

Structural Equation Modeling of the Administrative Effectiveness of Private Vocational Institutions in the Southern Cluster

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ABSTRACT: The objectives of this research were 1) to study the factors affecting the administration effectiveness of the private vocational institutions in the southern cluster area; 2) to analyze the structural equation model (SEM) of the factors affecting the administration effectiveness of the private vocational institutions in the southern cluster area. Mixed method design was applied to the study. The research methods divided into two phases: Phase 1 was an in-depth interview and questionnaire. The researchers had in-depth interviewed the six experts in the field, then analyzed the factors by confirmatory factor analysis (CFA) with a sample group of 278 administrators who work in the private vocational education institutions in the southern cluster, academic year 2018, obtained by stratified random sampling, classified by school. Phase 2 the researchers had applied the questionnaire method with the validity score of .98 and the confidence value of the school administration effectiveness component was between .975 - .988 to the same sample group, then analyze the structural equation model (SEM) with a package software. The results revealed that:

1. There were five factors that affect the administration effectiveness of the private vocational institutions in the southern cluster area as follows: leadership of the administrators, organizational culture, institutional climate, organizational commitment, and informational technology.

2. The structural equation model (SEM) of the factors that affect the administration effectiveness of the private vocational institutions in the southern cluster area was consistent with empirical data with the Chi-square/df of 1.94, Goodness of fit Index (GFI) of .96, Adjust Goodness of fit Index (AGFI) of .95, Root Mean Squared Error of Approximation (RMSEA) of .038, Standard Root Mean Squared Residual (SRMR) of .041, and Comparative Fit Index(CFI) of .99. The findings indicated that the leadership of the administrators, institutional climate, organizational commitment, Information technology and organizational culture are components affecting the administration effectiveness of private vocational in the southern cluster, with all variables in the model influencing the effectiveness of administration of private vocational in the southern cluster by 86 percent.

Keywords: Administrative Effectiveness, Private Vocational Institutions in the Southern Cluster, Structural Equation Modeling

I. Introduction

Vocational education is an education that aims to provide learners with theoretical knowledge along with practice that correspond to the description of the vocation of each field of study and apply the knowledge to their careers. Private vocational education management has an important role to develop the country and being part of the education reform under the National Education Act B.E 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)) stipulated in Article 43 that the government must provide and support the appropriate subvention, tax reductions or tax exemptions and educational benefits to private educational institutions, as well as to promote and support academics to ensure that private educational institutions have standards and be able to self-reliant (Ministry of Education, 2003k., p. 21-23) and the use of executives' skills in educational transformation, educational reform, as a result, educational departments, especially the Ministry of Education (2559, n. 10-13), have established a development plan. Therefore, all private educational institutions have to change their management system. The 12th study (2017 - 2021) defines the vision, strategy, mission to develop the country towards prosperity and sustainability, focusing on the development of people quality and adhering to the sufficiency economy philosophy As a result, the Vocational Education Commission has created the Vocational Education Development, Plan 2017-2036 as a direction to develop the private vocational education institutions. The conditions of a private vocational school have many advantages such as flexibility, speed in making decisions and does not stick to the rules too much. The description of the work must be committed to the survival of the enterprise and effective management to be worthwhile for the investment, as well as to effectively provide education to the quality standards as stipulated by the government. From the third

round of the external education quality assessment (ONESQA) report, it was found that 30 southern private vocational education institutions passed the assessment criteria at an exceptionally good level. Schools can manage their work effectively. Related departments confident in the quality of the management of a quality and standardized private vocational school. Technical Officers have the opinion that organizational effectiveness is important to organizational development. It reflects the level of success in the operation of the educational institutions as well as the organization that has been modification and developed. Therefore, the organization's success depends on several factors Sopin Muangthong (2010), found that factors affecting the effectiveness of ordinary private schools in the eastern region are: Leadership managerial behavior, school climate, school culture, quality of life at work, communication, and organizational engagement. The research was consistent with Somnukkareevate (2015), found that leadership, school climate and administration are the factors that affect school management effectiveness and Rujirapun Kongchay (2011), stated that executive leadership, organizational culture, job satisfaction, information technology, and organizational climate are factors that influence educational management effectiveness.

