

## The Success in the Quality Culture Development of Thai Higher Education Institutions

Piyada Wattanasan<sup>1\*</sup>, Vichian Puncreobutr<sup>2</sup>, Sarun Wongwai<sup>3</sup>, Wilailak Tangcharaen<sup>4</sup>

<sup>1</sup>Lecturer, Faculty of Business Administration, St Theresa International College, 1 Moo 6, Rangsit-Nakornnayok Rd, Bungsan, Ongkarok, Nakornnayok 26120, Thailand

<sup>2,3,4</sup>Lecturer, Faculty of Education, St Theresa International College, 1 Moo 6, Rangsit, Nakornnayok Rd, Bungsan, Ongkarok, Nakornnayok 26120, Thailand

\*Corresponding Author Email: [piyada@stic.ac.th](mailto:piyada@stic.ac.th)

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### ABSTRACT

This research aimed to study an exploratory factor analysis of the quality culture development of Thai higher education institutions, and to study the success in applying the components of quality culture development of Thai higher education institutions to the case study of St. Theresa International College. This research was a quantitative research consisting of two steps. The first step was the study of the components of quality culture development of Thai higher education institutions. The sample group was faculty members and administrators in public and private higher education institutions, amounting to 1,220 people. The statistics used in the research were exploratory factor analysis. The second step was the study of the success in applying the components of quality culture development of Thai higher education institutions to the case study of St Theresa International College. The sample group was 113 faculty members of St Theresa International College in the academic year 2017 and 113 faculty members in the academic year 2019. The statistics used in the research were t-Test.

The results of the study found that 1) the components of quality culture development of Thai higher education institutions consisted of 5 components which are quality-oriented leadership, the application of quality culture in routine work, quality of teamwork, quality of dedication and personal contribution, and quality of knowledge management. These 5 components can explain 69.584 percent of the variance of variables. 2) The study of the success in applying the components of quality culture development in Thai higher education institutions to the case study of St Theresa International College found that comparing the levels of quality culture development of St Theresa International College, there was a higher quality culture level in the academic year 2019 than in the academic year 2017, both overall and in all components, statistically significant at the .01 level. The components with the highest level of success in descending order were quality-oriented leadership, quality of knowledge management, quality of dedication and personal contribution, the application of quality culture in routine work, and quality of teamwork, respectively.

**Keywords:** Quality culture, Quality of Thai higher education institutions, The success of quality culture development

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### Introduction

Higher education institutions must provide quality education to meet educational standards in a form that is flexible and diverse in response to the needs of learners and the labor market (Lemaitre, 2009; Puncreobutr et. al., 2017) with a vision that

is close to the business and industrial sectors (European University Association, 2007), and have a quality management process within higher education institutions as well as having a continuous external quality assessment process (Stravinskiene, 2010; Puncreobutr, 2019)

to create a quality culture in higher education institutions (Havey, 2009; Stravinskiene, 2010).

Quality culture means having shared values, beliefs, attitudes, norms, determination, shared basic assumptions, a proactive approach to work, originality, delight communication, unity, integrity, and having the trust of individuals, groups, and stakeholders of quality (European University Association, 2010; Chantakhad & Chatuprachewin, 2017). As well as considering the effectiveness of professionally oriented management (Berings, 2010) that institutions must create to become behaviors with desirable characteristics for personnel at all levels of the organization.

The process of building a quality culture in the organization must begin operations from quality management planning, setting good practices, measuring and assessing the quality of operations, continuous quality improvement, consideration of output and societal aspirations, executive commitment to quality, workforce development, shared values and being role models (Domovic and Vidovic, 2009; Chantakhad & Chatuprachewin, 2017). With having a shared vision and goals of personnel, participation in defining the needs of stakeholders, adherence to long-term personnel quality development, dedication of time and energy to continually improve the quality of work, enthusiasm in quality improvement activities, and cooperation of all personnel in quality development. The decision-making process of quality improvement is based on a basis of true information and the use of feedback, finding the root cause of problems in the work process rather than increasing the workload of personnel, and building quality without increasing costs (Detert, Loius, & Schroeder, 2001; Harvey and Stensaker, 2004).

