

# Components of Innovative Organization of Basic Education Institutions in Thailand

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**Abstract** - This research aims to study the components and to do confirmatory factor analysis, and to study the opinions of the directors, deputy directors and heads of ICT's departments. The results show that eight components of an innovative organization in basic education institutions in Thailand. Confirmatory Factor Analysis suggests that the components of the innovative organization of basic education institutions in Thailand significantly correspond the empirical data as well as the opinions of the directors, deputy directors and heads of ICT's departments in order to be used as recommendations for constructing the future school based on the concept of innovative organization.

**Keywords** - Innovative Organization; Basic Education Institutions; Components of Innovative Organization; Confirm Factor Analysis

## I. INTRODUCTION

An innovative organization is a new concept in developing organizations in the country and is considered to be at the core of the development of leading organizations and the main strategy for organizational development. Organizations with innovation may have elements and processes that are not consistent with or support the innovation of personnel within the organization, but organizations can have innovative products. This creation of innovation in the organization will create value

over only the short term and is not sustainable. The innovative organization that supports the innovation of personnel within the organization will create competitiveness and long-term growth (Vracking, 1990) due to the integration of different elements that work together to create an environment that distributes innovation throughout the organization (Tidd, Bessant, & Pavitt, 2001). Educational institutions are one type of organizations that have continuously improved their management models. How the education organizations succeed and survive in the fast-changing world depends on being creative, discovering new things and creating innovation (Adams, Bessant, & Phelps, 2006; Caldwell & O'Reilly, 2003) to develop capabilities and focus on innovative organizations, to correct and upgrade the quality of educational management, to sustain development, to raise the level of living and human equality, to create security for people to live happily, to promote equality between women and men as well as enhance the capacity for vulnerable populations to live equally (UNESCO, 2016). Therefore, the research and development of innovation has been emphasised and the utilization of research in human development and national development promoted by accelerating educational management and reforming the development management system with technology to use innovative mechanisms for creating quality education both in the central and regional areas (Office of the Education Council Ministry of Education, 2017).

Although Thailand uses a large amount of its investment budget on educational management and relies on technologies as the main driver rather than placing education issues as priorities on the national agenda. Subsequently, many observers wonder why technological advances and huge investments have not lead to the development of education quality. The government has invested heavily in providing technology (ICT) to educational institutions, and yet there are supporting factors educational institutes have not been able to innovate and enhance the quality of education (OECD, 2016). If the concept of being an innovative organization was used to develop educational management processes, it would result in an innovation that can be used with educational institutions and would be the starting point for driving education using innovation. Gunduz & Balyer (2014) studied the innovative requirements of primary schools in Turkey. From the teachers' viewpoint, education is an important element in enabling the country to move forward. Innovation is an element that helps education develop and teachers at the elementary level have a need for educational development

In addition, Chen, et al. (2010) asserted that the organization's innovative ability is an important indicator that affects school performance. Haelermans & De Witte (2011) studied the role of innovation on the efficiency of secondary schools and found that innovation has a positive relationship with the efficiency of secondary schools. Therefore, it can be said that the creation of innovation within the educational institutions affects the efficiency of the school. Those tasked with the role of driving development or using innovation in education are the presidents or executives of educational institutes. Educational management requires cooperation from teachers and educational personnel to drive the results through knowledge management processes until the educational institute becomes an "innovative organization". In addition, it was found that managing these innovative organizations helps to make significant changes in educational development. With executives utilising innovation as their management style, teachers can create new innovations for

teaching management and students acquire innovative skills. Educational institutes need to be creating innovation with teachers and students to prepare the people for the learning society, develop knowledge, skills and the attitudes necessary for critical thinking, problem-solving and creative projects, and focus on research and development in order to improve the quality of education, and creativity at all levels (OECD, 2016).

Therefore, the researchers are interested in studying the components of innovative organizations in basic education institutions in Thailand so as to apply the results of the study to create and develop a basic school administration model that can then develop an innovative organization that institutional administrators can actually use. Education agencies both public and private can apply the results of the study for the organizational development strategies in basic education institutions. Furthermore, the Office of Basic Education Commission of Thailand can utilize the results of the study to determine the strategic framework for the further development of educational institutions in the country.