From these reasons the researchers were interested in studying the factors affecting the effectiveness of the administration of private vocational institutions in the southern cluster, the structural equation modeling of the administrative effectiveness of private vocational institutions in the southern cluster, what factors and models of structural equations affected the effectiveness of the administration of private vocational institutions in the southern cluster.

II. Objectives

1. To study the factors affecting the administration effectiveness of private vocational institutions in the southern cluster.
2. To study the structural equation modeling of the administration effectiveness of private vocational institutions in the southern cluster.

III. Scope of the research

1.Population:

The population of the research was six in-depth interview experts, consisting of one licensee, one manager, and one director and deputy director or assistant director who is responsible for general administration, totaling 1 person, all 3 places by using purposive sampling method from the educational institutions that have the results of the quality assessment of the external standards of the third round (ONESQA) in terms of management services are very good quality, and the administrators in 44 private vocational schools in the south of the academic year 2018, totaling 1,073 people.

2. Research sample:

Phase 1: The researcher had applied an in-depth interview with all 6 people, then confirmed the composition of administrators in Private Vocational Institutions in the southern cluster using a sample of 278 people under 44 educational institutions via stratified random sampling method. Both school administrators and teachers are participants in this research study.

Phase 2: The researcher used the same sample to determine the sample size for the structural equation model analysis (Hair, Black, Babin & Anderson, 2010, p. 574). Kanlaya Wanichbancha (2014, p.78) suggested specimen assignments 5-10 times of the research variables, there were 28 variables in total, so the researcher assigned a sample group of 9 times that of the variable to get the number of samples of 252 people.

3. Research variables

3.1 The independent variables were leadership of the administrators, organizational culture, institutions climate, organizational commitment, and information technology.

3.2 The dependent variables were the effectiveness of the administration of private vocational institutions in the southern cluster.

3.3 Exogenous latent variable of this research were:

3.3.1 Leadership of the administrators consisted of observable variables: charismatic leadership (X11), intellectual stimulation (X12), individualized consideration (X13) and inspiration motivation (X14).

3.3.2 Organizational culture consists of observable variables: institutional purpose (X21), empowerment (X22), trust (X23), quality (X24), recognition (X25), caring (X26), Integrity (X27) and diversity (X28).

3.4. Endogenous latent variables of this research were:

3.4.1 Institutions climate consists of observable variables: task structure (Y11), work standard (Y12), recognition and reward (Y13), responsibility (Y14) and support (Y15).

3.4.2 Organizational commitment consist of the observed variables: identification (Y21), involvement (Y22) and loyalty (Y23).

3.4.3 Information technology consists of observable variables: Information Technology Management (Y31), human resources (Y32), budget (Y33) and equipment materials (Y34).

3.4.4 The effectiveness of the school administration consisted of the observed variables: institutional adaptability (Y41), student achievement (Y42), teacher job satisfaction (Y43) and community acceptance (Y44).

IV. Conducting research

In this research, the researcher conducted the research using a mixed method. There were steps for conducting research as follows.

Phase 1: studied the factors affecting the administration effectiveness of private vocational institutions in the southern cluster as follows:

1. Studied documents, concepts, theories, and related research, then analyze and synthesize the studied factors to formulate the conceptual framework for the research, elements affecting the administration effectiveness of private vocational institutions in the southern cluster.

2. In-depth Interview by using a structured equation model.

3. Confirmation of factors affecting the administration effectiveness of private vocational institutions in the southern cluster by a confirmatory factor analysis (CFA).

Phase 2: analysis the structural equation modeling of the administration effectiveness of private vocational institutions in the southern cluster by a package program.

V. Research Instruments

1. Interview: The interview form was a structured interview on the factors affecting the administration effectiveness of private vocational institutions in the southern cluster to summarize the key aspects of the administration effectiveness institutions. And consider cutting, adding, or regrouping.

2. The questionnaire was a questionnaire with a total of 3 parts, which affected the factors the administration effectiveness of private vocational institutions in the southern cluster. Part 1 was the general information of the respondents; Part 2 was the 5 components affecting the administration effectiveness of the private vocational institution in the southern cluster and part 3 was administration effectiveness of private vocational institutions in the southern cluster.

