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COMPETENT MODEL OF EDUCATIONAL INSTITUTE ADMINISTRATORS IN THE 21ST CENTURY THAT INFLUENCES THE EFFECTIVENESS OF THE PRIVATE VOCATIONAL COLLEGE IN THAILAND

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Abstract

The objective of this research was to develop a causal relationship of the competent model of educational institute administrators in the 21st century that influences the effectiveness of the private vocational college in Thailand in order to verify the correspondence of the developed model with the empirical data. The research results revealed that the competent model of educational institute administrators in the 21st century that influences the effectiveness of the private vocational college consisted of competency of administrators, corporate culture, and organizational climate. The developed competent model of educational institute administrators that influences the effectiveness of the private vocational college in Thailand was correspondent with the empirical data. The effectiveness of private vocational college consisted of 9 components, namely organizational health, professional development and teacher quality, ability to acquire resources, being an open system and relationship with the community, educational development of learners, job satisfaction of teachers and administrators, student's satisfaction in education, professional development of learners, and personal development of learners. The qualitative findings were consistent with the quantitative ones to gain new knowledge from qualitative research results. There were two components of effectiveness; operator's satisfaction and parental satisfaction. There were two components of the competency of educational institute administrators; technology acceptance and effective communication.

Keywords: Competent Model, Educational Institute Administrator, Private Vocational College, 21st Century

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Introduction

The world in the 21st century is the world of challenge on human abilities. It is the disruptive world in which digital technology has been applied to all sectors of the business. As it affects employment and labor demand in both quantity and quality, it challenges all involved sectors whether in labor preparation and the development of human capital to be able to support the country development in the future. Many countries worldwide have developed new economic models to create stability, prosperity and survival in the 21st century when the economic context changes. This causes entrepreneurs, especially those in the manufacturing industry, to adapt in order to enable industrial businesses to grow in the new economic context with strength and sustainability (National Science and Technology Development Agency, 2017: 7).

Vocational education has become increasingly important and plays an increasingly important role in the economy. In order to prepare Thai people for the 21st century (Sophonpanich, 2019), educational institute administrators who are the key to the success of educational institutes have to be qualified and knowledgeable as a leader of teachers and educational personnel as well as being able to lead parents and communities to cooperate in promoting and supporting education management to achieve results. This means “Competency”. It can be said that the high-performance private vocational college administrators will have the ability to produce good results and profits for the organization which means “efficiency in the administration of private vocational college”.

IMD World Competitiveness Center, Switzerland, published the IMD World Competitiveness Yearbook of 2020 (International Institute for Management Development, 2021). It is the report on the ranks of competitiveness of 63 countries worldwide. It was found that Singapore retained the No.1 position as in 2019, followed by Denmark, which in 2020 was six times better than 2019, followed by Switzerland which was 1 place better than 2019. The Netherlands was 4th place, 2 better than 2019. The 5th place was Hong Kong, which was down 3 places from 2019 in the 2nd rank. Meanwhile, Thailand was ranked 29th, down from the year 2019 to 4 places. When considering only the ASEAN region having 5 member countries participating in the rankings, it was found that Thailand is in the 3rd rank following Singapore and Malaysia. As for the rankings in education, despite the rising ranks, we still need to be developed a lot as shown in Figure 1.

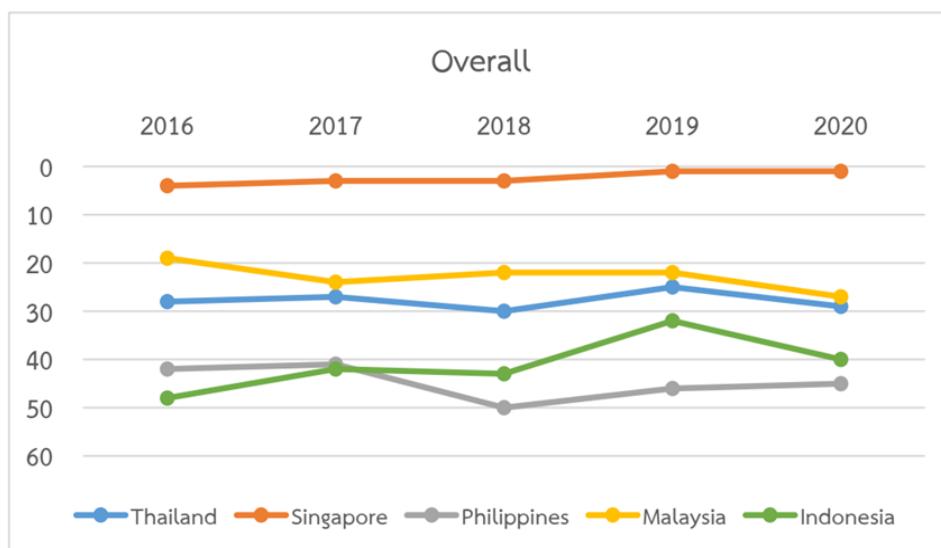


Figure 1 Overall competitiveness and education rankings in ASEAN, 2016-2020
Source: National Science and Technology Development Agency (2020)