## II. LITERATURE REVIEWS

According to the study of innovative organization components of basic education institutions in Thailand by studying the concepts of Christiansen (2000), Tidd, et al., (2001), Von Stamm (2008), Wichitchanya, Durongwatana, & Vadhanasindhu (2012), Seyed (2013), Akin (2016), Van Lancker, et al., (2016), Akpan (2016), Guimaraes & Paranjape (2017), and Fernandes Rodrigues Alves, et al., (2018) findings and analyses of the concepts of innovative organization qualities. Following the synthesis of the data above, the researchers determined the components of the innovative organization in basic education school displayed below:

- 1) Strategic management;
- 2) Organizational structure;
- 3) Organizational culture;
- 4) Innovative leader;
- 5) Human resource development;

- 6) Information and communications technology (ICT) management;
- 7) Work climate creation; and
- 8) Organizational learning

### III. RESEARCH OBJECTIVES

The aim of this research is to study the components and to do confirmatory factor analysis, and to survey the opinions of the directors, deputy directors and heads of ICT's departments.

### IV. RESEARCH METHOD

#### A. Population and Sample

The population comprises the director, deputy director or those who act on their behalf and teachers who are responsible for the information technology of educational institutions in the Office of the Basic Education Commission and the Office of the Private Education Commission in the Bangkok area. They are classified by administrative area and under the government and private schools, totalling 253 institutes with the sample size of 1,518 individuals (Ministry of Education, 2016).

A sample size of 500 or more meets the criteria of Tabachnick & Fidell (2012). This is considered to be at the very good level and corresponds to the determination of the component weight as a criterion at the significance level of 0.05. The factor loading is selected at 0.30 (Hair, et al., 2010). The stratified random sampling method was used to obtain 84 directors, 322 deputy directors and 84 heads of ICT's department.

#### B. Questionnaire

The questionnaire comprised a 5-point Likert scale used to inquire into the opinions regarding the innovative organization components of basic education institutions in Thailand. The questionnaire totalled a number of 61 questions. These questions were verified for the accuracy of the content by 5 experts. Every item has an index of consistency (IOC) of 0.60-1.00 (Rovinelli & Hambleton, 1997). Then, the questionnaires were improved following the comments and recommendations

of experts and used with a population that was not the sample group, which comprised the directors, deputy directors and heads of ICT's department totalling 30 individuals. The Cronbach's alpha coefficient ( $\alpha$ ) was calculated and the reliability of the questionnaire was equal to 0.977, which is highly reliable (Cronbach, 1951; Tavakol & Dennick, 2011). After using the tool, questionnaires were sent to 500 subjects identified in this study which was delivered via the postal system, and 496 questionnaires were returned and verified accounting for 99.20 % which were to be used for further data analysis.

#### C. Data Analysis

Data analysis was divided into four steps:

1) The overview of the sample analysis using descriptive statistics to determine the frequency and the frequency and percentage using SPSS Version 21.

2) The Kaiser-Meyer-Olkin (KMO) test was also used in factor analysis to test how well the data was suited. For reference, Kaiser gave the following interpretations of the values as follows (Hutcheson & Sofroniou, 1999):

- 0.00 to 0.49 = unacceptable.
- 0.50 to 0.59 = miserable/very bad.
- 0.60 to 0.69 = mediocre/not so good.
- 0.70 to 0.79 = middling/OK.
- 0.80 to 0.89 = meritorious/very good.
- 0.90 to 1.00 = marvellous/excellent.

3) Another SPSS test that is recommended and often used in conjunction with KMO is Bartlett's Test of Sphericity, which is a measure of sampling adequacy. KMO was also conducted with the sample group.

4) Confirmatory Factor Analysis (CFA) to check the validity of the models used in the research using the software package LISREL 8.72.

### V. RESULTS AND DISCUSSIONS

The results of the general data analysis of the sample scattered throughout the Bangkok area derived from stratified random sampling.

The sample respondents in government schools. The largest number of respondents was found to be in the positions of deputy directors, followed by directors and head of ICT' department. An analysis of variance of the components that aims to compare and contrast the opinions about the innovative organization of basic education institutions in Thailand according to the job positions of the respondents revealed that school administrators, who include directors, deputy directors, and heads of ICT's department, had a statistically significant opinion at .05 ( $p < .05$ ).

The results of confirming factors analysis. According to the analysis criteria, confirmation of this comes from statistical analysis done at the 0.05 level. Additionally,  $\chi^2 = 13.78$  and the  $p$ -value = 0.13. The goodness of fit index (GFI) = 0.99, while the adjusted goodness of fit index (AGFI) was calculated as 0.97. Both confirm a good fitting model as they both exceed 0.90 (Byrne, 2001; Schumacker & Lomax, 2010). Finally, the root means the square error of approximation (RMSEA) was 0.03. It can be confirmed that there is consistency across the defined criteria with a value of less than 0.08 (Schumacker & Lomax, 2010). In conclusion, the results of the confirmed component analysis are consistent with the empirical data. When considering the weight value of the components, it was found that the analysis results were confirmed and the weights of all the variables were statistically significant at the 0.05 level.