VI. Validation of the research

1. Content validity was examined by seven experts to determine an index of each question using a criterion of .78, while the content validity index for scales (S-CVI) should not be lower than .80. It appears that all questions passed the criteria, with the content validity index for scales score of between 0.86 - 1.00.

2. The researcher presented the revised questionnaire according to the expert recommendations to the thesis control committee for further validation before trying out with 30 school administrators who had the same qualifications as the sample group. Then, the confidence of the questionnaire was determined using the alpha coefficient calculation, the confidence factor, the effectiveness of the school administration was between .975 - .988, and the effectiveness of the school administration was between .990 - .996

Data collection

The researchers took 4 weeks to collect the data by themselves and mail. Then check the integrity of the questionnaires that have been returned. It appears that 287 complete questionnaires are available to be used in data analysis.

Data analysis

Phase 1: step 1 was a qualitative research using in-depth interviews, content analysis and prioritization of the factors affecting the administration effectiveness of private vocational institutions in the southern cluster to validate the theoretical concepts. Step 2 was to confirm the factors affecting the administration effectiveness of the private vocational institutions in the southern cluster with a confirmatory factor analysis (CFA).

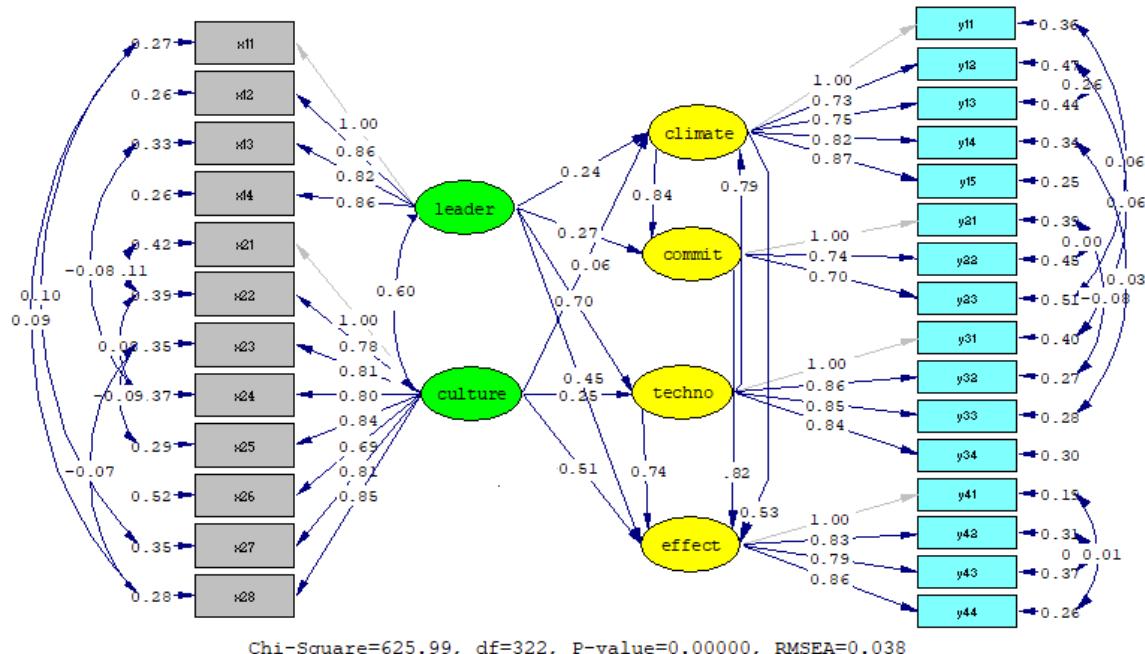
Phase 2: this research is a quantitative research which is analysis the structural equation model of the administration effectiveness of private vocational institutions in the southern cluster

The statistics used in data analysis are as follows:

The statistics used for data analysis were percentage, mean, standard deviation and Pearson correlation coefficient. The statistics used to examine that the structural equation modeling is consistent with the empirical data are as follows: Chi-square Statistics: χ^2) Chi-square is equal to .000, indicating that the statistical significance ($p < 0.05$). The sample was larger than 250 subjects and fewer than 12 but no more than 30 observed variables (Hair, Black, Babin & Anderson, 2010, p. 574) indicated that the model was consistent with the empirical data. Goodness of Fit Index (GFI) The GFI is .96 ($GFI \geq 0.90$), indicating that the research hypothesis model is consistent with the empirical data. Adjust Goodness of Fit Index (AGFI) The AGFI Index was .95 ($AGFI \geq 0.90$), indicating that the research hypothesis model was consistent with the empirical data. Standard Root Mean Squared Residual (SRMR) The SRMR value is .041 ($SRMR < 0.05$) indicating that the generated model is consistent with the empirical data. Root Mean Square Error of Approximation (RMSEA) The RMSEA value is .038 ($RMSEA < 0.05$) indicating that the generated model is consistent with the empirical data. Comparative Fit Index (CFI) The CFI index is .99 ($CFI > 0.90$), indicating that the model is harmonious with the empirical data.

VII. Result of the Study

The results of the analysis showed that after the final modulation there was a harmonious with the empirical data. The statistical values obtained from the test are reasonable, namely the Chi-square value of 625.99, $p = .0000$. Chi-square value or degrees of freedom (Chi-square / df) was 1.94, Goodness of Fit Index value (GFI) was .96, Adjusted Goodness of Fit Index value (AGFI) was .95, Root Mean Square Error of Approximation value (RMSEA) was .38, Standardized Root Mean Square Residual value (ARMR) was .041, Comparative Fit Index value (CFI) was .99 and the influence coefficient was statistically significant at the level .05 level. It can be concluded that the leadership of the administrators, institutions climate, organizational commitment, information technology and organizational culture are factors of the administration effectiveness of private vocational institutions in the southern cluster are factors affecting the administration effectiveness of private vocational institutions in the southern cluster is averaged at 86 percent.



Picture I: Structural equation modeling of the administrative effectiveness of private vocational institutions in the southern cluster

VIII. Discussion and recommendation

1. The study of components affecting the administrative effectiveness of private vocational institutions in the southern cluster found that the leadership of the administrators' factors, organizational culture factors, institutions climate factors, organizational commitment factors, and information technology factors were the factors that were submitted to the study effects on the administration effectiveness of private vocational institutions in the southern cluster. The leadership of the administrators was the most important element of management because the school administrators are the leaders who had to create accountability, raise awareness,

commitment, professional ethics and management goals. All of these were factors affecting the administrative effectiveness of private vocational institutions in the southern cluster. This is consistent with the research of Simon (1997, p. 120) stated that school administrators have the qualifications and the ability to lead the organization towards the goals to achieve success and to maximize the potential of the personnel in the educational institution to achieve the success of the educational institution management according to the goals and culture. The organization will help the personnel to understand the feature of the work, will create a friendly climate, encouragement to develop quality work, meet the needs of parents and communities. All personnel have a standard of work and best practices to raise the standard of work of an educational institution. This is consistent with the research of Thanawin Tongpang (2006, p.185) found that school administrators accepted new opinions of personnel and praise their achievements, which give personnel self-confidence, personnel understand the school's operational goals, operational standards, operational guidelines, scope, duties, operating rules to create a fast and efficient working system, support for job development, encouragement, and mutual assistance. These things improve the climate in the educational institutions of the private vocational school. This is consistent with the research of Steers (1977, pp. 104-109) said that organizational climate influences organizational efficiency, it is the perception of people both at the individual and group level, making it a driving force and coordination of interpersonal needs for personnel in educational institutions to perform well to achieve the goals of the educational institution. This is consistent with the research of BoonlueTathaisong (2014, n.166) found that organizational engagement factors directly influence the effectiveness of elementary schools as engagement factors, including dedication to work, and loyalty as a generating factor, and information technology now plays a role. It is very important for educational institutions, which is something that every educational institution has to focus on because it plays an important role in teaching and learning management and administration. This is consistent with the research of Rawadee Chaowanasai (2016, p.55) stated that Technology readiness is important to the operation of the school management, especially the administration for the quality of education, if information technology is good, it will result in the effectiveness of the administration of private vocational schools as well.

