

# **The Causal Relationship Model of Factors Affecting the Availability of Central Rajabhat University towards Access to the Education Quality Criteria for Excellence**

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## **Abstract**

The purposes of the current research study were to 1) study the readiness for implementing Education Quality Criteria for Excellence, namely EdPEx, 2) investigate causal factors affecting the readiness for implementing EdPEx, as well as 3) examine the correlation between the causal relationship model based on the hypothesis and the empirical data. The data were collected employing the questionnaire. 360 research targets were academic staff including university and faculty executive, curriculum instructor information and relevant staff from five Rajabhat universities in the central region including Valaya Alongkorn Rajabhat University under the Royal Patronage, Phranakhon Si Ayutthaya Rajabhat University, Rambhai Barni Rajabhat University, Rajanagarindra Rajabhat University and Thepsatri Rajabhat University. The research findings showed that, first of all, the overall aspect of the readiness for implementing EdPEx of Rajabhat universities in the central region was at the high level. Considering individual questionnaire item of the readiness for implementing EdPEx, the customer category showed the highest level then following by the categories of workforce, measurement, analysis and knowledge management, results, leadership, operations as well as strategic planning respectively. Secondly, factors about modern management and organizations explicitly affected the readiness for implementing EdPEx in form of linear correlation coefficient. Thirdly, the causal relationship model of the readiness for implementing EdPEx of Rajabhat universities in the central region showed the validity and correlation with the empirical data.

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**Keywords:** Causal Relationship Model, Availability of Rajabhat University, Education Quality Criteria for Excellence

## **Background and Importance**

Nowadays, the disruptive society in terms of politics, economy and technology has been brought about rapidly. This forces various organizations to adjust themselves for consecutively operating their missions effectively and competitively. A long-term strategic planning has always been essential guideline for regulating organizations' development and goals towards any immediately current changes. It has also been a necessarily communicative tool for addressing organizations' direction to staff and stakeholders aiming to involve them to push forward the sustainably excellent organizations (Ngamdee & Manakit, 2017).

Office of the Higher Education Commission, namely OHEC, defined four main missions for higher educational institutions as follows: 1) cultivating graduates, 2) doing research studies, 3) providing academic service to the community as well as 4) preserving arts and culture. These four missions play essential roles for short and long term of national development (Office of the Higher Education Commission, 2011). All higher educational institutions play an essential role to provide education for cultivating graduates' intelligence, developing academic progress as well as educating academicians and professional workforce. Office of the Higher Education Commission has been concentrating on elevating Thai educational quality aiming to be globally benchmarked and accepted. To achieve the aim, Education Criteria for Performance Excellence, namely EdPEx, was employed to help elevate all educational institutions. EdPEx comprises criteria that can be adapted as a developing framework of higher education institutions. The EdPE's criteria (2015-2018) was adapted by the subcommittee of the Office of the Higher Education Commission using the criteria of USA Baldrige Criteria for Performance Excellence 2013-2014 and Baldrige Excellence Framework 2015-2016. Due to the goal of being globally excellent institution for education, the adapted version of EdPEx's criteria was expected to be parallel with Thai educational context as well as appropriately adopted by various educational institutions. To achieve such the goal, qualifying university's graduates is very important in terms of controlling, examining and assessing the universities' working procedures based on defined key indicators. This is to assure that Thai educational institutions are able to cultivate graduates efficiently. Rajabhat universities have played roles of providing advanced academic and vocational instruction, research studies for students, offering service academic, improving and passing on knowledge and technology to the community including helping sustain arts and culture of the community. Consequently, Rajabhat universities' instructional plans and activities have been supervised and qualified related to key indicators of qualified education. According to the exploration through the on-site problems, relevant document and research projects, the researcher team was interested in studying the effects of the causal relationship format towards the readiness for implementing EdPEx of Rajabhat universities in the central region. Then the factors that probably support their readiness for implementing EdPEx might be found out, applied and improved by faculties' programs. When being applying by those programs, all subject matters and courses were expected to be state-of-the-art and meet the future employers' expectation. The research team hoped that the current research study might

be helpful to educational administrative, instructors and relevant persons who would like to adapt the information for improving educational management further.