The promotion of quality culture should set clear guidelines for personnel encouragement, such as encouraging

personnel to recognize the importance of learners and stakeholders, recognize the importance of self-development, accept the process of quality assurance, use information systems to improve work efficiency and make decisions. To have teamwork orientation values, accept the leadership of the organization's leaders in enhancing the quality culture, and apply good practices of successful organizations to create change (Ehlers, 2009; Katiliute and Neverauskas, 2009; Chantakhad & Chatuprachewin, 2017).

The approach to promote quality culture in educational institutions should be a step-by-step process from studying the vision and strategy of the institution, assessing the current quality culture of the institution, analyzing the institution's quality culture that requires promotion or change, to establishing guidelines to support and drive into implementation the desired quality culture, building a body of knowledge and skills related to quality culture, continuously measuring and evaluating the performance, and building high morale and encouragement (Faculty of Education Chulalongkorn University, 2010; Chantakhad & Chatuprachewin, 2017).

The essential prerequisites for a change in quality culture are the vision and organizational leadership of executive leaders, the commitment and support on the overall quality management principles of leaders at all levels of the organization, personnel acknowledgement and attitude towards educational quality assessment, participation in educational quality assessment, communication on educational quality assessment, trust in the results of educational quality assessment, as well as a shared commitment to quality (Gallear & Ghobadian, 2004; Devison and Al-Shaghana, 2007; Katiliute and Neverauskas, 2009).

To develop a quality culture in higher education institutions in the context of Thailand in a concrete manner, the

researcher believed it was suitable to study an exploratory factor analysis in the quality culture development of Thai higher education institutions and to study the success in applying the components of quality culture development of Thai higher education institutions to develop higher education institutions. This will be beneficial to higher education institutions, the involved people, or related organizations, to use as information for management, promotion, and support, as well as providing information to personnel to create a change in the quality culture of Thai higher education, to become prepared for changes and further development in becoming an international quality higher education institution.

### Research Objectives

This study aimed to

1. Conduct an exploratory factor analysis of the quality culture development of Thai higher education institutions
2. Study the success in applying the components of quality culture development of Thai higher education institutions to the case study of St. Theresa International College

### Research Methodology

This research is quantitative research. It consisted of a study in two steps:

**Step 1:** Component analysis of quality culture development

This step studied the components of quality culture development of Thai higher education institutions. The population was 74,249 faculty members in Thai public and private higher education institutions (Office of the Higher Education Commission, 2017). The sample group was faculty members in higher education institutions. The sampling method was systematic random sampling according to the types of university. The number of samples was 1,220 people. The instrument used was a questionnaire developed by the researcher. A quality assessment by 5

experts found that the index of item-objective congruence (IOC) was between 0.65-1.00, and subsequently the IOC was used to try out test 30 non-sample faculty members. The questionnaire was found to have a discriminant index of 0.69-0.89 and a reliability index of 0.92. Consequently, the questionnaires were used to collect data from the sample group. The questionnaires were sent by postal mail to the sample group with mail reply envelopes attached. The data obtained from the questionnaires were used for analysis with the exploratory factor analysis method.

The suitability of the data was evaluated using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and testing the relationship of the variables with Bartlett's Test of Sphericity. The variance of each variable was tested using the communality, the factor extraction with a principal component analysis, and the orthogonal rotation with the varimax method.

The researcher collected data during March 2016 – October 2016, then analyzed the data and summarized the results of the study.

**Step 2:** Study the success in applying the components of quality culture development of Thai higher education institutions

This step applied the components of quality culture development of Thai higher education institutions obtained from step 1 to trial at St Theresa International College, to find the success in the quality culture development of St Theresa International College. The sample group was 113 faculty members of St Theresa International College in the academic year 2017 and 113 faculty members in the academic year 2019. The statistics used in the research were mean and t-test.

In this stage, St Theresa International College has developed its quality culture according to the components of organizational quality culture development of Thai higher education institutions in the

academic year 2017 - 2019. The researcher collected data during June 2017 - March 2020, then analyzed the data and summarized the results of the study.

