

Guidelines for Effective Development of Knowledge Management among Personnel at TOT Public Company Limited*



Atiporn Gerduang

Institute of Public Administration and governance, Shinawatra University, Thailand.

Corresponding Author's Email: atiporn.g@siu.ac.th

Abstract

The objectives of this research article were to 1) study the current and desirable conditions for knowledge management among personnel, and 2) propose guidelines for effective development of knowledge management among personnel at TOT Public Company Limited. The study was implemented in the form of mixed-method research; samples comprised 376 TOT personnel and 10 people for a focus group discussion. Using analysis by statistical packages.

The results of the study were as follows: 1) The study results of the current and desirable conditions of personnel's effective knowledge management under TOT in all aspects were at a high level; 2) Guidelines for effective knowledge management of personnel under the TOT consisted of 7 areas. These areas included 1) knowledge definition with very vital guidelines, 2) creating and seeking knowledge, 3) organizing knowledge systematically, 4) processing and filtering knowledge, 5) accessing knowledge, 6) sharing and exchanging knowledge, and 7) learning and applying knowledge. These elements will cause a change in the management of people with tacit knowledge, transferring as much knowledge as possible to create the most knowledge and benefit to the organization.

Keywords: Effective Development; Knowledge Management; Personnel; Policy Recommendations; TOT Public Company Limited.

Introduction

Thai society must develop the ability to create innovation from knowledge to be a driving force for change. Further, such change is at the paradigm shift level for the whole society. Thai society must evolve to survive from the stress around it, especially from

*Received May 21, 2021; Revised July 1, 2021; Accepted October 19, 2021



globalization. Educating people is, therefore, a tool for the economic, social, cultural and political development of the country. In order to keep up with inevitable changes, the goal of education must be to create a society that is conducive to the development of the nation as a whole focusing on the knowledge base for the survival of the country. In the age of a knowledge-based world, the knowledge and wisdom of each society will be used as an important tool for empowerment in order to gain the ability to compete with other countries. Providing diverse knowledge throughout an organization is kept in a categorical manner together with encouraging personnel in the organization to learn and share knowledge with each other (Phonphai, 2001).

Knowledge management is a tool that many organizations use for organizational development. To make the organization move forward with unity, it is necessary to develop people in the organization to work effectively. (Marquardt, 2002). Consistent with the direction and goals of the organization, knowledge management (KM) for this organizational behavior will help develop individuals, groups of people and organizations to create knowledge and understanding in their work. Good behavior can cause organizational change as well as organizational innovation (Probst, Raub, and Romgardt, 2000) this study therefore, brings knowledge management concepts and theories as a framework for the study of knowledge management systems to be an effective human resource development plan and tangible benefit, leading to strategic issues for the development of the achievement management process. TOT is an organization responsible for governing businesses and the national telecommunications industry. It is expected that people will conduct business for the benefit of the population and society as a whole. Recognizing the importance and the main duty of the agency to develop the personnel of the country with quality so they can manage the organization to have the potential ready to provide an education that is more universal can bring important information to drive the organization in human resource development, in knowledge management and in various fields as appropriate leading to good management in the organization for constructive development.

Objectives of the research

1. To study the current and desirable conditions of knowledge management among personnel at TOT Public Company Limited
2. To present guidelines for effective development of knowledge management among personnel at TOT Public Company Limited



Research Methodology

1st Step: Quantitative study

The study population consisted of 16,500 TOT personnel. There were 376 samples from the table of Krejcie and Morgan (1970) through the process of stratified random sampling as a stratification performed in proportion to the organization in each central group.

2nd Step: Study by focus group discussion

The target group for attending the discussion group consisted of 10 people, 8 people working in personnel management, and 2 people holding a director position or equivalent.

3rd Step: Data Analysis

1) Information on the current and desirable conditions for the development of effective knowledge management among personnel at TOT is analyzed for mean and standard deviation.

2) The data are analyzed for prioritization of the priority need index (PNI) to draft guidelines for effective development of knowledge management among personnel at TOT.

Formula: Priority Need Index: PNI

$$PNI = (I - D)/D$$

PNI refers to the demand index value,

I refers to desirable condition average,

D refers to the average of current conditions

Research results

Objective 1; the current and desirable conditions of knowledge management among personnel at TOT Public Company Limited, The results of the study for the current and desirable conditions of the effective knowledge management of personnel at TOT showed that all aspects were present and desirable at a high level. The mean values were 3.805 and 4.205, respectively. The study of the essential need for effective knowledge management of personnel working for the Office of TOT found that the average PNI modified requirement in all aspects was 0.156. Analyzing each aspect found that the need for knowledge management consisted of 1) knowledge determination with the mean PNI modified value of 0.237, 2) knowledge creation and acquisition with an average PNI modified value of 0.174, 3) average PNI modified value of knowledge management to be systematic was 0.172, 4) the average PNI modified value of learning and applying knowledge was 0.138, 5) knowledge processing and filtering with an average PNI modified value of 0.161, 6) knowledge access with an average



PNImodified value of 0.102, and 7) knowledge sharing and exchange with an average PNImodified value of 0.107.

