

Developing ICT Learning Organization Strategy in Higher Education Institutes of Thailand

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Abstract—Thailand's National Education Act of B.E.2542 (1999) states that higher education institutes have to develop into becoming a learning organization. Information and Communication Technology (ICT), as an important department in higher education institutes, also needs to be developed into an ICT learning organization. The objective of this paper, therefore, is to study learning organization models and criteria in order to develop a suitable strategy for an ICT learning organization in higher education institutes. The study integrates the Systems-Linked Organizational Model proposed by Michael Marquardt and the criteria of Thailand's Public Management Quality Award (PMQA) to be used as a framework for an ICT learning organization. Albert Humphrey's SWOT analysis and Thomas L. Wheelen's Strategic Management are proposed as an evaluation and strategic planning tool for organizations to develop and implement a suitable ICT learning organization strategy.

Index Terms—learning organization, systems-linked organizational model, Public Management Quality Award, SWOT Analysis, Strategic Management

I. INTRODUCTION

Higher education institutions aim to teach and equip students with professional knowledge, critical thinking ability, management and other necessary skills that they need for future career and success. However, in order to achieve recognition, credibility, and acknowledgment in the international level, these institutions have to concurrently self-evaluate, develop and equip themselves with strategies in order to become a successful learning organization.

The concept of Learning Organization (LO) has received considerable attention since the last decade. David A. Garvin (1993) defines a learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insight." According to Marquardt (1996), a learning organization is an organization which learns powerfully and collectively and is continually transforming itself to better collect, manage, and use knowledge for corporate success. Peter M. Senge (2006), in addition, visions learning organizations as a group of people who continually enhance their capabilities to freely create something that is deeply influential.

LO concept has become more recognized in Thailand when the National Education Act of B.E. 2542 requires that higher education institutes develop its internal departments into a learning organization. ICT is one of the departments that have been the focus of Thailand's LO development because of its crucial role as the provider IT facilities and services needed to facilitate learning and researching processes in higher education institutes. Therefore, this paper aims to study and propose a LO framework to develop a strategic management for ICT departments in higher education institutes to become a learning organization.

The framework used to assess and develop the strategic planning for ICT learning organizations in Thailand is an integration of Michael Marquardt's System-Linked Organizational Model and PMQA criteria. Prior to the development a suitable strategy for ICT departments in higher education institutes to transform into a learning organization, Thomas L. Wheelen's Strategic Management Model, together with SWOT Analysis as a tool, will be employed to implement the strategy.

II. Literature Review

Learning organizations is an organization of which all levels of personnel and staff plays a major role in its continuous learning and improvement by using resources and infrastructures of the organization to drive its development. A learning organization is viewed by notable theorists of the field as a dynamically and continuously developing organization in regards to both its personnel and the organization structure itself (Senge 1990; Gavin 1993; Marquardt 1996).

Several definitions of learning organization are introduced and proposed over the years; the popular ones are mentioned by Peter M. Senge, David A. Gavin and Micheal Marquardt. Senge (1990) focuses on the organization personnel and proposes five strands of a learning organization which include system thinking, personal mastery, mental models, shared vision, and team learning. On the other hand, according to Gavin (1993), a learning organization consists of five core characteristics: systematic problem solving, experimentation with new approaches, learning from experience and history, learning from experience and best practice of others, and knowledge transferring. Marquardt (1996)'s concept of a learning organization, however, is different in terms of its focus on the organizational structure, which is reflected in his Systems-Linked Organizational Model. The model views a learning organization as a big system that comprises of five subsystems: learning subsystem, organization subsystem, people subsystem, knowledge subsystem, and technology subsystem. Each of these systems has a unique purpose and characteristic; they do not only interconnect but also complement one another. Marquardt (1996) explains each subsystem as follows:

Learning Subsystem: In this subsystem, the learning process will take place at individual, group and organization levels. This subsystem is based on the skills necessary to maximize organization learning.

Organization Subsystem: This subsystem particularly refers to the organizations' four components: culture (values, beliefs, practices, rituals and customs); vision (goal and future directions); strategy (policy, action plans, monitoring and evaluation); and structure (division, department, line of command).