### Results of the Study

The researcher would like to present the results of the study in 2 steps. The results of the study are as follows:

#### Step 1: Exploratory Factor Analysis

In the exploratory factor analysis of quality culture development of Thai higher education institutions, the researcher studied a document analysis and found that there were 31 variables related to quality culture development, all variables were analyzed as follows:

Kaiser-meyer-olkin measure of sampling adequacy	.891
Bartlett's Test of Sphericity Chi-Square	33820.100
df	469
Sig.	.000
n	1220

From Table 1, it was found that all 31 observed variables used in the component analysis of organizational quality culture development of Thai higher education institutions had a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value of .891, which is greater than 0.50, indicating that the variables are related to each other in a very adequate level. In performing exploration analysis, the statistical significance was tested with Bartlett's Test of Sphericity, it was found that the statistical significance was at the .001 level, indicating that the correlation matrix had the unity of the identity matrix, therefore, the variables used are suitable for component analysis.

1.2 Examining the communality of the variables

1.1 Examining the relationship between the variables used in the study

The results of the examination of relationship between 31 variables used in the study with the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity to test the unity of the identity matrix, and to determine whether the 31 variables are related and is suitable for component analysis, as shown in Table 1.

Table 1 Analysis results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity of component analysis of organizational quality culture development of Thai higher education institutions

The results of the examination of variables used in the component analysis of quality culture development of Thai higher education institutions found that all variables had a communality value greater than .500, with communality values between .535 – .836. Therefore, the researcher used all 31 variables for component analysis in the next step.

#### 1.3 Factor extraction

Factor extraction was performed using common factor analysis (CFA) by principal axis factoring (PAF), and orthogonal rotation using the varimax method, the resulting number of components and the Eigen value are as shown in Table 2.

Each of which has an Eigen value greater than 1, and the percentage of cumulative variance for all 5 components

Table 2 Number of components, Eigen value, and the percentage of cumulative variance for each component after factor extraction

Component	Eigen Value	% of Variance	% of Cumulative Variance
1	4.945	15.951	15.951
2	4.882	15.748	31.699

3	4.649	14.998	46.697
4	3.613	11.654	58.350
5	3.483	11.234	69.584

From Table 2, it is found that there were 5 components, each of which has an Eigen value greater than 1, and the percentage of cumulative variance for all 5 components is 69.584. This can explain that the components of quality culture development of Thai higher education institutions which consists of 5 components, 69.584 percent can be used as components of quality culture development of Thai higher education institutions.

1.4 Using factor loading to determine which component the variables should be in

The criteria for determining which variable should be in which component used factor loading of each variable. The factor loading value must be greater than 0.30, then the components are designated by selecting the variables with the highest factor loading on that component and checking that there must be 3 or more variables that contribute to the variance of each component. The results of the study are shown in Table 3.

Table 3 Factor loading of the variables of quality culture development of Thai higher education institutions after orthogonal rotation by the varimax method

	Component 1		Component 2		Component 3		Component 4		Component 5	
	Variable	Factor Loading	Variable	Factor Loading	Variable	Factor Loading	Variable	Factor Loading	Variable	Factor Loading
	C1	.801	A2	.631	E6	.697	B5	.677	A1	.587
	C2	.824	A3	.619	E7	.688	D1	.692	E1	.622
	C3	.837	A4	.670	B1	.697	D2	.720	E2	.718
	C4	.816	A5	.560	B2	.695	D3	.752	E3	.784
	C5	.703	A6	.727	B3	.794	D4	.758	E4	.518
	D5	.643	A7	.759	B4	.755			E5	.596
			A8	.805						
		A9	.633							
Eigen Value	4.945		4.882		4.649		3.613		3.483	
% of Variance	15.951		15.748		14.998		11.654		11.234	
% of Cumulative Variance	15.951		31.699		46.697		58.350		69.584	

From Table 3, it is found that there were 5 components. Component 1 consisted of 6 variables and has an Eigen value of 4.945. Component 2 consisted of 8 variables and has an Eigen value of 4.882. Component 3 consisted of 6 variables and has an Eigen value of 4.649. Component 4 consisted of 5 variables and has an Eigen value of 3.613. Component 5 consisted of 6 variables and has an Eigen value of 3.483.