The above situation leads to a study of the approaches of vocational education administration in Thailand in the 21st century, roles of administrators of educational institutes in the 21st century, characteristics of administrators of educational institutes in the 21st century, along with the synthesis of concepts and theories related to performance, competencies of appropriate educational institute administrators. These are defined as a component of the competency of administrators of educational institutes in the 21st century in 6 areas; achievement-based administration, team work, transformational leadership, analytical thinking, synthesis, personnel potential development, and in terms of having morals and ethics. It can be said that high-performance private vocational school administrators will have the ability to create productivity and good results for the organization. This means the effectiveness of the administration of private vocational college (Chongrak, 2018; Hona, 2019; Buasiri & Chanetiyoung, 2020; Alexandros & Evangelia, 2018; Anaya, 2018).

The researcher reviewed the past literature and found that the Cameron's Model of Organizational Effectiveness (1986) was found to be a popular model and has been used in large numbers. It integrates the indicators in the time dimension, the stakeholder dimension, and the indicator dimensions that are multidimensional criteria. Cameron is considered the first educator to start studying and developing a measure of the effectiveness of higher education institutes seriously making it more accurate to measure the effectiveness of higher education institutes according to organizational effectiveness measurement principles. Cameron's Model of Effectiveness (1986) consists of indicators of effectiveness in 9 dimensions; 1) Learners' satisfaction in education, 2) Learners' academic development, 3) Learners' professional development, 4) Learners' personal development, 5) Satisfaction with the work of teachers and administrators, 6) Professional development and teacher quality, 7) Being an open system and relationship with the community, 8) Ability to acquire external resources, and 9) Organizational health. Apart from the competency factors of educational institute administrators in the 21st century to affect the effectiveness of the administration of private vocational college, there are also research studies to confirm that there are other factors related to the competence of the administrators of the educational institutes and is a causal factor that affects the effectiveness of college administration importantly including the corporate culture factors (Chongrak, 2018; Chavalit et al., 2020; Horton, 2018; Taye et al., 2019; Gadia & Mendoza, 2020) and organizational climate factors (Chongrak, 2018; Chavalit et al., 2020; Parker, 2015; Horton, 2018; Khan, 2019).

This study on the competence of educational institute administrators in the 21st century affecting the effectiveness of private vocational college in Thailand will result in the findings that are considered as new knowledge beneficial to the administration of private vocational college. The research results will be able to use as information to enhance the capacity of administrators of private vocational college in the 21st century as well as the determination of competences and attributes of effective and appropriate administrators to become a policy driver and formulate a strategy planned for the most efficient operation of private vocational college in Thailand. This can create Thai vocational education to have a level of education that can truly meet the needs of the labor market resulting in job creation, occupation, and uplifting the quality of life of people in the community and society. It causes great contributions to the national economic and social development as well as helping to enhance the country's competitiveness leading to the stable development of Thailand sustainably.

Research Objectives

- 1) To study the competency level of educational institute administrators in the 21st century, organizational culture, and organizational climate that influences the effectiveness of private vocational college in Thailand.

- 2) To develop a causal relationship of the competent model of educational institute administrators in the 21st century that influences the effectiveness of private vocational college in Thailand.
- 3) To verify the correspondence of the developed model with the empirical data.

Literature Review

Competency

McClelland (1973) described human performance as an iceberg. It consists of two parts: the part that floats above the water and the part that is below the water surface. The part that floats above the water is visible and easily developed, namely the knowledge and skills that the individual has under the surface. It is bigger and harder to see. This affects the performance behavior of each person very much. It is also difficult to develop, including Motives, Traits, Self-Image, and Social Role.

From studying the concept studies of competency theory which is one of the components that influence organizational management and affect the efficiency and effectiveness of the organization, the appropriate form of competency of educational institute administrators will determine operational guidelines and develop effective educational institute administration (Thamachaichusak, 2015; Phiucha, Jewcharoensakun & Nanthachai, 2019; Theerapaksiri, Trakansiriwanich, Tanupol & Inthajak, 2019). The researcher used it as a component of the factors influencing the effectiveness of private vocational college consisting of achievement-based administration, working in team, transformational leadership, analytical thinking, synthesis, human potential development and morality and ethics. From the literature review both domestically and internationally, it was found that the competency of educational institute administrators influenced the effectiveness of private vocational college in Thailand.

Organizational Culture

Cooke & Szumal (2013) presented an organizational culture model known as the Organizational Culture Inventory Circumplex (or OCI Circumplex) as a model commonly used in quantitative research. It is a tool used to measure different subsets of organizational culture. Instead, there is a correlation of the number of Behavioral Norms and expectations that describe behavioral and thought patterns that may be observed explicitly or implicitly. The measured behavioral and thought patterns are those that the organization or group needs the right person. It agrees with the organization's or group's expectations. The researcher was interested in adopting the Cooke & Szumal Model of Organizational Culture, (2013), which broadly divided organizational culture into 3 categories; Creative culture, defending- protective culture, and proactive-protective culture as a variable to be used in studying organizational culture in the context of this private vocational college.