#### **A. Human Resource Development**

Innovative organization is aware of the fact that the originator is not an organization but the ideas and the movements of the people make the organizations more innovative (Schlegelmilch, et al., 2003). Human resources are considered valuable for the organization, especially in educational institutions, which is an organization that drives the knowledge management of people consisting of the executives, teachers, personnel and students. If the educational organization wants to improve its ability to advance in becoming an innovative organization, it needs to rely on innovation to drive personnel development since

the recruitment, appointment, and personnel maintenance by considering human resources as human capital which influences innovation. They need to be consulted through the participation process to encourage innovation (Subramanian, 2012). Therefore, educational institutions should develop teacher and personnel activities based on technology, develop programs from the development plan system and provide training and performance assessment. If educational institutions use innovation in personal development based on competency, the personnel can also enhance the organization's innovation development capabilities (Rosdi & Chew, 2013).

#### **B. Organizational Culture**

An organization with a creative culture is an organization that has the characteristics of giving importance to work values by aiming to encourage members of the organization to interact and support each other, having the organization's condition and workload appropriate for encouraging employees to be creative, and supporting new ideas or ways of working (Szczepańska, 2014). If the educational institution develops the organization to be an innovative organization, it needs to have a management process and create a corporate culture that gives importance to creativity to be a base for innovation by upholding them as beliefs that will be in effect and work together in the same direction. Educational institutions that will develop into innovative organizations must use new concepts to apply to the original corporate culture by developing a work culture, understanding the difference in culture, learning the cross-cultural process, understanding the characteristics of different cultures and cultivating positive attitudes towards the common people and creating work methods by using technology as a driving mechanism.

#### **C. Strategic Management**

Innovative organization management strategies are an important goal in bringing the organization to the desired direction or the future image. Strategy determination is the development of vision and mission, identifying opportunities and obstacles outside of the organization and finding the strengths and

weaknesses of the organization by setting long-term objectives, defining alternative strategies and choosing the right strategy (David, 2011). Innovation strategies must be clear and able to tell what the organization wants and wants to be in the future (Von Stamm, 2008). If educational institutions have a development implementing innovative strategies and evaluating strategies in order to achieve the objectives; developing educational institutions with innovative processes from the planning process in the management of educational institutions under the specified period; relying on joint development between administrators, teachers, students, parents and communities set for guidance in development which may have the monitoring and evaluation of the innovative management of educational institutions (Akpan, 2016).

#### ***D. Innovative Leadership***

An innovative leader is a leader that has the ability to access complex problems or opportunities and discover new or never-before-implemented approaches. Leaders or administrators must have innovative intelligence. Innovative leadership is essential to drive the organization to be an innovative organization. It requires a capability analysis strategy by thinking and analyzing the situation, internal and external factors, analyzing an environment that is conducive to innovation, and able to see the future (Sen & Eren, 2012). It can be seen that innovative leadership is essential to driving innovation. It requires the leadership skills of the executives, and it is vital an educational institution be an innovative organization. Such administrators must be creative, lead the organization in a new way, access problems or opportunities, define innovative management strategies, manage the innovation team, create an atmosphere for innovation in educational institutions and make decisions and solve problems and obstacles until achieving the goals of the group or organization effectively, thinking of new innovations to solve problems. Education institution administrators or innovative leaders must have the characteristics of change leaders, be a good example for others and be able to inspire others. The leadership of these

executives can create a bond between the supervisor and the subordinate and generate trust and acceptance (Akpan, 2016).

#### ***E. Organizational Learning***

An innovative learning organization is an organization in which personnel in the organization continuously expand their capabilities at the individual level, group level and organization level to lead to the goals that people at different levels need, and must have the work training for personnel to have the analytical thinking processes to help understand things, be able to learn, manage and use knowledge as a tool for success along with the use of modern technology. Organizations learning that will be developed into innovative organizations must focus on knowledge and ability, focus on those who have the experience, integrate knowledge that leads to innovation development in the organization (Simone, et al., 2018). It is clear that if an educational institution wants to become an innovative organization, it must give priority to being and developing the school as a learning organization, it must generate creative inspiration in students, creativity in its study spaces. Educational institutions must be able to integrate classrooms to meet the needs of innovation, provide the equipment and space needed for teachers who need innovative teaching, apply new internet resources, and use library resources creatively to develop all areas of the institution to be a learning resource through technology systems (Chen, et al., 2010).