1.5 Naming the components

Resulting the analysis of variables in each component, the researcher has named the

components that can explain all variables in each of the 5 components as follows:

Component 1 was a component describable with 6 variables. The factor loading values were 0.643-0.837. The resulting variables were (C1) the vision and organizational leadership of executive leaders, (C2) the commitment on quality of executives at all levels, (C3) the support on the overall quality management principles of leaders at all levels of the organization, (C4) the decision-making process of quality improvement is based on a basis of true information and the use of feedback, (C5)



finding the root cause of problems in the work process rather than increasing the workload of personnel, and (D5) continuous development of education quality. After considering the characteristics of each variable, it was deemed appropriate to name this component 'quality-oriented leadership'. All variables contribute to the component with a weighting value of 4.945, and as compared with the total covariance, accounted for 15.951% of the 5 components.

Component 2 was a component describable with 8 variables. The component weights were 0.560-0.805. The resulting variables were (A2) the acceptance of the leadership of organization's leaders in enhancing the quality culture, (A3) establishing guidelines to support and drive into implementation the desired quality culture, (A4) setting clear guidelines for personnel encouragement and development, (A5) personnel acknowledgement and good attitude towards educational quality assessment, (A6) the acceptance of the process of quality assurance, (A7) communication on educational quality assessment, (A8) participation in educational quality assessment, and (A9) continuously measuring and evaluating the performance of quality culture development. After considering the characteristics of each variable, it was deemed appropriate to name this component 'the application of quality culture in routine work'. All variables contribute to the component with a weighting value of 4.882, and as compared with the total covariance, accounted for 15.748% of the 5 components.

Component 3 was a component describable with 6 variables. The component weights were 0.688-0.794. The resulting variables were (E6) trust in the results of educational quality assessment, (E7) a shared commitment to quality, (B1) having a shared vision and goals of personnel, (B2) having teamwork orientation values, (B3)

adherence to long-term personnel quality development, and (B4) cooperation of all personnel in quality development. After considering the characteristics of each variable, it was deemed appropriate to name this component 'quality of teamwork'. All variables contribute to the component with a weighting value of 4.649, and as compared with the total covariance, accounted for 14.998% of the 5 components.

Component 4 was a component describable with 5 variables. The component weights were 0.677-0.758. The resulting variables were (B5) building quality without increasing costs, (D1) recognizing the importance of learners and stakeholders, (D2) recognizing the importance of self-development, (D3) dedication of time and energy to continually improve the quality of work, and (D4) enthusiasm in quality improvement activities. After considering the characteristics of each variable, it was deemed appropriate to name this component 'quality of dedication and personal contribution'. All variables contribute to the component with a weighting value of 3.613, and as compared with the total covariance, accounted for 11.654 percent of the 5 components.

Component 5 was a component describable with 6 variables. The component weights were 0.518-0.784. The resulting variables were (A1) personnel's consideration of output and societal aspirations, (E1) shared values and being role models of quality culture, (E2) the use of information systems to improve work efficiency and make decisions, (E3) applying good practices of successful organizations to create change, (E4) building a body of knowledge and skills related to quality culture, and (E5) setting good practices derived from the enhancement of quality culture. After considering the characteristics of each variable, it was deemed appropriate to name this component 'quality of knowledge management'. All variables contribute to the component with a weighting value of 3.483, and as compared

with the total covariance, accounted for 11.234 percent of the 5 components.

The results of the overall component analysis can be summarized as shown in Table 4, it was found that there were 5 components of quality culture development of Thai higher education institutions, each component has an Eigen value greater than 1 and all 5 components can explain 69.584

percent of the variance of variables (Table 4). After considering the characteristics of each variable, it was deemed appropriate to name this component 'quality of teamwork'. All variables contribute to the component with a weighting value of 4.649, and as compared with the total covariance, accounted for 14.998% of the 5 components

Table 4 Component analysis of quality culture development of Thai higher education institutions