Organizational Climate

Hoy & Miskel (2001: 185-186) stated that the organizational climate has characteristics similar to the term organizational personality. The organizational climate influences the organizational behaviors that the administrators have to influence the development of the college's personality. The appropriate organizational climate model will determine the guidelines for effective operations and organizational development. The researcher used it as a component of factors affecting the effectiveness of private vocational college consisting of organizational structure, responsibility, performance standards and support. According to the literature review both domestically and internationally (Thongdeeying et al., 2019; Chongrak, 2018; Chavalit et al., 2020; Parker (2015); Horton (2018); Khan (2019), the organizational climate was found to influence the effectiveness of private vocational college in Thailand.

Organizational Effectiveness

Organizational effectiveness determines the success of an organization. The organizational administrators should have the concept of effectiveness applied appropriately and choose to

implement the organization to achieve its goals (Bowonwattana, 2013). According to the literature review, the Cameron's Model of Organizational Effectiveness (1986) was found to be popular and has been used in large numbers. Therefore, the researcher fully used the Cameron's educational organizational effectiveness model which covers 9 dimensions including learners' satisfaction in education, learners' academic development, learners' professional development, learners' personal development, satisfaction with the work of teachers and administrators, professional development and teacher quality, being an open system and relationship with the community, ability to acquire external resources, organizational health. These are considered most suitable for the context of private vocational education institutes in Thailand.

The results of the literature review revealed that the competency model variables of school administrators in the 21st century, organizational culture, and organizational climate were the causal variables that directly influenced the effectiveness of private vocational college in Thailand. The researcher therefore developed a causal relationship model of factors influencing the effectiveness of private vocational college in Thailand. A total of 3 variables consisted of 1) the competency model of school administrators in the 21st century, 2) organizational culture, and 3) organizational climate.

Conceptual Framework

The research on the competent model of educational institute administrators in the 21st century that influences the effectiveness of the private vocational college in Thailand can define the research conceptual framework as shown in Figure 2.

