1.53% and 39.79%).

4 Research Findings and Discussion

4.1 Scale Testing with Confidence Coefficient and Exploratory Factor Analysis (EFA)

The analysis results show that all scales in the research model proposed by the authors have Cronbach's Alpha value > 0.6 and corrected item-total correlation value > 0.3 , meaning they meet the standards, ensure reliability, and can be used for the next stage of EFA. The Cronbach's Alpha analysis results are illustrated in Table 1 (Appendix).

The EFA results are explained in five groups with $KMO = 0.835 > 0.5$, $Sig. = 0.000 < 0.05$, and total variance explained = $59.245\% > 50\%$. The analysis results of dependent variables are explained in one group with $KMO = 0.788 > 0.5$, $Sig. = 0.000 < 0.05$, and total variance explained = $65.318\% > 50\%$ for the analysis of appropriate factors. Generally, the EFA results of the independent and dependent variables show that all factors meet the requirements. The results are presented in Table 2 (Appendix).

The EFA results are in line with those found in [4], [5], [6], [16].

4.2 Confirmatory Factor Analysis (CFA)

CFA testing results for each concept in the scales reveal that all chi-square tests have $P\text{-value} > 5\%$, $CMIN/df \leq 2$, $GFI > 0.8$, TLI and $CFI \geq 0.9$. The fit test shows that the model has 723 degrees of freedom with the chi-square = 1218.245, $P\text{-Value} = 0.000$, and $chi\text{-square}/df = 1.861 < 2$, which means the model fits the collected data ($GFI = 0.834$, $CFI = 0.901$, $TLI = 0.916$, and $RMSEA = 0.033$). Additionally, the observed variables all weigh within the allowed range (≥ 0.5) and are statistically significant with $P\text{ value} = 0.000$.

In general, the CFA results indicate that all concepts are unidirectional, ensuring reliability, convergent validity, and discriminant validity, which means the research model fits the collected data and does not need adjusting. This means factors represented by independent variables all support the enhancement of VTCE centers' performance. The items and indicators are covered in the observed variables as proposed in the research model and theoretical framework. Therefore, the factors of independent variables are reliably identified and easy to distinguish from one another. This is in line with the findings in [16].

4.3 Research Hypothesis Testing and Regression Analysis

The research model standardization shows the chi-square = 14692.230 with P-Value = 0.000, chi-square/df = 1.954 < 2, which meets the standards, meaning the model fits the market data (GFI= 817, CFI = 908, TLI = 935, and RMSEA = 0.048) and research data. The hypotheses in the research model are officially statistically significant with the highest p-value < 0.05, indicating its significance (at a reliability of 95%). In other words, the hypotheses in the research are officially accepted. Among the five factors of the independent variables, State policies have the biggest impact on the center's operational quality ($\beta = 0.269$). This implies that the investment strategies and policies for VTCE centers need further development and deployment in an effective way. These findings are in line with those in [4], [5], and [6]. The detailed results are illustrated in Table 3 (Appendix).

5 Conclusion, Implications and Directions for Future Research

5.1 Conclusion

Regarding the above analysis and discussion, the authors would like to highlight certain novel points in this paper.

This paper can be considered the first official research on factors affecting district-level VTCE centers' performance in Vietnam. In the research, the authors also designed and administered the first version of questionnaires exploring the district-level VTCE centers' performance in Vietnam.

Furthermore, the research has pointed out the factors affecting the district-level VTCE centers' performance in Vietnam, including state policies, social perceptions of VTCE centers, facilities, entrance... The paper has also marked the first use of EFA, CFA, and regression analysis for quantitative analysis of the above factors, which can hardly be witnessed in the legacy works.

Last but not least, based on its findings, the research has also given recommendations with high persuasiveness. Firstly, the State should issue proper policies (on financing, staffing, mechanism, etc.) to create a favorable ecosystem for strong and sustainable development of district-level VTCE centers in Vietnam, contributing to the overall

education and training development in Vietnam. Besides, the centers need to focus on professional development for their management and teaching staff to enhance the staff's competence and their performance.