2. The results of the study showed that the structural equation model of the factors that affect the administration effectiveness of the private vocational institutions in the southern cluster was consistent with the empirical data All variables in the model had 86 percent influence on the administration effectiveness of private vocational schools in the southern cluster as follows:

2.1 The leadership of the administrators had direct and indirect influence on the administration effectiveness of private vocational institutions in the southern cluster through organizational commitment variables to increase the administration effectiveness of private vocational. The management has a mechanism for successful administration and uses methods that are most suitable for educational institutions to emphasize organizational engagement with personnel in the educational institution that related to the Runsun Uanvichit (2011), studied the causal relationship model, the effectiveness of small elementary schools, and found that leadership had a direct positive influence on the effectiveness of small elementary schools and that leadership indirectly influenced the effectiveness of small elementary school through. Organizational culture and through commitment to the organization.

2.2 The institutions climate directly influences the administration effectiveness of the private vocational institutions in the southern cluster. If the composition of the climate in the educational institution is good, it will result in a good feeling of all school personnel because the good climate will make the school more livable because the climate in the educational institution as a result, personnel are motivated to perform their work and achieve job satisfaction, able to work with willingness, generosity to each other, work happily, able to face various events at any time that related to VorachaiPirom (2016, p. 231-232) studied the causal factors affecting the effectiveness of educational institutions in the upper northern area of Thailand, it was found that the organizational climate factor directly affected the effectiveness of educational institutions in the upper northern area of Thailand. The variance was statistically significant at the .01 level and 82% of the variance of the effectiveness variables of educational institutions in the upper North of Thailand was able to explain.

2.3 Organizational commitment has a direct influence on the administration effectiveness of the private vocational institutions in the southern cluster. It can be explained that good organizational commitment will lead to better management effectiveness of private vocational education institutions because if people develop love and faith in their careers, have a sense of job satisfaction, feel part of the organization, behave as a good role model for others, accept the goals of the school and want to live with the organization forever. These are many causes the intention to work to achieve the most effective goals that the organization that related with the research of Boonlue Tathaisong (2014, p. 166), found that organizational engagement factors have a direct influence on elementary school effectiveness, which is explained as the attachment factors, faith, commitment to work, and loyalty.

2.4 Information technology has a direct influence on the administration effectiveness of the private vocational institutions in the southern cluster can explain that good information technology will affect the effectiveness of

the administration of private vocational schools as well because information technology is important roles. They are very essential to educational institutions because it is the role and support system for teaching and learning, support the management system of the executives to make the operation more convenient and faster. This research consistent with the research of Rujirapun Kongchuay (2011, p.241) found that Information technology has direct and collective influence positively on the results of higher education management of the Southern Geographical Rajabhat University, as well as BunditPungnirund (2007) has found that the use of organizational technology is a factor influencing management policy and performance of SuanSunandha Rajabhat University. 2.5 Organizational culture has direct influence on the administration effectiveness of the private vocational institutions in the southern cluster can explain that a good organizational culture will contribute to the administration effectiveness of private vocational schools as well because the conduct, values, beliefs that influence the performance of the school. Therefore, organizational culture helps education personnel to understand the cultural characteristics of the educational institution and to solve working problems that related with Sopin Muangthong (2010) studied the factors affecting the effectiveness of ordinary private schools in the eastern. It was found that the cultural factor indicators of eight common private schools in the east were statistically significant at the level .01. The key components were acceptance, quality, authorization, trust, the diversity of people, integrity, generosity and purpose of the school respectively.

IX. Recommendations

Suggestions for applying the research results

1. Leadership of the administrators had the greatest influence on the administration effectiveness of the private vocational institutions in the southern cluster. Hence, administrators must build on their own leadership, loyalty, loyalty to organization, and a teamwork focus, as well as receiving great executive care. This will bring warmth to work.
2. Administrators should pay more attention to the information technology in the administration of the educational institution by supporting the budget for the purchase of equipment for the benefit and promote the working environment of teachers and personnel for operational flexibility.
3. Administrators should provide opportunities for personnel to demonstrate their competence with willingness, recognition and appreciation, such as awarding awards, recognition, and promotion for personnel who perform well in order to create morale and encouragement for personnel and consideration adjust the position of personnel according to the appropriate abilities.
4. Administrators should create a good culture such as setting clear operational goals for educational institutions, systematically delegating authority to work in various areas, having a recognized diversity of work ability and trust in the work of personnel with integrity.

