

The Factors Influencing the Educational System of Maturity between Taiwan Straits

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Abstract—This technical report address two cases study the organizational capability maturity based on the principles of ISO 9004:2009. The object is relating two universities of the Taiwan straits respectively located between Taiwan and Fujian. It used the qualitative approach of self-assessment the actual facts. The main point of study is to explore six factors influencing the maturity, namely, managing for the aim of an organization, strategy and policy, resource management, process management, monitoring, measurement analysis and audit, improvement, innovation and learning. Findings are as follows. Application of six facets of management system ISO9004: 2009 to self-assess the organization capability maturity of these two universities. The first one FUIST is the score 2.55 of the level 2. It means the organization capability belong to awakening stage with reactive proposal. The other TSU is the score 3.251 of level 3. It means that the organization capability belong enlightenment stage with formal sustainable proposal. Two of six aspects of international standards are important. The most important factor is the strategy and policy of an organization will affect the management for sustained success. The second points for the success of an organization include monitoring, measurement analysis and audit.

Keywords—self-assess; capability maturity; international standard

I. RESEARCH PURPOSES

Two cases study of the Taiwan straits were selected to explore study purpose which is listed as follows:

- To apply the six dimensions by ISO9004 international standard code for case study of organization maturity.
- To analyze the difference between the two cases study self-assess maturity degree.

II. LITERATURE REVIEW

Review of literature focused on the international standard system on managing the organization, and how to apply the international quality management standard.

A. The Continued Successful Management

In accordance with ISO9004 international standards in this section it is important to understand the changes in the development of its core meaning, according to clear criteria advantage of the enterprise, in order to enhance organizational capacity to achieve sustainable success of an organization. ISO9004 standard is the basic foundation of common business excellence, and management according to the characteristics of the actual needs of the organization created, it is a unique part of business excellence. ISO9004 international standard to focus on the organizations overall performance and efficiency, and seek continuous improvement of the results, it attached to data collection and analysis.

B. Self-assessment

ISO9004: 2009 standard to take extended model of a process-based quality management system. Its scope included leadership, pronged strategy, management system, resources and processes, advantages and disadvantages judgment, improvement and innovation. ISO9004: 2009 standard took a maturity model similar checker Crosby, a set tools of self-assessment are proposed for the top management of "key elements of self-assessment" to gain organizational behavior and current performance of the basic Learn; and for all operational managers and process owners a "detailed elements of self-assessment" to gain insight into organizational behavior and current performance.

C. Organizational Capability Maturity

Organizational capability maturity is a new evaluation methods, is being widely used in the field of management, such as the Capability Maturity Model (CMM), Human Resources Capability Maturity Model (P-CMM), Project Management Maturity Model (PM-CMM), Knowledge Management Maturity Model (KM-CMM), Systems Engineering Capability Maturity Model (SE-CMM) and so on. This study used the ISO9004 standard capability maturity model. According to ISO9004 standard management system proposed organizational maturity assessment model and criteria to evaluate the performance of its activities and a

comprehensive system, based ISO9004 standards, the ISO9004:2009 maturity model gives performance criteria and maturity level corresponding generic examples, from level 1 (basic level) to Level 5 (best practices) to evaluate management system and process maturity levels of the organization. Appendix A of this standard also provides a typical issue includes a breakdown of the key elements and elements can refer to the organization can be used directly, self-assessment form or be developed based on ego needs.

D. Case Study

Two cases study of the Taiwan straits, both Taiwan Shoufu University (TSU) and Fuzhou University of International Studies and Trade (FUIST), will be introduced as follows.

Taiwan Shoufu University (TSU) was established in 2000 and is located in Tainan, city of ancient culture. Because of its excellent record, in 2010 the school was accredited by the Ministry of Education, and upgraded to become "Taiwan Shoufu University." Now TSU has 3 colleges, 18 departments, and 2 degree programs.