The research has pointed out five factors affecting the operational quality of district-level VTCE centers (similar to [2]) including State policies ($\beta = 0.269$), followed by societal perceptions towards the centers ($\beta = 0.202$), facility ($\beta = 0.164$), entrance qualification ($\beta = 0.123$), and the competence of the managing and teaching staff ($\beta = 0.102$). Among these five factors, State policies have the biggest impact on district-level VTCE centers' operational quality ($\beta = 0.269$).

5.2 Implications and Directions for Future Research

Since the Joint circular no. 39/2015/TTLT-BLDTBXH-BGDDT-BNV of the Ministry of Labor, Invalids and Social Affairs, Ministry of Education and Training and Ministry of Home Affairs guiding merger of public district-level vocational training centers, continuing education centers and general technical-career orientation centers, there has hardly been any studies fully and comprehensively investigating and assessing the operational quality of district-level VTCE centers, as well as any studies exploring factors affecting this matter. Therefore, it is essential to survey and assess the operational quality of the district-level VTCE centers as a part of the State management and macro policy planning.

However, this particular paper has only involved a modest sample and can hardly represent all district-level VTCE centers across Vietnam. Hence, there should be more studies conducted in a more extensive way and on a bigger scale regarding these centers.

Though the paper has investigated a novel aspect regarding district-level VTCE centers' performance, there is still room for further research: (1) there should be studies on district-level VTCE centers' performance using TQM, (2) further works can focus on the evaluation and analysis of state's policies on district-level VTCE centers' performance, as well as of district-level VTCE centers' performance.

More importantly, the methodology adopted in the paper can be utilized in research projects in countries other than Vietnam that also have VTCE centers such as India, Indonesia, or Thailand. The similarities among the centers are the basis for

valuable comparison and contrast, providing insights into VTCE centers' operations.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Nguyen Minh Tuan raised the ideas of the research, developed the research model and was in charge of managing and supervising the project. He was also involved in review and editing of the published work.
- Mai Van Trinh wrote the original draft of the literature review.
- Nguyen Duy Long and Ho Huyen Trang worked on the methodology, administered the questionnaires, collected the primary and secondary data, and carried out the quantitative analysis using SPSS.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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APPENDIX

Table 1. Cronbach's Alpha values of all scales

Factors	Code	Number of variables	Cronbach's alpha	Factor loading	Mean
State policies	CSNN1-5	5	0.745	0.622-0.827	3.12
Managing and teaching staff's competence	NLDN1-6	6	0.698	0.639-0.810	3.39
Entrance qualification	CLTSDV1-4	4	0.910	0.667-0.729	3.44
Societal perception towards VTCE centers	QNNTXH1-3	3	0.812	0.579-0.799	3.65
Operational quality of district-level VTCE centers	CLHD1-14	14	0.782	0.615-0.823	3.22

Source: SPSS ver. 2022

Table 2. Exploratory factor analysis results of the independent and dependent variables

Independent variables	KMO	Sig.	Variance explained	Factor loading
State policies	0.835	0.000	59.245	
Managing and teaching staff's competence				0.711-0.802
Entrance qualification				0.698-0.814
Societal perception towards VTCE centers				0.705-0.859
Dependent variable	KMO	Sig.	Variance explained	Factor loading
Operational quality of district-level VTCE centers	0.788	0.000	65.318	0.722-0.819

Source: SPSS ver. 2022

Table 3. Hypothesis testing and regression coefficient of the research model

Hypotheses	Coefficient	Standardized coefficient	S.E.	C.R.	P	Conclusion
State policies are proportional to district-level VTCE centers' operational quality	0.269	0.142	0.0461	17.088	0.000	Accepted
The competence of the managing and teaching staff in district-level VTCE centers is proportional to their operational quality	0.102	0.145	0.0438	17.511	0.000	Accepted
High entrance qualification is proportional to district-level VTCE centers' operational quality	0.123	0.127	0.0412	17.631	0.000	Accepted
Societal innovative and positive perceptions towards district-level VTCE centers are proportional to their operational quality	0.202	1.198	0.0399	17.672	0.000	Accepted
Adequate and modern facilities are proportional to district-level VTCE centers' operational quality	0.164	0.133	0.0488	17.667	0.000	Accepted

Source: SPSS ver. 2022