## **Research Methodology**

**The data collection:** The data was collected from educational-management staff from five Rajabhat universities in the central region including Valaya Alongkorn Rajabhat University under the Royal Patronage, Phranakhon Si Ayutthaya Rajabhat University, Rambhai Barni Rajabhat University, Rajanagarindra Rajabhat University and Thepsatri Rajabhat University. Those staff have worked in the university, faculty and program level. The unit of analysis comprised university's board of director, faculty's executive, curriculum instructor information and academic staff. The number of the research target was obtained using Multi-Stage Random Sampling as well as was defined based on Schumacher's, Lomax's and Hair et al's theory (Schumacher & Lomax, 1996; Hair et al. 1998 cited in Wiratchai, 1999). Due to their theories, Multivariate Analysis was recommended. It fitted a group of 10-20 participants employing only 1 variable. The current study assigned 20 participants with only 1 variable and therefore 18 variables with the minimum 360 participants were obtained.

**The variables studied:** Independent and dependent variables were studied. (1) Independent variables comprised 2 latent variables that could be divided into 11 observed variables: (1.1) Managerial factors were measured from 4 observable variables; 1) organizational culture, 2) leadership change, 3) managerial strategies and 4) teamwork. (1.2) Organizational factors were measured from 7 observable variables; 1) public responsibility, 2) democratic system, 3) providing service-mind for all citizen, 4) professional management, 5) Downsizing, 6) results-based management and 7) Budget. Additionally, dependent variables comprised the readiness for implementing EdPEx of Rajabhat universities in the central region which was endogenous latent variables. The measurement showed 7 observable variables; 1) Leadership, 2) strategic planning, 3) customer, 4) measurement, analysis, and knowledge management, 5) workforce, 6) operations and 7) results.

**The data analysis:** The analysis was obtained from; (1) basic statistics including frequency and percentage that was used for exploring general data of the target, (2) correlate analysis between two factors of independent variables and dependent ones including arithmetic mean, standard deviation, maximum, minimum, distribution coefficient, as well as skewness and kurtosis of observable variables, (3) correlate analysis of model's variables employing coefficient correlation and SPSS for helping analyze the data. In addition, (4) path analysis was employed to investigate the correlation of cause-and-effect variables. The diagram and Structural Equation Modeling were employed to analyze the correlation of casual variables towards effect variables. To examine the correlation of casual relationship model based on the hypothesis and the empirical data, the researchers used Goodness of Fit Measures including, Chi-Square Statistic, Goodness of Fit Index: GFI, Adjusted Goodness of Fit Index: AGFI, Root Mean Squared Residual: RMR and Root Mean Square of Error Approximation = RMSEA.

## Research Results

The results showed that, firstly, the overall aspect of the readiness for implementing EdPEx of Rajabhat universities in the central region was high ( $\bar{x} = 3.67$ , S.D. = .823). Due to the individual questionnaire item of EdPEx implementation's readiness, the customer category showed the highest level ( $\bar{x} = 3.73$ , S.D. = .768) then following by the categories of workforce ( $\bar{x} = 3.71$ , S.D. = .955), measurement, analysis and knowledge management ( $\bar{x} = 3.70$ , S.D. = .893, results ( $\bar{x} = 3.69$ , S.D. = .878), leadership ( $\bar{x} = 3.68$ , S.D. = .890), operations ( $\bar{x} = 3.65$ , S.D. = .973) as well as strategic planning showed the lowest level ( $\bar{x} = 3.56$ , S.D. = .920) respectively. Secondly, factors about modern management and organizations explicitly affected the readiness for implementing EdPEx in form of linear correlation coefficient. Thirdly, the causal relationship model of the readiness for implementing EdPEx of Rajabhat universities in the central region showed the validity and correlation with the empirical data. According to the third result, the structural equation model of causal factors were analysed twice: The first analysis based on the third result showed that the model correlated with empirical data considering the model's validity as follow;  $\chi^2 = 6887.121$ ,  $df = 149$ ,  $P = 0.000$ ,  $\chi^2/df = 0.359$ , RMSEA = 0.352, SRMR = 0.052, CFI = 0.632, TLI = 0.578. The value was accepted that the model based on the theory correlated with the empirical data. It also significantly correlated factor loading of latent variables at .01. The second analysis based on the third result showed that the model correlated with empirical data considering the model's validity as followed;  $\chi^2 = 2881.390$ ,  $df = 90$ ,  $P = 0.000$ ,  $\chi^2/df = 0.284$ , RMSEA = 0.294, SRMR = 0.126, CFI = 0.845, TLI = 0.706. The value was accepted that the model based on the theory correlated with the empirical data. It also significantly correlated factor loading of latent variables at .01. The first analysis in term of Adjusted Goodness of Fit Index : AGFI was found that the model correlated with empirical data considering the model's validity as follow;  $\chi^2 = 6924.656$ ,  $df = 146$ ,  $P = 0.000$ ,  $\chi^2/df = 0.352$ , RMSEA = 0.359, SRMR = 0.058, CFI = 0.624, TLI = 0.560. The value was accepted that the model based on the theory correlated with the empirical data. The factor loading of Adjusted Goodness of Fit Index significantly showed the equation at .01. Moreover, the second analysis in term of Adjusted Goodness of Fit Index: AGFI was found that the model correlated with empirical data considering the model's validity as follow:  $\chi^2 = 6925.370$ ,  $df = 147$ ,  $P = 0.000$ ,  $\chi^2/df = 0.351$ , RMSEA = 0.358, SRMR = 0.057, CFI = 0.624, TLI = 0.563. The value was accepted that the model based on the theory correlated with the empirical data. The factor loading of Adjusted Goodness of Fit Index significantly showed the equation at .01.