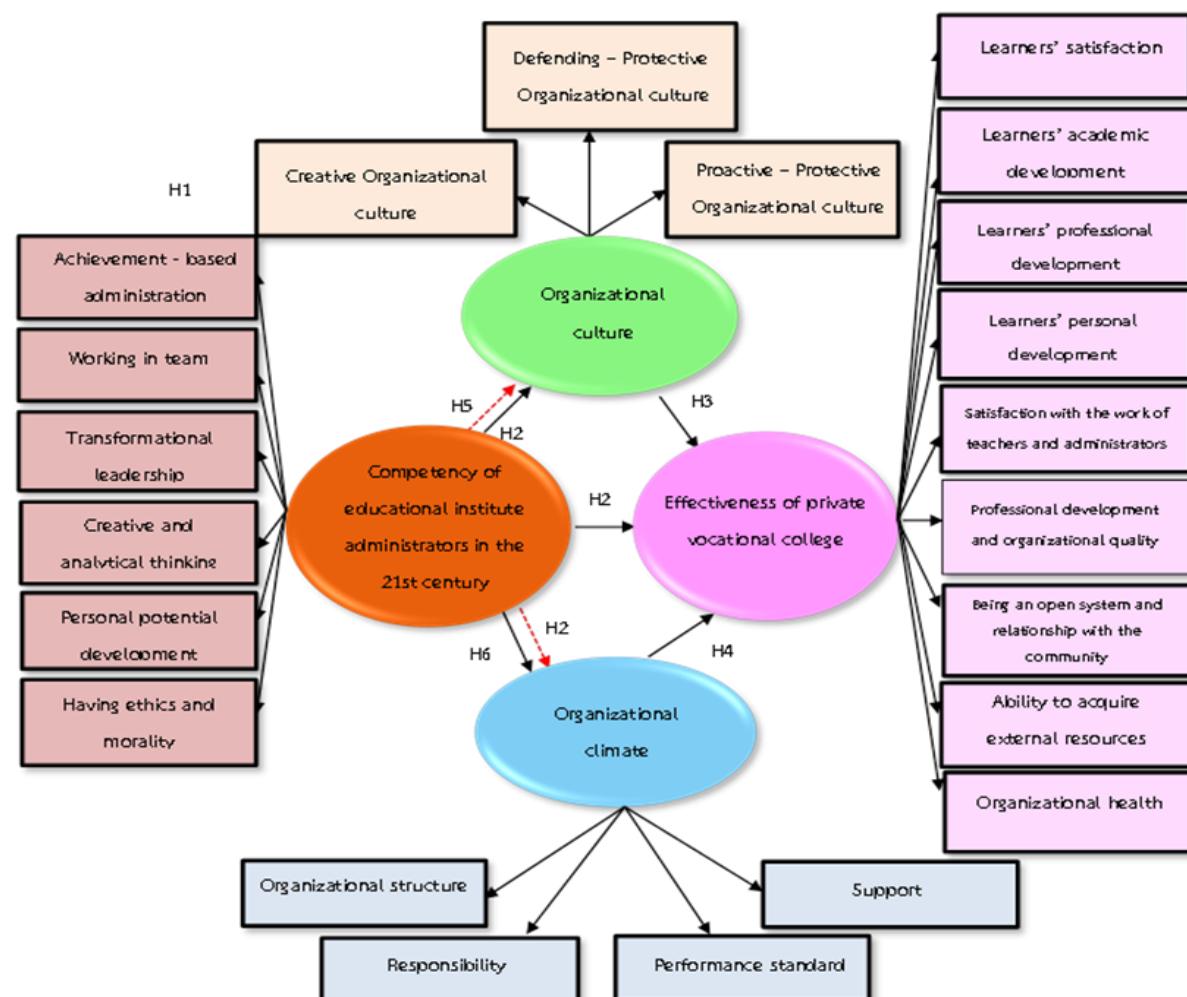


Figure 2 Research conceptual framework

Research Hypothesis

Hypothesis 1: The developed causal relationship of the competent model of educational institute administrators in the 21st century that influences the effectiveness of the private vocational college in Thailand was consistent with the empirical data.

Hypothesis 2: The competency of educational institute administrators in the 21st century directly influenced organizational culture, organizational climate and effectiveness of private vocational college in Thailand.

Hypothesis 3: The organizational culture directly influenced the effectiveness of private vocational college in Thailand.

Hypothesis 4: The organizational climate directly influenced the effectiveness of private vocational college in Thailand.

Hypothesis 5: The competency of educational institute administrators in the 21st century indirectly influenced the effectiveness of private vocational college in Thailand transmitted through organizational culture.

Hypothesis 6: The competency of educational institute administrators in the 21st century indirectly influenced the effectiveness of private vocational college in Thailand transmitted through organizational climate.

Research Method

The researcher designed the research by formulating the mixed research method using the descriptive pattern in sequence (Dividing the research into 2 phases, helping to answer research questions clearly rather than using a single quantitative or qualitative research model (Creswell & Plano Clark, 2018)).

Phase 1: Quantitative Research

The population consisted of school administrators, teachers, and educational personnel of 446 private vocational colleges in Thailand (as of August 5, 2020). They were determined into 5 groups, namely the Bangkok group, the Central Region including the Eastern Region, the Northern group, the Northeastern Group, and the Southern group (Office of Vocational Education Commission, 2020). The sample group consisted of administrators of educational institutes, teachers and educational personnel of private vocational colleges. The sample size was determined by estimating the values from the observed variables and the law of clarity. The sample size was 10-20 times the observed variables (Schumacker & Lomax, 2010; Hair et al., 2019) was used in this study. There were 22 observable variables, which would have a sample size of about 220-440 people to prevent incomplete questionnaire that may occur in the collection of questionnaire data back. The researcher therefore determined the sample size for a total of 480 people using Multi-Stage Random Sampling. This consisted of stratified random sampling by dividing the population into 5 groups; Bangkok, the Central Region including the Eastern region, the Northern region, the Northeastern region and the Southern region (Office of the Vocational Education Commission, 2020). The simple random sampling was conducted by drawing lots to select private vocational colleges according to the proportion of the population in each group stratified randomization. The population in each group, which has distinctive characteristics, was clearly separated into 3 levels, comprising 1) educational institute administrators, 2) teachers, and 3) educational personnel. The convenient randomization was conducted to collect the required amount of data as shown in Table 1.

The research tool was questionnaire and was divided into 6 parts. Part 1 was the personal factors of the respondents consisting of gender, age, educational level, current job position, and work experience. It was a Check List questionnaire. Part 2 was the questionnaire on competency components of educational institute administrators. Part 3 was the questionnaire on the organizational culture. Part 4 was the questionnaire on the organizational climate. Part 5 was the questionnaire on the effectiveness of private vocational colleges. Part 6 was

additional comments and recommendations. The questionnaires in parts 2-5 were closed-ended questionnaires. It was the 5-Level Rating Scale through the quality test of the questionnaire. The Content Validity was conducted by 5 experts. The IOC value was 0.805 and the Reliability of the whole questionnaire was 0.840. The coefficient of all variables was between 0.795-0.885. The data were collected by sending the questionnaires to the sample group by post for totaling 480 copies. The response rate and completeness was verified for the total number of 420 questionnaires or 87.50%. The data were analyzed by SEM statistical tools (Baruch, 1999) to check the consistency of the linear structural relation model using LISREL packaged program.

Table 1 Number of population and samples used in research

Group of educational institutes	Population (colleges)	Samples (colleges)	Administrators	Teachers	Educational personnel	Total
Group of Bangkok	67	9	14	45	13	72
Group of the Central region including the Eastern region	105	14	24	70	18	112
Group of the Northeastern region	179	24	44	120	28	192
Group of the Northern region	50	7	10	34	11	56
Group of the Southern region	45	6	8	30	10	48
Total	446	60	100	300	80	480

Phase 2: Qualitative Research

The researcher has designated Key Informants which are involved in the administration of private vocational educational institutes in Thailand using Purposive Sampling. A total of 12 people were divided into 2 groups. Group 1 was the group of 6 policy-level administrators who were knowledgeable and understood the educational administration policy context of private vocational colleges in Thailand for not less than 5 years. Group 2 was the group of directors/deputy directors/administrators of private vocational colleges in Thailand who were assessed for external education quality. The 3rd round was to collect the data from the Office for Accreditation and Quality Assessment (Public Organization) at very good level for totaling 6 people. It was Semi-structure Interview. The data collection used an In-depth Interview. The researcher summarized the raised issues and confirmed with the informants at the end of the interview. The data was brought to verify the accuracy using the Triangulation (Miles et al., 2014). The Content Analysis was analyzed together with the results of quantitative research. The results were brought to further discussion and recommendations.