The Mission of TSU is to cultivate outstanding students and to ensure their bright future. The impact of low birth rate and high unemployment rate causes unprecedented revolution in the academy and in the work place. Taiwan Shoufu University opens up a whole new page in higher education. Taiwan Shoufu University is a teaching-intensive school focusing on leisure industry. TSU has its own internship hotel which provides students with an excellent place for learning and doing internships. This can help them get a job right after they graduate. TSU ensure that their students will be equipped with plenty of skills and become valuable assets of the society.

In order to increase domestic needs, Taiwan government launches six policies in order to boost up the industries of tourism, medical care and bio-technology, etc. All of these generate a third industry; that is, the service industry. Taiwan Shoufu University initiates a cross-department program which integrates courses from some major fields, including the fields of applied digital technology, marketing, health care, international tourism, leisure and recreation management, "green" management, hospitality management and coffee culture. This program provides a well-rounded education for their students.

Fuzhou University of International Studies and Trade (FUIST) founded in 2004, was upgraded into a private regular university upon approval by the Ministry of Education in 2011, and now it is the initiative and vice-president unit of the National Non-profit Privately-run Institutions of Higher Learning.

The University is located in Changle City of Fuzhou, the Capital of Fujian. Changle, a portal of Fuzhou, has long been known as a "Coastal Cultural City". Actively promoting the education concept of "Benevolence in mind, in words, and in action", FUIST is prioritizing on offering education with good intention and cultivating talents to the highest standard. With the comprehensive implementation of the development strategy – "Building the University with quality, strengthening

the University with talents and prospering the University with characteristics".

The University has 22 undergraduate majors; including English, Translation, French, Japanese, International Economics and Trade, Economic Statistics, Financial Engineering etc., covering discipline categories such as Economics, Literature, Management, and Art etc. The University is among the first batch of pilot Universities in Fujian cooperating with Taiwan universities in running schools and attaches great importance to international exchanges and cooperation between Fujian and Taiwan. The University has successively established teaching and scientific research cooperation with New Zealand Massey University, University of Plymouth, Thailand Dhurakij Pundit University and Taiwan ChungYuan Christian University, Mingdao University, Shu-Te University and other universities.

Standing at a new starting point, we will continue adhering to the motto of the University – "achieving mastery through integrating the essence of eastern and western education philosophies" and the spirit of "Virtue, Diligence, Practice, Innovation" to move towards the grand goal of "Centurial FCFST, First-class education institution"!

The case study is through the pathway for a single or a number of case studies by collecting and multiple comparative analysis of multivariate data in order to find the regularity of things, it is a logical thought process-oriented, in order to seek solutions to problem. As early as 1870, Harvard Law School, that is creating a case study using this method to train students to think about the principles of principles of law. According to Ye Re (2001) research, this method was originally used for medicine, used to study the patient's case, one after another in the field of psychology, sociology and business administration, etc. have been used so far in the use of education is quite wide. The so-called cases, Andrews (1951) that: the case is a description of the real situation. "Cases" are usually written in words, but described the situation will stimulate the reader's thinking, how to make it recognize the truth, finding problems, and how to deal with them. Chen Wanqi (1995) is pointed out that the so-called case is related to the fact that many of the instructions, which provides the status of the problem in order to find a solution to the problem to be a viable solution. Facts or events it describes must be really true, non-fiction, and there should be one or several central issues, and make an objective description without subjective comment.

III. RESEARCH APPROACHES

According to ISO 9004: Step 2009 Appendix A, the capability maturity is divided into five grades. That is:

Level1 (basic level): No formal program.

Level2: Reaction type program.

Level3: Formal, stable system program.

Level4: Value continuous improvement.

Level5 (best practices): Achieve the best operational level

The organization launched the self-assessment is as follow steps.

S1. Determine the type of organization needed to implement self-assessment.

S2. Identify the person responsible for the implementation of the self-assessment time.

S3. Determine how to implement self-assessment by individuals to complete self-assessment of the implementation of those appointed to help implement the self-assessment process.