## Discussion and Conclusion

According to the research study, the findings were showed that (1) the overall aspect of the readiness for implementing EdPEx of Rajabhat universities in the central region was high ( $\bar{x} = 3.67$ , S.D. = .823). Considering individual questionnaire item of the readiness for implementing EdPEx, the customer category showed the highest level following by workforce and the strategic planning category showing the lowest level respectively. (2)

factors about modern management and organizations explicitly affected the readiness for implementing EdPEx of Rajabhat universities in the central region related to the following results: 2.1) The Chi-Square-Statistic analysis of the overall aspect of modern-management factors explicitly affecting the readiness of EdPex implementation of Rajabhat universities in the central region showed the linear correlation. 2.2) The Chi-Square-Statistic analysis of the overall aspect of organizational factors explicitly affecting the readiness of EdPex implementation of Rajabhat universities in the central region showed the linear correlation. The analysis related to the research study of Tungdumnernsawad (2015) entitled, "The Relationship Between the Strategic Plan of Suan Dusit Rajabhat University AD. 2014-2017 and the Educational Quality Administration Accordance with Thailand and ASEAN Standard Criteria for Accreditation", in terms of: The Strategic Plan of Suan Dusit Rajabhat University AD. 2014-2017 positively correlated with the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation ( $r = 0.357$ ,  $p$ -value = 0.001,  $\alpha = 0.010$ ). Regression equation is the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation =  $0.203 + 1.086$  (the strategic plan of Suan Dusit Rajabhat University AD. 2014-2017). 2) The abilities to performance following the strategic plan of Suan Dusit Rajabhat University AD. 2014-2017 correlates in positive relationship with the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation ( $r = 0.419$ ,  $p$ -value = 0.001,  $\alpha = 0.010$ ). Regression equation is the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation =  $0.830 + 1.222$  (the abilities to follow the strategic plan of Suan Dusit Rajabhat University AD. 2014-2017). 3) The staff and all concerned had opinions on the relationship between the strategic plan of Suan Dusit Rajabhat University AD. 2014-2017 and the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation ( $M = 3.640$ ,  $S.D. = 0.125$ ). In addition, 4) The staff and all concerned had opinions on the abilities to follow the strategic plan of Suan Dusit Rajabhat University AD. 2014-2017 and the educational quality administration accordance with Thailand and ASEAN standard criteria for accreditation ( $M = 3.577$ ,  $S.D. = 0.134$ ). Besides Tungdumnernsawad's findings, the analysis also related to Ngamdee (2017)'s research study entitled, "A Case Study of the Achievement for Strategic KPIs Related to the EdPEx Criteria: Faculty of Pharmacy, Chiang Mai University". Its discover was that there were three important working-procedures affecting the achievement of strategic KPIs related to the EdPEx criteria as follows: 1) Senior leadership for organization excellence (1.1a Vision, Values, and Mission), 2) strategy development, resource management, workforce plan, and strategy implementation (2.2a action plan development and deployment) and 3) program and services development based on the customer's needs and expectations (3.1a listening to students and other customers). Moreover, 3) the causal relationship model of the readiness of EdPex implementation of Rajabhat universities in the central region showed the validity and correlation with the empirical data. The first analysis showed that the model correlated with empirical data considering the model's validity as follow;  $\chi^2 = 6887.121$ ,  $df = 149$ ,  $P = 0.000$ ,  $\chi^2/df = 0.359$ , RMSEA = 0.352, SRMR = 0.052, CFI = 0.632, TLI = 0.578. The value was accepted that the model based on the theory correlated with the empirical data. The model showed the validity. The second analysis based on the third result showed that the