Component	Eigen Values	% of Variance	Component Names
1	4.945	15.951	Quality-oriented leadership
2	4.882	15.748	The application of quality culture in routine work
3	4.649	14.998	Quality of teamwork
4	3.613	11.654	Quality of dedication and personal contribution
5	3.483	11.234	Quality of knowledge management

## Step 2: Studying the success in applying the components of quality culture development of Thai higher education institutions

The study of the success in applying the components of quality culture development in Thai higher education institutions to the case study of St Theresa International College was conducted by having St Theresa International College develop its quality culture according to the components of organizational quality culture development of Thai higher education institutions in the academic year 2017-2019. The researcher studied the levels of success in developing organizational quality culture as follows:

In the academic year 2017, the level of organizational quality culture of St Theresa International College was measured with the college's faculty members at the beginning of the academic year 2017, before the development. Then in the academic year 2019, the level of organizational quality culture of St Theresa International College was measured with the college's faculty members at the end of the academic year 2019, after the end of the development period. Afterwards, the level of organizational quality culture in the academic year 2017 was compared with the level of organizational quality culture in the academic year 2019, the results of the study are shown in Table 5.

Table 5 Comparison of the level of quality culture development of St Theresa International College by academic year

Components	2017 (n=113)		2019 (n=113)		t	p
	Average	S.D.	Average	S.D.		
Quality-oriented leadership	4.168	.5225	4.457	.5699	3.974**	.000
The application of quality culture in routine work	4.065	.4531	4.310	.6354	3.345**	.001
Quality of teamwork	3.986	.5573	4.269	.7573	3.201**	.002
Quality of dedication and personal	4.136	.4521	4.391	.5479	3.813**	.000

contribution						
Quality of knowledge management	4.190	.4481	4.449	.5367	3.946**	.000
Overall organizational quality culture	4.105	.4167	4.371	.5647	4.021**	.000

\*p< .05 \*\* p< .01

From Table 5, the results of the study were as follows:

The level of quality culture of St Theresa International College studied with the college's faculty members at the beginning of the academic year 2017, before the development, found that the overall level of quality culture was at a high level (4.105). When studying each component, it was found that there was a high level of quality culture in all components. In descending order: quality of knowledge management (4.190), quality-oriented leadership (4.168), quality of dedication and personal contribution (4.136), the application of quality culture in routine work (4.065), and quality of teamwork (3.986).

The level of quality culture of St Theresa International College studied with the college's faculty members at the end of the academic year 2019, after the end of the development period, found that the overall level of quality culture was at a high level (4.371). When studying each component, it was found that there was a high level of quality culture in all components. In descending order: quality-oriented leadership (4.457), quality of knowledge management (4.449), quality of dedication and personal contribution (4.391), the application of quality culture in routine work (4.310), and quality of teamwork (4.269).

The comparison of the level of quality culture in the academic year 2017 with the level of quality culture in the academic year 2019 found that the overall level of quality culture in the academic year 2019 was higher than the overall level of quality culture in the academic year 2017, statistically significant at the .01 level (t 4.021, p .000). When studying each component, the level of quality culture in the academic year 2019 was higher than

the level of quality culture in the academic year 2017, statistically significant at the .01 level.

The results of the comparison between the level of quality culture in the academic year 2017 and the level of quality culture in the academic year 2019 showed that St Theresa International College has been successful in developing a quality culture, both overall and in individual components. The components with the highest level of success in descending order were quality-oriented leadership, quality of knowledge management, quality of dedication and personal contribution, the application of quality culture in routine work, and quality of teamwork, respectively. In addition, it was also found that personnel were able to enhance the quality culture in the quality-oriented leadership component to be the top priority quality culture.

### Summary of the results of the study

1. Exploratory factor analysis of the quality culture development of Thai higher education institutions

The study results showed that

1.1 Component: The organizational quality culture development of Thai higher education institutions consisted of 5 components: quality-oriented leadership, the application of quality culture in routine work, quality of teamwork, quality of dedication and personal contribution, and quality of knowledge management. All 5 components can explain 69.584 percent of the variance of variables.