#### ***F. Work Climate Creation***

A good corporate atmosphere will stimulate the creative thinking of employees. What the organization should do to create such an atmosphere is support a culture that promotes innovation (Tidd, et al., 2001), providing an environment that encourages personnel to create new ideas, creating inspiration in performance in terms of time, place, work equipment or organization contributing to the performance of the people in the organization (Guimaraes & Paranjape, 2017). Therefore, the innovation organization of the educational institution must be examined from the executive's efforts in teacher motivation by

using constructive criticism and providing good examples. At the same time, the executives must provide help and care for the welfare of teachers in both personal and professional areas. Institution administrators must have behaviors that support both the social and academic achievements of teachers, provide guidance, supervision, follow up, and control teachers and school activities in a friendly way. In addition, school administrators should focus on the combination of creativity and teaching material, have an incentive process, encourage teachers to take part in the development of teaching innovation, develop teachers' ability to use a variety of teaching methods, develop teachers' ability to introduce innovations to students, facilitate learning, arrange unlimited learning, promote the introduction of innovative learning systems in schools and not limit the scope of the innovation learning of the student (Chen, et al., 2010).

### ***G. Information and Communications Technology (ICT) Management***

Innovation organizations require a comprehensive communication model that employs various directions and communication channels. The differing problems that occur in the innovation process are considered communication errors that may arise from differences in duties. Communication should be improved to be clear and frequent across agencies and organizations. Information technology can be used in educational institutions administration by using recorded data such as information about teachers and personnel, academic qualifications, in procurement by using a computer system as a recording tool instead of paper documents. An information system needs to be organized in terms of receiving students or information about the student such as the personal profile comprising education, contact address, and school record. In addition, financial information can also be prepared. This includes salary, allowance, meeting allowance or even tracking tuition payments and establishing a fund in school. Therefore, using a computer system to record information in the school helps to make it convenient, quick and make the information management

service efficient, and it can also be used to manage risks in different areas and can make an effective school management plan (Akpan, 2016).

### ***H. Organizational Structure***

There is no exact structure that based on the organization's innovation approach. Because of the different structure styles. Organizations must also focus on networking. This means the exchange of any information, news and resources with an external network will help increase work efficiency. Organizing innovative organizational structures will promote a clear boundary of innovation such as the determination of awards to create incentives for creating new innovations (Seyed, 2013). However, educational institutions must provide a flexible structure with a teamwork style, such as a cross-functional team project team and team to solve problems between organizations.

According to the findings on the opinion levels of the director, the deputy director, and head of ICT, it was found that IT and communication management is a key factor that helps create an innovative organization. The findings confirm the roles of technology in the work revolution and in providing the solutions to complicated issues or out-of-date management issues. The right selection of technology can reduce management burden. Updated courses of knowledge management (KM) should be provided, with technology as a tool for KM planning and e-learning. Furthermore, instructional management should also be emphasized to students for joining innovative activities in order to promote their full exploitation of the "think different" practice, which motivates the design of scientific and technological inventions. Obviously, the most important role of schools is to provide new learning and stimulation for students so as to cultivate new values. To conduct school management in compliance with organizational innovation indicators, teachers may deliver better learning efficiency to students and inspire them through the instruction. Simultaneously, students will also acquire professional skills and creativity.

This study on innovative organizations in basic education institutions in Thailand concluded that an educational organization creates new things to develop and adopt new patterns, working methods and teaching management. This involves reducing the compulsory process, encouraging innovation, and increasing the scope of innovation in the organizational structure, such as awarding incentives to create new innovations. Finally, institution management focuses on innovation throughout the organization, from communication in administration, recording of administration, teaching management or even exam management. Therefore, education institutions in Thailand need to be developed into innovative organizations, ranging from the formulation of strategic management, organizational structure, organizational culture, innovative leader, human resource development, information and communications technology (ICT) management, work climate creation, and organization learning. If the educational institution has a leader with appropriate leadership, atmosphere that is conducive to innovation, the teacher and educational personnel will have innovative habits, students will have innovative thinking skills, and this will cause the educational institution to develop into an innovative organization that can continuously create innovations to solve problems and help reduce the complexity of the work.

## VI. LIMITATION AND IMPLEMENTATIONS

Based on the findings, the following recommendations are offered to develop an innovative organization in basic education institutions in Thailand:

1) School directors, deputy directors, and heads of ICT department support staff proficient in the use of technology in support of information communication and technological for school management.

2) Should the development of teachers and educational personnel to have knowledge and ability in using technology and develop innovation for teaching and learning management.

3) Further research, covering more government school and privately schools, should be conducted to confirm the findings of the current study and support its contribution towards the development of sound research data.

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(Arranged in the order of citation in the same fashion as the case of Footnotes.)

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