Objective 2; Guidelines for effective development of knowledge management among personnel at TOT consisted of 7 aspects as follows:

2.1 Assignment of knowledge consists of important guidelines such as 1) participation in the formulation of knowledge by using the method of engagement between practitioners and administrators through organizing activities or direct practice, being a joint planning between the operator and administrators to plan the action and having a meeting to find solutions together, 2) planning or identifying knowledge together with a planning method to define the knowledge for practitioners to learn according to their aptitude, jobs in their responsibilities with a job rotation first and then the aptitude of the personnel performing jobs as appropriate, 3) defining vision, knowledge and ability in accordance with the competence of personnel in line with the workers focusing on public benefits, and having various training courses based on personnel needs, 4) types of knowledge for the work to be performed by using the method of determining the necessity and type of knowledge needed for the work, knowledge of the regulations, and the categories of knowledge appropriate for the budget, manpower, and the period of time that must be consistent with the work of the responsibilities, and 5) knowledge to be used to perform work by using the knowledge consistent with the work responsibilities, and assignment of duties appropriate to the responsibilities based on specific experience and fields.

2.2 Building and seeking knowledge consist of important guidelines such as: 1) the gathering of scattered knowledge by using the fragmented method of gathering knowledge, an e-book about the work performed or stored in another easily accessible repository, and organizing work or reports into categories. There is a system for transferring knowledge to a person because each person may have different expertise and information sharing; 2) finding knowledge by using the method of acquiring knowledge from inside and outside, providing training, study visits, and creating a specific manual as well as studying together while seeking advice from both supervisors and experienced workers outside the organization; 3) support from administrators by using the method of delegating important tasks and giving trust to work, providing a budget for research and study, and building enthusiasm as well as continuity in work; 4) the quest for continued information by using training first, promoting the best use of technology, providing modern tools and equipment, encouraging employees to learn and search to get information from social media, through the Internet, and from people; 5) job



development under the formation of skills and expertise by using regular job development methods for skills and expertise together with studying and applying experience from experts for the application of knowledge by using clear indicators to stimulate personnel to perform on a regular basis, leading to expertise.

2.3 Organizing knowledge into systems consists of important guidelines such as:

1) bringing knowledge to be recorded in various media by using awareness-raising methods from different parts of the department to store and search for each department in charge and establishing a channel to disseminate knowledge to the Internet or social media, such as YouTube, Line, etc. 2) indexing for easy navigation by using the method of creating programs or applications that are easy to use for all personnel; all information is gathered in the system for easy navigation, 3) set the workflow and store it in categories by using the method of pre-work meeting and post-performance summary. The work should be performed based on tools designed for use in the nature of the work, 4) knowledge preservation by using the method of making knowledge repositories into categories to make it easier to search store information on electronic media or store knowledge on the Internet so that the user group can access it easily, 5) using information technology to collect information by using the method of creating applications for the departments in each work system. It should be easily searched for diverse information and aspects for accuracy.

2.4 Knowledge processing and refining consist of important guidelines such as:

1) Dissemination of knowledge and new innovations will be assigned by experts, executives and committees for certification. Alternatively, there will be certification from an agency that has knowledge before promulgating. This will help to work more efficiently; 2) There will be a meeting before work, during work and summarization of the results by using a method to summarize the experience. There should be a systematic work approach that will help make the work more efficient. More technology such as video conferencing should be used often. Everyone should be involved in the work with duties divided according to their aptitudes. All tasks must be planned to establish good operating guidelines; 3) Interpersonal exchange of experience by using the method of organizing monthly meetings together with all parties or the entire organization, which will help them work more efficiently. A work culture should be created for mutual consultation; 4) The experiment of new knowledge by using online training methods and giving certificates as motivation to help them develop their work to be more efficient; 5) Creating new knowledge from skills and expertise by using the method of sending



internships to other agencies. There should also be experts to examine and scrutinize the operation.

2.5 Access to knowledge consists of important guidelines such as: 1) Public relations using an open channel for direct inquiries should be easy to access knowledge and make the most of technology; 2) Access and use of simple and easy knowledge by using online storage as needed in the field for promoting and increasing knowledge access to all channels that can be accessed, such as Line, Facebook, YouTube, TV, and other websites, as well as radio, apps, etc.; 3) Use of information technology systems to access knowledge using the method of developing a database system that is always updated for the management of information and knowledge in the organization to be convenient and fast; 4) Other communication to access knowledge by using the method of establishing a channel group, internal contact and public groups. There should be a channel for disseminating knowledge and information to be more convenient and easier to learn.

2.6 Sharing and learning consist of important guidelines including: 1) Exchange, brainstorming and teamwork by using the brainstorming method, team work consultation, study visits, dissemination, lectures, conferences, workshops, seminars, skills training, discussion, networking, knowledge base, websites to encourage teamwork and make the most of the benefits by arranging activities to reach the knowledge source that needs to be shared and aligned with the line of work; 2) Creating a working network by using the method of organizing a forum to exchange knowledge between the public and private sectors involved in the operation; 3) Dissemination of knowledge, both directly and indirectly, by using the method of applying knowledge to benefit society and publicize all possible sources of information; 4) Proper dissemination and application of generated knowledge by using the method to make the most of the recorded knowledge together with useful information that should be shared as needed.