1.2 The quality-oriented leadership component consisted of 6 variables: the vision and organizational leadership of executive leaders, the commitment on quality of executives at all levels, the support on the overall quality management principles of leaders at all levels of the organization, the decision-making process



of quality improvement is based on a basis of true information and the use of feedback, finding the root cause of problems in the work process rather than increasing the workload of personnel, and continuous development of education quality.

1.3 The application of quality culture in routine work component consisted of 8 variables: the acceptance of the leadership of organization's leaders in enhancing the quality culture, establishing guidelines to support and drive into implementation the desired quality culture, setting clear guidelines for personnel encouragement and development, personnel acknowledgement and good attitude towards educational quality assessment, the acceptance of the process of quality assurance, communication on educational quality assessment, participation in educational quality assessment, and continuously measuring and evaluating the performance of quality culture development.

1.4 The quality of teamwork component consisted of 6 variables: trust in the results of educational quality assessment, a shared commitment to quality, having a shared vision and goals of personnel, having teamwork orientation values, adherence to long-term personnel quality development, cooperation of all personnel in quality development.

1.5 The quality of dedication and personal contribution component consisted of 5 variables: building quality without increasing costs, recognizing the importance of learners and stakeholders, recognizing the importance of self-development, dedication of time and energy to continually improve the quality of work, and enthusiasm in quality improvement activities.

1.6 The quality of knowledge management component consisted of 6 variables: personnel's consideration of output and societal aspirations, shared values and being role models of quality culture, the

use of information systems to improve work efficiency and make decisions, applying good practices of successful organizations to create change, building a body of knowledge and skills related to quality culture, and setting good practices derived from the enhancement of quality culture.

2. A study of the success in applying the components of organizational quality culture development of Thai higher education institutions to the case study of St Theresa International College

2.1 The level of quality culture of St. Theresa International College in the academic year 2017, before the development, was found to have a high overall level of cultural quality (4.105). When studying each component, it was found that there was a high level of quality culture in all components. In descending order of high to low quality culture level, quality of knowledge management (4.190), quality-oriented leadership (4.168), quality of dedication and personal contribution (4.136), the application of quality culture in routine work (4.065), and quality of teamwork (3.986).

2.2 The level of quality culture of St. Theresa International College in the academic year 2019, after the end of the development period, was found to have a high overall level of quality culture (4.371). When studying each component, it was found that there was a high level of quality culture in all components. In descending order of high to low quality culture level, quality-oriented leadership (4.457), quality of knowledge management (4.449), quality of dedication and personal contribution (4.391), the application of quality culture in routine work (4.310) and quality of teamwork (4.269).

2.3 The comparison of the level of quality culture development of St Theresa International College showed that in the 2019 academic year, there was a higher level of quality culture than the 2017 academic year, both overall and in all

components. The components with the highest level of success in descending order were quality-oriented leadership, quality of knowledge management, quality of dedication and personal contribution, the application of quality culture in routine work, and quality of teamwork, respectively.

2.4 A study of the success in applying the components of organizational quality culture development of Thai higher education institutions to the case study of St Theresa International College found that St Theresa International College has been successful in developing a quality culture.

### **Recommendations**

#### **Recommendations for applying the research results**

From the study of the components of organizational quality culture development in Thai higher education institutions, it was found that the quality-oriented leadership component was the top priority. Therefore, higher education institutions and related organizations should accelerate the development of leadership that is oriented towards the quality of higher education to keep up with changes according to personnel acknowledgement.

From the study, it was found that in the academic year 2019, St Theresa International College has a higher level of quality culture in the quality-oriented leadership component, which is a top priority quality culture. This endorses that the success in applying components of organizational quality culture development of Thai higher education institutions must begin with emphasizing quality-oriented leadership in higher education institutions. Therefore, executives or related organizations should accelerate the creation of quality-oriented leadership to entail evident practice.

#### **Recommendations for further research**

From the study of the components of organizational quality culture development in Thai higher education institutions, it was found that 5 components can explain 69.584 percent of the variance of variables.

Therefore, the factors affecting the organizational quality culture development of Thai higher education institutions should be studied further.

The study found that St Theresa International College succeeded in developing a quality culture according to the components of organizational quality culture development of Thai higher education institutions. Therefore, there should be further studies on other institutions.

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