Research Results

Most of the studied administrators of private vocational colleges were male for 60.70% aged between 41-50 years or 30.0%. They had Master's degree accounted for 44.0% with current job positions as administrators of educational institutes accounted for 54.80%. They had 21 years or more of work experience for 47.40%. The competence level of the school administrators was overall at a high level ($\bar{x} = 4.37$). When considering each aspect in all 6 aspects, it was found to be at a high level in all aspects in order from the aspects with the

highest average to the lowest including the morality and ethics ($\bar{x} = 4.45$), teamwork ($\bar{x} = 4.44$), achievement-based administration equaling to transformational leadership ($\bar{x} = 4.38$), analysis, synthesis ($\bar{x} = 4.26$) and personnel potential development ($\bar{x} = 4.20$), respectively.

The results of the examination of the 21st century school administrators' competency structure equation model that influenced the effectiveness of private vocational colleges in Thailand revealed that the model from the data analysis was appropriate and consistent with the empirical data. This was the acceptance of the research hypothesis. According to the researcher, the competency model of educational institute administrators in the 21st century influenced the effectiveness of private vocational colleges in Thailand. The developed model was consistent with the empirical data as shown in Figure 3.

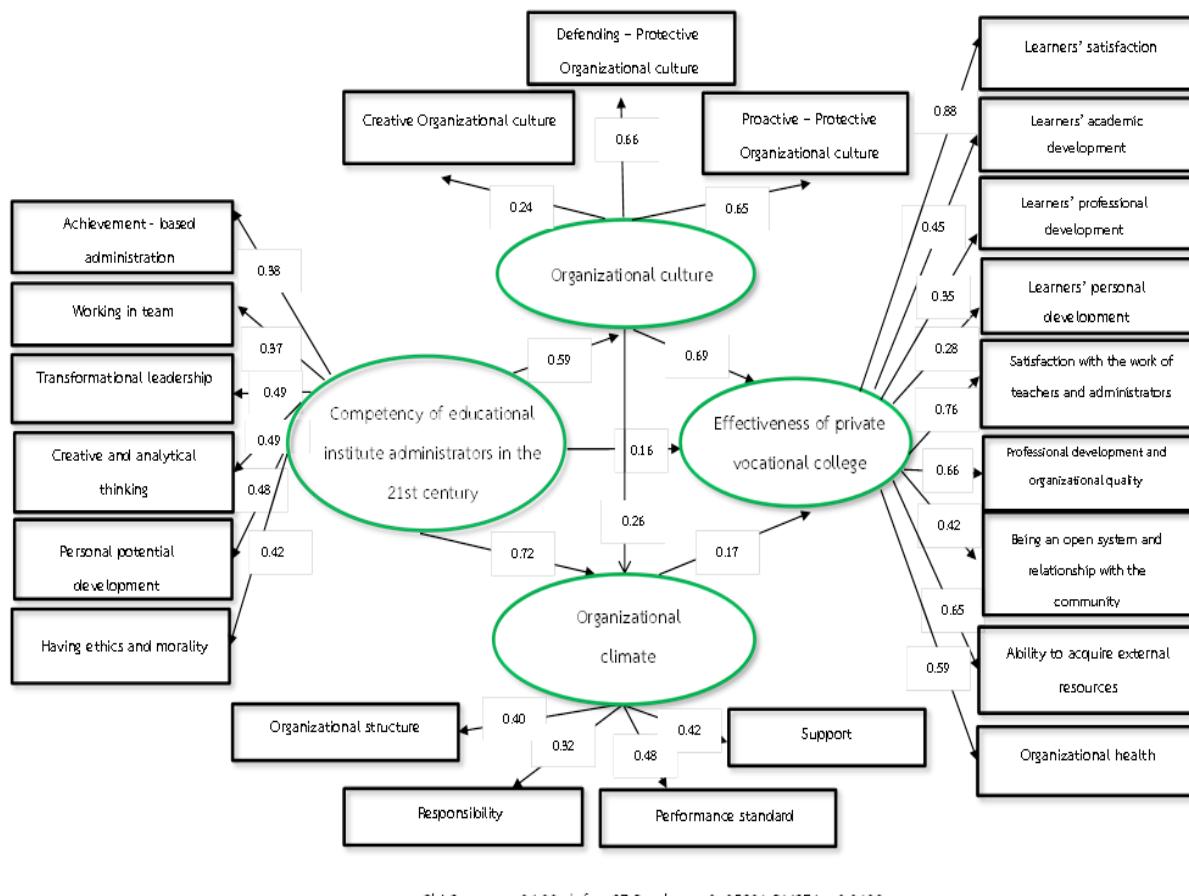


Figure 3 Competent Model of Educational Institute Administrators in the 21st Century that Influences the Effectiveness of Private Vocational Education Institutes in Thailand