S4. Identify the organizational maturity level of each process. By releasing cases with the organization's current situation and listed in the table comparing the elements indicated organizations are applied, starting from level 1 to a higher level of maturity unfolds, you can determine the organizational maturity level of each process, organizations in order to achieve no gap is the highest maturity level between organizations given the current maturity level guidelines.

S5. A summary of the results is to prepare reports with charts may help understanding of the results.

S6. Evaluation of the organization's current process performance, identify areas of improvement and innovation. Through self-assessment process should and action plan based on the results of the self-assessment to identify opportunities to improve the development and innovation.

IV. RESULT AND DISCUSSION

A. Empirical Results

General directors in accordance with the table of self-censorship issue guidelines detailing each facet elements of the management system and the actual situation of the organization's process maturity evaluation given in the appropriate column of maturity to "1" indicates the maturity level of the high, the higher the score, the final score will detail the guidelines obtained by averaging the average maturity level of the facet elements. Design approach for the establishment of the score sheet in the score sheet in five score for each facet scale, represents a different level of performance assessment scores, up to 5 scores, a minimum of one minute; the higher assessment scores represent the pointer better project performance lower scores represent the pointer project performance worse.

In accordance with ISO9004: 2000 guidelines in Chapter 4 to Chapter 9 operative terms, evaluate the business continued success six facets of organizational capacity performance.

In this study, six factors are named from "D1" to "D6". The detail addressed as follows. "D1" continued successful management, "D2" strategy and policy, "D3" resources management, "D4" process management ", "D5" monitoring, measurement, analysis and review, "D6" improvement, innovation and learning. "For facets pointer sustained success of the organization's ability to manage the system, to be evaluated by way of the score sheet of its performance situation. The result by the capability maturity self-assessment from these two cases is to find that FUIST is the score 2.55 of the level 2. It means the organization capability belong to awakening stage with reactive proposal. TSU is the score 3.251

of level 3. It means that the organization capability belong enlightenment stage with formal sustainable proposal. They are shown in the both "Table I" and "Fig. 1" as follow.

TABLE I. THE MATURITY COMPARISON OF TWO UNIVERSITIES OF THE TAIWAN STRAITS

Six Dimension		FUIST	TSU	Difference
D1	Continued successful management	3	3.5	0.5
D2	Strategy and policy	2.4	3	0.6
D3	Resource management	2.3	3.1	0.8
D4	Process management	2	2.7	0.7
D5	Supervision, measurement, analysis and review	2	3	1
D6	Improvement, innovation and learning	2.1	3	0.9
Overall average score		2.55	3.25	0.7
Level		Level 2	Level 3	

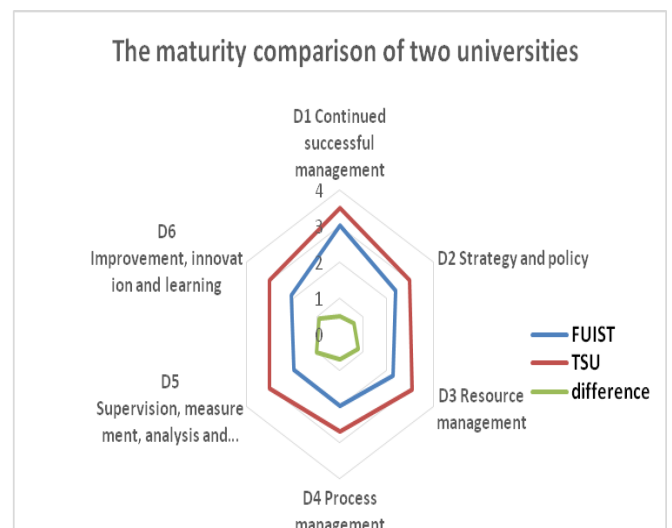


Fig. 1. Radar chart to show organization maturity of two universities of the Taiwan straits

B. Discussion

Six facets structure model system policies and guidelines will affect the organization. The organization continued success of management from enterprise continued success capacity assessment, showing facets D2"strategies and guidelines" as the main source of influence, facets D1 'continued success management "as the ultimate source is affected. Experts interviewed believe that top management must establish and maintain a clear and transparent organizational vision, mission and objectives and to members of the organization and the interests of stakeholders can understand and accept.