People Subsystem: People subsystem includes groups of individuals that are invaluable in enabling and potentiating learning in the organization. This subsystem focuses on employees, managers, customers, suppliers and vendors, partners and other stakeholders.

Knowledge Subsystem: The subsystem refers to the acquisition, creation, storage and generation of knowledge within the organization.

Technology Subsystem: The technology subsystem is the technological network needed to gain access and to exchange information and learning. The system includes information technology, computer infrastructure and electronic performance support system.



Figure1 Systems learning organization model
(Marquardt, 1996)

The systems-linked organizational model can be used in constructing a learning organization profile. According to Marquardt (1996), a learning organization profile can be drawn by establishing the organization's dominant characteristics in each subsystem of the organization. Consequently, this study adopts the systems-linked organizational model to create learning organization profiles of ICT departments; the outcome profiles can provide important information in the effectiveness of the strategy of ICT learning organizations in Thailand.

In addition to the systems-linked organizational model that will be used to create the profile of learning organization, the study proposes that the criteria from Thailand's Public Management Quality Award (PMQA) will be used as a guideline to evaluate the organizations after the strategy is implemented. Since 2001 Thai government has used PMQA as a motive to encourage their agencies to continuously improve and enhance their capabilities by using the practical and effective implementation of the PMQA standard. PMQA is originally based on Malcolm Baldrige National Quality Award (MBNQA) of the United States and Total Quality Award (TQA) of Thailand. Both MBNQA and TQA are, therefore, tools to evaluate organizations according to the Total Quality Management (TQM) criteria. TQM's main criteria emphasize on the participation of personnel, customers focus, continuous development by using the benchmark of exemplar organizations, evaluation from the standard criteria that yield concrete results. The Office of the Public Sector Development Commission of Thailand uses the MBNQA and TQA to outline the criteria of PMQA that will be used to assess government agencies and public organizations. According to Office of the Higher Education Commission (2013), expectations for organizations under PMQA include:

- Under limited resources and higher expectations from personnel and stakeholders, and external influences, organizations must be able to continuously improve and adjust themselves in order to achieve the most efficiency under any circumstances
- Strategic Management must be used to plan and implement the most suitable strategy that will drive organizations to meet the criteria of PMQA.

With the aforementioned expectations, strategic management is the key factor for organizations to achieve PMQA standard and later become a learning organization according to Marquardt's system s-linked organizational model. Strategic management refers to a clear and step-by-step model that will be used to develop an organization. The first step of strategic management is to self-assess the positioning or the organization in terms of its current vision and mission statement. Afterwards, organizations need to scan environment by looking at both internal and external factors and implementing SWOT analysis that will help organizations uncover their strengths, weaknesses, opportunities and threats. The third step of the strategic management is to form a suitable strategy for the organizations by using information gained from the previous steps. The final step is the implementation of the strategy that must be aligned with the leadership characteristics, organizational structure, information and control systems, and the management of human resources.

III. purpose and objectives

The purpose of this study is to develop ICT learning organizations in accordance to the framework of Thailand's Public Management Quality Award. The objectives of the study are:

- 1. To study problems and needs of ICT departments in Thailand's higher education institutes in their development into a learning organization*
- 2. To study viewpoints of experts in public management quality in regards to the integration of public management framework and criteria of ICT learning organizations*
- 3. To develop ICT learning organization strategy according to the framework of PMQA*

IV. Methodology

The study is conducted in five steps. For this paper, however, the first two steps will be reported. The first step is an exploration of the current situations of ICT departments in higher education institutes and whether or not they are embracing the concept of a learning organization. The second step is the analysis of structure and model in the management of ICT organizations according to the principle of a learning organization.

The research methodology is research and development. The population is employees, management and executives in ICT organizations in higher education institutes. The researcher used the simple random sampling to select 404 employees of ICT organizations and IT centers in 20 higher education institutes. A questionnaire was sent to each sample. The researcher also conducted an in-depth interview with 5 executives from higher education institutes, all of whom were selected by using the purposive sampling method.