The analysis results of the influence on competence of college administrators in the 21st century organizational culture and the organizational climate on the effectiveness of private vocational colleges in Thailand revealed that the effectiveness of private vocational colleges in Thailand can be explained by organizational culture as much as possible with a forecast weight of 0.69, followed by the organizational climate with the forecast weight of 0.17. The competence of the college administrators with a forecast weight of 0.16 included this structural equation. There was also a decision coefficient ($R^2 = 0.77$) which can be described as causes affecting the effectiveness of private vocational education Institutes in Thailand caused by organizational

culture, organizational climate, and administrative competence to 77% with a statistical significance of .05. When considering the indirect influence on the effectiveness of the educational institutes, it was found that the forecast weight was 0.53. The best was the transmission of organizational culture factors with the forecast weight equal to 0.407, followed by transmission through the organizational climate. The forecast weight was 0.122 and the overall indirect influence weight was 0.53. When the total influence was measured, the effectiveness of private vocational education institutes in Thailand as a result of the competence of administrators of educational institutions in the 21st century, both directly and indirectly, had the total forecast weight of 0.69 with a statistically significant level of .05.

The results of the qualitative research revealed that the competence of school administrators had a positive influence on the effectiveness of private vocational schools in Thailand. From the synthesis of competency components of school administrators in the 21st century from key informants, it consisted of 8 factors; 1) achievement-based administration, 2) working in team, 3) transformational leadership, 4) analytical thinking, synthesis, 5) human potential development, 6) morality and ethics, 7) technology acceptance and 8) effective communication.

The organizational culture factor is the behavioral pattern of personnel in an organization that expresses in the form of beliefs, values, hopes, thoughts, attitudes, and behaviors that members of the organization have together until they are understood and accepted in the same norm. The characteristic of the organization and its members are passed on as the correct approach from one generation to another for the implementation until leading to the success of the organization. It consisted of 3 factors; 1) creative culture, 2) defensive-protecting culture, and 3) proactive- protecting culture.

The organizational climate factors are primarily related to the working environment. The organizational climate contributes to the motivation to work and working behavior of personnel in the organization. It is a factor that influences the behavior of personnel in the organization which will affect the effectiveness of the organization. The appropriate organizational climate model will determine the guidelines for effective operation and organization development. It consisted of 4 factors; 1) responsibility 2) organizational structure 3) performance standards and 4) support.

The factors of effectiveness of private vocational education institutes in Thailand are about the ability of an organization as a system of society to achieve its objectives or goals that have been defined by taking advantage of resources. The service recipients are satisfied and the members of the organization are able to adjust and develop the organization to stay. The interviews with key informants found similar interviews and can be interpreted as components of the effectiveness of private vocational college in Thailand; 1) learners' satisfaction in education, 2) learners' academic development, 3) learners' professional development, 4) personal development of learners, 5) job satisfaction of instructors and administrators, 6) professional development and teacher quality, 7) being open system and community relations, 8) ability to acquire resources, 9) organizational health, 10) operator's satisfaction, and 11) parents' satisfaction.

From the important objectives of this study of the competency model of educational institute administrators in the 21st century that influences the effectiveness of private vocational college in Thailand this time to develop the causal relationship model of competency model factors of educational institute administrators influencing the effectiveness of private vocational college in Thailand, the researcher created the conceptual framework from the literature review and related research domestically and internationally to verify the coherence of the developed model with the empirical data. It was based on a mixed research methodology by using quantitative research methods as the main and qualitative research methods to expand, verify, and add the depth of information. This included adding new knowledge discovered by using

private vocational college in Thailand as an analytical unit. The test results were found to be in accordance with the hypotheses set by the researcher. The developed causal relationship model of the 21st century administrator's competency influencing the effectiveness of private vocational schools in Thailand was consistent with empirical data. From the results of qualitative research data analysis, it was found to be consistent with the results of data analysis in quantitative research. It also added new knowledge from the discovery of key components which are 2 variables that determine the competency of administrators of educational institutes in the 21st century; the acceptance of technology and effective communication. The key components which are the 2 variables that determine the effectiveness of private vocational colleges in Thailand are operator's satisfaction and parent's satisfaction. Therefore, the research results were quantitatively and qualitatively integrated together. In conclusion, a causal relationship model of executive competency model in the 21st century influenced the effectiveness of private vocational colleges in Thailand. The researcher studied and confirmed the research results as shown in Figure 4.