model correlated with empirical data considering the model's validity as followed;  $\chi^2 = 2881.390$ ,  $df = 90$ ,  $P = 0.000$ ,  $\chi^2/df = 0.284$ , RMSEA = 0.294, SRMR = 0.126, CFI = 0.845, TLI = 0.706. The value was accepted that the model based on the theory correlated with the empirical data. The model showed the validity. However, the findings of the current study did not correlate with and differed from other research studies. This was probably because of employing different variables. Additionally, to study about the causal factors affecting the readiness for implementing EdPEx was conducted by few researchers so the current study's findings did not correlate with other research studies. Moreover, the analysis of the Structural Equation Modeling in term of Adjusted Goodness of Fit Index (AGFI) for the causal factors affecting the readiness for implementing EdPEx of Rajabhat universities in the central region showed that: Firstly, the model correlated with the empirical data considering the model's validity as follow:  $\chi^2 = 6924.656$ ,  $df = 146$ ,  $P = 0.000$ ,  $\chi^2/df = 0.352$ , RMSEA = 0.359, SRMR = 0.058, CFI = 0.624, TLI = 0.560. The hypothesis was accepted that the model based on the theory correlated with the empirical data or showed the validity. Secondly the model correlated with empirical data considering the model's validity as follow:  $\chi^2 = 6925.370$ ,  $df = 147$ ,  $P = 0.000$ ,  $\chi^2/df = 0.351$ , RMSEA = 0.358, SRMR = 0.057, CFI = 0.624, TLI = 0.563. The hypothesis was accepted that the model based on the theory correlated with the empirical data or showed the validity. However, the findings of the current study did not correlate with and differed from various research studies. This was probably because of employing different variables. Additionally, to study about the causal factors affecting the readiness for implementing EdPEx was conducted by few researchers so the current study's findings did not correlate with other research studies.

## Recommendations

There were three recommendations as follows: (1) Recommendations related to the research study comprising: 1.1) Compiling students' and customers' feedbacks about the quality and service of the program, supporting procedures and various services should be provided and able to be applied in the management. 1.2) Operations should be moved and improved when encountering any significant opportunities. Also, any innovation should be created from the operations. 1.3) Academic and service staff should be increased. 1.4) Various resources for quality assurance should be supplied, for instances supporting resources as well as IT replacement of existing workforce. (2) Recommendations related to strategic plans comprising: 2.1) Strategies, systems and procedures for constructing knowledge, elevating workforce's efficiency, producing innovative operation and encouraging responsibilities during being on duties should be promoted. 2.2) Visions and missions should be involved in the quality-assurance procedures. 2.3) The budget in terms of adequately supplying essential instrument and employing Information Technology for quality assurance should be highly considered. (3) Recommendation related to academic issues comprising: 3.1) Course curriculum and academic service's content should be updated based on the target's need aiming to serve higher expectation of direct targets and relevant industries. 3.2) The criteria for EdPEx should be studied then applied with the actual working-procedures for creating efficient operation. (4) Recommendations for the further research study including: 4.1) The curriculum styles of educational institutions that promotes their effectiveness should be

studied in order to develop the curriculum based on the current context and learners' requirement. 4.2) Technology factors and educational institutions' effectiveness for implementing EdPEx should be investigated because technology involves with the customers' daily life and disruptive society. 4.3) Theoretical framework particularly for EcPEx should be explored and constructed in order to help define other variables and find out its qualitative correlation. The variables mentioned included opinions and facts from the educational institutions to assure the quality of EdPEx implementation.

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