The organization continued success for the organization of the key elements of supervision, measurement, analysis and review of interviewed experts believe facets D5 "Monitoring, measurement, analysis and review of the" highest importance, represents the organization in a changing and uncertain

environment, we need continuous monitoring, measurement, analysis and review of its internal and external environment and the overall performance of the organization. With the audit process to ensure that the process activity is consistent with the policy objectives. Any deviation will be planned to take timely corrective and preventive measures. In addition, through the Capability Maturity performance of organizational activities and performance of self-assessment provide an opportunity to recognize and deepen organizational improvement, enabling organizations to continue toward the set vision and goal to achieve continued success and sustainable development objectives.

Locate your maturity level through self-assessment, and then proposed improvement measures an organization case for this study through self-assessment to understand the maturity level of organizational capacity, and to organize an organization point to help clarify the direction and building management, management executives take to find a direction and organizational improvement priority. These study two cases by the capability maturity self-assessment to find elements of "monitoring, measurement, analysis and review" priority for improvement, and by analyzing the ability to assess the continued success, to understand its impact source for the indicator elements' strategy and policy "reference organization for improvement.

Organization's management system, process activities and identification and optimization of resources are required to follow the policy objectives of the organization's expansion, the organization shall also through regular supervision, measurement, analysis and review of the program objectives and procedures of compliance. Member's continuous process improvement and innovation through learning, thus improving the organization continued to successfully manage the performance and competency elements.

V. CONCLUSION AND SUGGESTIONS

A. Conclusion

These two cases of organizational maturity are belonging to the middle and lower level. The first one FUJIST is the score 2.55 of the level 2. It means the organization capability belong to awakening stage with reactive proposal. The other TSU is the score 3.251 of level 3. It means that the organization capability belong enlightenment stage with formal sustainable proposal.

There are two key points from six factors. Two of six aspects of international standards are important. The most important factor is the strategy and policy of an organization will affect the management for sustained success. The second points for the success of an organization include monitoring, measurement analysis and audit.

The organization self-assess results of the completed cases should be to improve and /or innovative plan of action and high-end management as an input to the review in accordance with international standards in this element of the implementation planning. Information obtained from the self-assess also is used to:

- To promote innovation compared with benchmarking learning.
- To assess the baseline assessment and identification of improved range priority challenge with the best organizations.

B. Suggestions

- Apply the ISO9004 standard to establish excellent quality management system continued success. Through the implementation of ISO9004 standards organizations should, change management ideas inherent executives and management practices. And standards emphasize meet stakeholder needs and expectations of the core ideas for organizations in planning the establishment, operation and improvement of management systems consider when creating value for stakeholders in order to obtain profits. Organizations in the implementation of any activities and processes, must take into account their effectiveness and efficiency, create effective and efficient work habits. Encourage full innovation, improvement and learning, to create positive employees to identify problems and to participate in activities to improve the environment, and improving the ability through constant innovation to improve performance, create a corporate culture of continuous improvement, and establish excellent management system.
- ISO 9004 registration is may be used alone, but can be used in conjunction with and integrate with other quality management systems. Any organization can use ISO 9004 standard as a guide, establish, implement and improve other management system to continuous improvement, to achieve effective and efficient operation of the organization, in order to improve performance within the organization's management system, long-term balanced meet stakeholder's needs and expectations.
- An organization management should make good use of and develop the organization in line with its own self-assessment tool for sustained success, with the capability maturity self-assessment results can be known management system effectiveness and efficiency and maturity level, and then seek valid strategies, methods improve the ability to move the organization in order to refer to a high level of maturity.

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