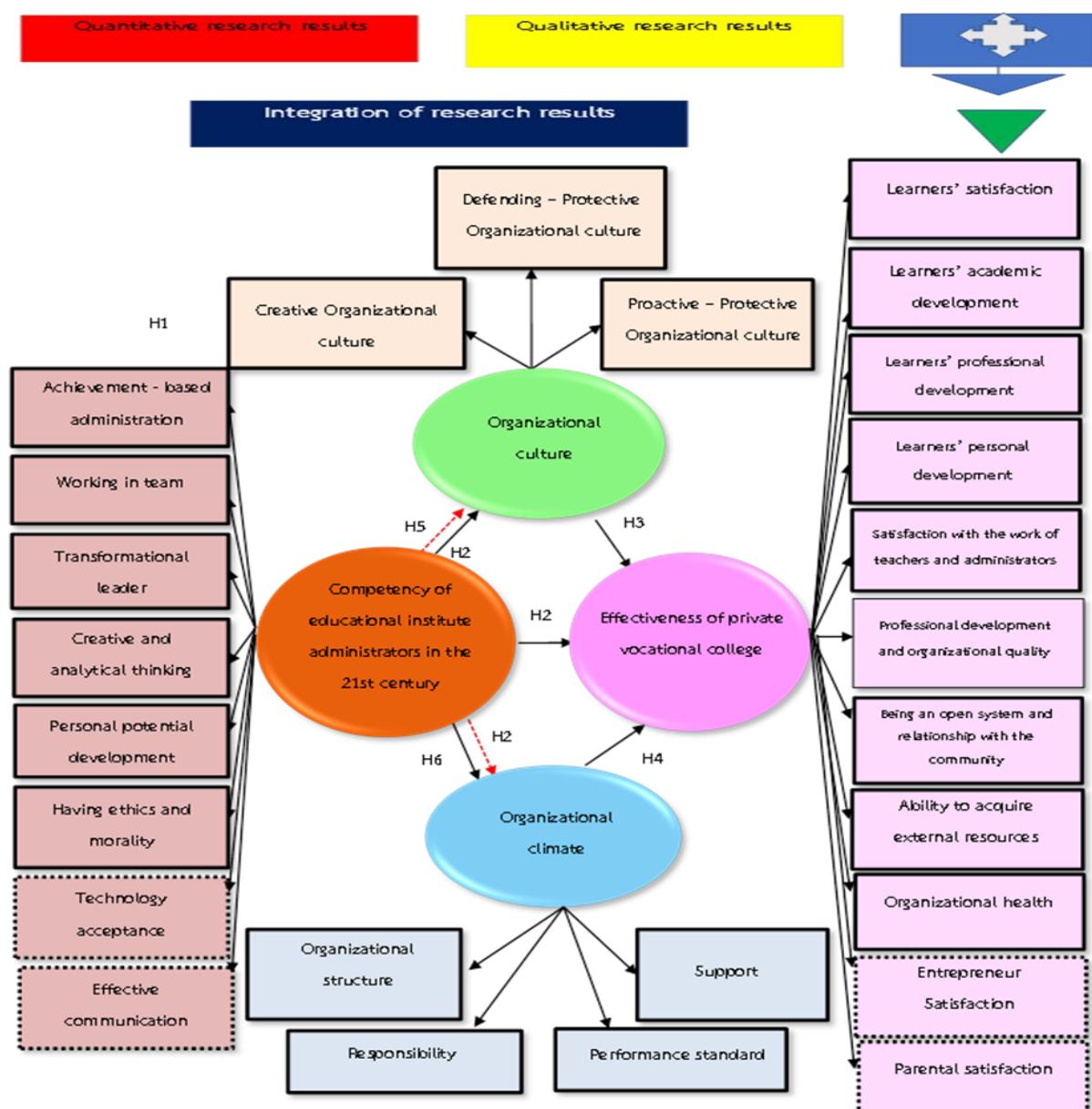


Figure 4 Causal relationship of the 21st century administrator's competency model influencing the effectiveness of private vocational colleges in Thailand developed by the researcher

Conclusion & Discussion

The research results revealed that the performance of the administrators were the factor that influenced the effectiveness of college administration. The high-performance private vocational college administrators will have the ability to create productivity and good results for the organization leading to the creation of productivity and good results for the organization. The level of competency of educational institute administrators in the 21st century overall and in each aspect was at a high level. The composition of school administrators' competency in the 21st century consisted of 8 aspects; 1) Achievement-based administration, 2) Teamwork, 3) Transformational leadership, 4) Analytical and synthetic thinking, 5) Personnel potential development, 6) Morality and ethics, 7) Technology acceptance and, 8) Effective communication. The 7th and 8th components are additional new knowledge that the researcher discovered from qualitative research. Some of the research findings are consistent with the research results of Ketpranimitr (2017), Sukjinda et al. (2018), Pusabok et al. (2020), Areesawad (2019), Anaya (2018) studying the composition of the effective competency model of school administrators in the educational context.

The competency of administrators of educational institutes in the 21st century directly affected the organizational climate followed by organizational culture and the effectiveness of the educational institutes, respectively. It indirectly affected the effectiveness of the educational institutes. The best was the transmission of organizational culture factors. This agrees with Areesawad (2019) finding that the competency of administrators and college achievement were correlated. It was consistent with Veronica (2015) finding the great influence on the college culture. It was also in accordance with Parker (2015) discovering that the school principals directly affected the culture and atmosphere of the school and school culture was an important mediating factor between core leadership and school effectiveness.