The instrument used in data collection is adapted from an instrument called learning organization measurement that is integrated with PMQA standards to assess organizations according to the criteria of learning organizations and PMQA. The questionnaire for samples contains statements pertaining to learning organizations utilizing ICT in higher education institutes. Demographic information is obtained concurrently from individuals about job title, major area assignment, sex, age and length of employment. Primary data is studied and analyzed from the documents and theories reviewed. This information will help us understand the current status and their expectation to move forward to becoming a learning organization.

Table 1 below is the result from the collected data. It shows the degree of the samples' attitudes towards the problems and needs for the development of their organizations into becoming a learning organization by examining the present conditions and future possibilities.

Table 1 Comparison of attitudes towards problems and needs for a learning organization strategic management

Problems and Needs of ICT Organizations	Current Conditions			Future Possibilities			Difference of Two Means	P-Value*
	Mean	SD	Interpretation	Mean	SD	Interpretation		
1. Organization leadership	3.5	0.652	high	3.81	0.732	high	13.757	.00*
2. Strategic planning and vision	3.50	0.661	high	3.8	0.749	high	12.962	.00*
3. Focus on customers and stakeholders	3.49	0.628	high	3.84	0.726	high	15.988	.00*
4. Knowledge analysis and management	3.44	0.626	high	3.84	0.735	high	15.724	.00*
5. Focus on human resources	3.23	0.672	medium	3.55	0.822	high	11.268	.00*
6. Process management	3.22	0.756	medium	3.61	0.885	high	15.575	.00*
7. Evaluation of knowledge management	3.42	0.677	high	3.84	0.735	high	14.345	.00*
Total	3.40	0.583	high	3.74	0.717	high	16.826	.00*

From Table 4.1, the mean of the problems and needs of ICT learning organizations according to the present condition is 3.40 and the SD is at the high level of 0.583. The mean of the problems and needs of learning organizations according to the future possibilities is 3.74 and the SD is at the high level of 0.717.

The mean of problems and needs of ICT learning organizations according to the present condition from the samples is between 3.22 – 3.51.

The mean of the second component, the strategic planning and vision, is the highest at 3.51 with the high SD of 0.661. The organization leadership, and the focus on customers and stakeholders, which are the first and third component respectively, is equally at the mean of 3.50 with the respective SD of 0.661 and 0.628. The sixth component, on the other hand, is at the lowest mean. Process management's mean is of 3.22 and the SD in the moderate level of 0.769.

The mean of problems and needs of ICT learning organizations according to the future possibility from the samples is between 3.55 – 3.84. Three components - the focus on customers and stakeholders (the third component), the analysis and knowledge management (the fourth component) and the assessment and evaluation of knowledge management (the seventh component) - are at the highest mean of 3.84 with the SD of 0.726 and 0.735 respectively. The fifth component or the emphasis on human resources- has the lowest mean of 3.55 and the high SD of 0.822.

V. Conclusion

The result from a survey and interview of the staff and management of ICT organizations or IT centers in the libraries of twenty higher education institutes that aimed to investigate present conditions and needs in developing their organization into a learning organization according to PMQA-LO framework revealed that the process management and human resource were the lowest mean at 3.22 and 3.23, respectively. It implies the urgent need to systematically improve the professional development of the staff. Even though strategic planning for ICT learning organizations should integrate all seven aspects of the framework, the result indicated that certain aspects needed urgent attention.

The initial result is very useful in the development of ICT learning organizations according to PMQA-LO framework. The information allowed us to know the current conditions and needs of the organizations from the points of view of the staff and management. In the next phase, the researcher will develop and implement strategic planning for ICT learning organizations for a purposive sampling group. The result from the implementation will be reviewed by experts and used for future improvements.

In the competitive and rapidly changing world of today, it is important for organizations to emphasize continuous learning at the personal, departmental and organizational levels. The new knowledge will be an added value that will be used for the organizations benefits. A successful learning organization needs to have a clear vision for the development of new knowledge for its progress towards achieving its goal. Also, the new knowledge will help strengthen and facilitate continuous development of the organization.

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