X. Suggestions for further research

1. To study the administration effectiveness of private vocational schools in other clusters.
2. To develop of a model for promoting efficiency in the administration of private vocational education institutions of other administrators.
3. To study the factors affecting the administration effectiveness of private vocational excellence in private vocational institutions.
4. To study multi-level structural equation modeladministration effectiveness of privatevocational institutions.

References

- [1]. Boonlue Tathaisong. (2014). **A Causal Model of Factors Influence Effectiveness of Primary School under Primary Educational Service Area Office in Nakhon Ratchasima**. A Dissertation for the Doctoral Degree of Philosophy in Educational Administration Nakhon Ratchasima University, Nakhon Ratchasima.
- [2]. BunditPungnirund. (2007). **The Influences of Organizational Characteristics, Managerial Policies and Practices, Environmental Characteristics, Working Motivation, Job Satisfaction and Organizational Commitment towards Effectiveness of SuanSunandha Rajabhat University**. The Doctor of Education Degree in Higher Education at Srinakharinwirot University, Bangkok.
- [3]. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). **Multivariate data Analysis**. (7th ed). Upper Saddle River, NJ: Pearson Prentice Hall.
- [4]. Kalaya Wanichbancha. (2014). **Analysis of Structural Equations (SEM) with AMOS**. Bangkok: Samlada Limited Partnership.
- [5]. Ministry of Education. (2003 C). **Nation Education Act 1999 and amended (Volume 2) 2002**. Bangkok: Press Transportation and Organization.

- [6]. Ministry of Education. (2016). **Education Development Plan of The Ministry of Education Volume 12 (2017-2021)**. Bangkok: Office of Policy and Strategy.
- [7]. Rawadee Chaowanasai. (2016). **Factors Discriminating Educational Quality of Primary Schools under Office of the Basic Education Commission in Provinces on the East Coast of Thailand**. A Dissertation the Doctor of Education Degree in Educational Administration Hatyai University, Songkhla.
- [8]. Rujirapun Kongchuay. (2011). **Causal Factors Influencing Higher Education Management Effectiveness of Rajabhat University in Southern Regional Area**. A Dissertation theDegree of Doctor of Education in Educational Administration Prince of Songkhla University, Songkhla.
- [9]. Rungsun Uanvichit. (2011). **A Causal Model of the Effectiveness of Small-Sized Elementary School**.A Dissertation for the Doctoral Degree of Philosophy in Management Christian University, Bangkok. Simon, H. A. (1997). **Administrative Behavior** (4th ed). New York: Macmillian.
- [10]. Somnuk Kareevate. (2015). **A Causal Model of Factors Influencing Educational Effectiveness of Private Primary Schools in Bangkok**. A Dissertation the Doctor of Education Degree in Educational Administration Kasetsart University, Bangkok. Ministry of Education.
- [11]. Sopin Muangthong. (2010). **Factors Affecting The Effectiveness of Private Basic Education nstitutions in The East of Thailand**. A Dissertation the Doctor of Education Degree in Educational Administration Burapha University, Chonburi. Steers, R. M. (1977). **Organization Effectiveness: A Behavioral View**. Santa Monica, California: Goodyear Publishers.
- [12]. Thanawin Tongpang. (2006). **Factors Affecting Efftiveness of Burupha University**. A Dissertation The Doctor of Education degree in Higher Education at Srinakharinwirot University, Bangkok. The Office for National Education Standards and Quality Assessment (Public Organization).
- [13]. (2016). **Private Vocational Institutions in The Southern Cluster, Third Assessment (2011-2015)**. Retrieved 30 November 2018, from: www.onesqa.or.th VorachaiPiron. (2016). **Causal Factors Affecting The School Effectiveness in Upper Northern Highland Region of Thailand**. A Dissertation the Doctor of Education Degree in Educational Administration Burapha University, Chonburi.