Regarding the effectiveness of private vocational education institutes in Thailand, it was most explained by organizational culture, followed by organizational climate and administrative competency, respectively. This included the structural equation with the decision coefficient ($R^2 = 0.77$) explaining the causes affecting the effectiveness of private vocational colleges in Thailand. It was caused by organizational culture, organizational climate, and administration performance for 77%. It was consistent with Chongrak (2018) finding that the organizational climate, organizational culture, and leadership factors of college administrators were correlated with 40% overall influence on the effectiveness of vocational college administration under the Department of Local Administration. The organizational climate influenced and directly correlated with the effectiveness of the administration of vocational colleges under the Department of Local Administration. The factors of organizational culture and leadership of college administrators influenced and indirectly correlated with the effectiveness of vocational college administration. This was consistent with Opata & Wesonga (2016) finding that the organizational culture influenced people's attitudes and behaviors in the workplace. The culture was a key component of effective performance and a strong institutional culture that supported a high level of organizational efficiency. It agreed with Gadia & Mendoza (2020) discovering that organizational culture was positively correlated with institutional effectiveness. It was also consistent with Taye et al. (2019) finding that all cultural elements had strong influence on individual performance contributing to overall university performance. The competency of administrators of educational institutes in the 21st century indirectly affected the effectiveness of private vocational colleges in Thailand through organizational culture. It was consistent with Chongrak (2018) discovering that the organizational culture and leadership factors of college administrators indirectly affected and correlated with the effectiveness of private vocational colleges in Thailand through the organizational climate. This was consistent with Chavalit et al. (2020) finding that school performance factors indirectly influenced school effectiveness through school climate.

Recommendations for applying the research results

- 1) Ministry of Education, Office of Private Vocational Education Administration, Office of Vocational Education Commission, and those involved in the study should consider the elements of competency of college administrators in the 21st century in performance-based administration, teamwork, transformational leadership, analytical thinking, synthesis, personnel potential development, morality and ethics, technology acceptance, and effective communication as the results of this study in order to be useful in formulating policies on personnel management systems of private vocational schools. This included other educational institutes both in terms of recruiting and human resource development in order to have educational administrators who have the capacity to suit the changes in the 21st century.
- 2) The administrators of private vocational colleges in Thailand can apply the knowledge gained from this research to be used as a guideline to develop competency in college administration leading to competitive advantages and survival in the 21st century. The research findings revealed that the competency of educational institute administrators in the 21st century directly affects the organizational climate and organizational culture showing that the competency of college administrators in the 21st century will play an important role in creating an organizational climate and organizational culture. The focus is on the effectiveness of private vocational education institutes. Therefore, apart from the fact that the educational institute administrators must have high competency, in the effective administration of private vocational colleges, the administrators of the educational institutes should strengthen the organizational climate and organizational culture to be conducive to working with.
- 3) From the research results, it is empirically confirmed that the competency of school administrators in the 21st century, organizational culture and organizational climate factors directly and indirectly influence the effectiveness of private vocational colleges in Thailand. The school business owners and related persons can apply the causal relationship model of the competency of educational institute administrators in the 21st century that influences the effectiveness of private vocational colleges in Thailand to educational institutes or other types of business organizations in Thailand in the 21st century.

Recommendations for future research

- 1) From the results of the analysis and development on the causal relationship model of the competency of college administrators in the 21st century, organizational culture and organizational climate influencing the effectiveness of private vocational colleges in Thailand, it was found that all the causal variables according to the theoretical framework were studied by the researcher. They jointly explained the variability of the effectiveness of private vocational colleges in Thailand overall for up to 77%. The rest were variables that the researcher did not study. Part of which is an observable variable that the researcher has discovered new knowledge from this qualitative research. Therefore, in the next researches, the competency variables of school administrators in the 21st century with the factors of technology acceptance factor should be studied to explore the components of the competency of school administrators in the 21st century, among other factors which causes the effectiveness of private vocational schools in Thailand to be more complete. In addition, in the next study, the satisfaction factor of entrepreneurs and parental satisfaction factor should be studied. It is also a variable to measure the effectiveness of private vocational colleges in Thailand.
- 2) For qualitative research in this study, the researcher chose a method for collecting the data by in-depth interviewing as the only way to get in-depth information. There is a variety of research methods. In the next researches, the methods for collecting information should be used through more diverse methods such as focus group meetings or brainstorming, etc.
- 3) In this study, the researcher has designed the Research Design as a Mixed Method Research using a sequential explanatory model that defines Quantitative Research. The qualitative research has resulted in useful information for private vocational colleges in Thailand this time.

In the next researches, the researchers may use a qualitative research model leading quantitative research to study information about various factors influencing the effectiveness of private vocational colleges in Thailand. Then, the results from the study can be determined to determine the variables and create a conceptual framework, model, causal relationship, factors influencing the effectiveness of private vocational colleges in Thailand as well as developing the tools for collecting data in quantitative research to test hypotheses and further confirm the model developed by the researcher.

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