2.7 Learning and applying knowledge consist of important guidelines such as: 1) Enhancing skills in planning, problem solving, decision making, evaluation by means of planning, problem solving, decision making, and evaluation should establish effective individual performance indicators by building knowledge and understanding for operators to have a better understanding of the work assigned. Moreover, training may be arranged as needed by the department for making the most of technology; 2) Explicit application of knowledge by using counseling methods, training organization, and the exhibition of literature, documents, conversations, newsletters, publications, radio, television, videos, films, booklets, and journals,



which should be done in television media to spread knowledge to society by making the most of technology, which may assign departments responsible for it as well as a questionnaire on the satisfaction of providing knowledge; 3) Expansion of knowledge by using the method of assessing knowledge and applying such knowledge to benefit the function and line of work, together with making the most of technology; 4) Facilitating access to knowledge by using the method of creating a knowledge base system to be easily accessible by making use of technology as necessary as possible, together with an IT library, including public relations for each contact channel; 5) Organizing other educational activities by using knowledge training methods that do not match the line of work because other skills are needed at times. There should be a channel for public relations media to apply knowledge to only existing knowledge by making use of technology as much as possible, together with promoting new innovations used in the agency to suit the duties of the practitioner.

New Body of knowledge

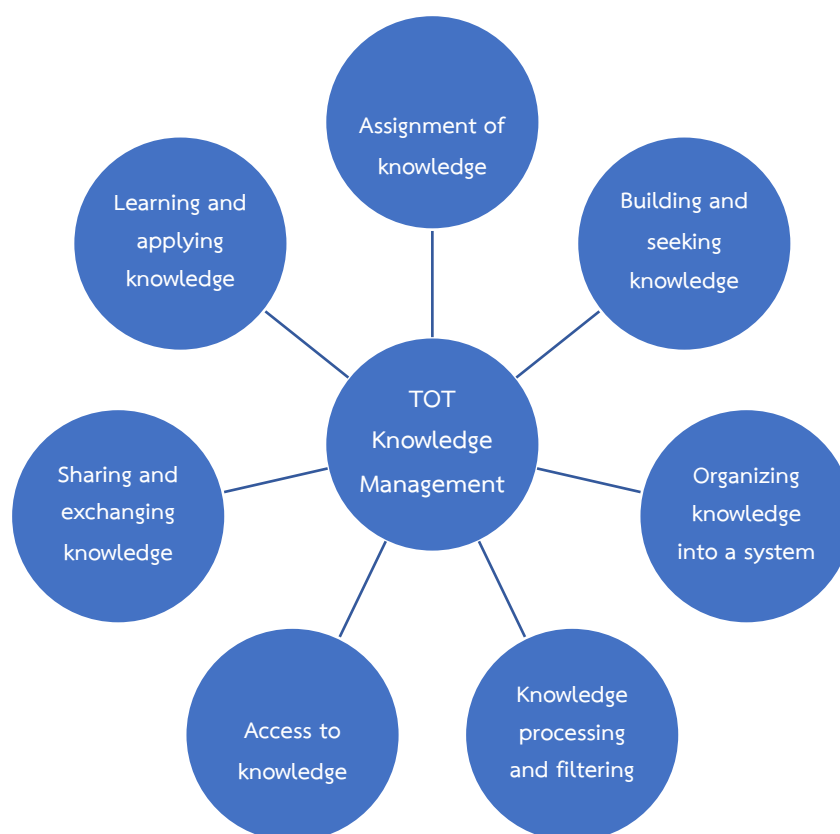


Figure 1: Theoretical model for Effective Development of Knowledge Management



Figure 1 demonstrates the Effective Development of Knowledge Management model among Personnel at TOT Public Company Limited. The results of this study yield the body of knowledge regarding important components for knowledge management among personnel at TOT Public Company Limited to function efficiently leading to be a high-performance organization. A knowledge management model of TOT Public Company Limited is appropriate to the Thai context was created as a Theoretical Model.

Discussion

In this study, there are issues to be discussed as follows.

Objective 1; the current and desirable conditions of knowledge management among personnel at TOT Public Company Limited, The results of the study for the current and desirable conditions of the effective knowledge management of personnel at TOT showed that all aspects were present and desirable at a high level. Analyzing each aspect found that the need for knowledge management consisted of 1) knowledge determination, 2) knowledge creation and acquisition, 3) knowledge management to be systematic, 4) learning and applying knowledge, 5) knowledge processing and filtering, 6) knowledge access, and 7) knowledge sharing and exchange following the concept of the Department of Environmental Health (BEH, 2017) said, Job Enrichment emphasizes difficult assignments. Developing an organization to fulfill its potential is more challenging than ever before, and takes a high level of initiative, planning, and analytical thinking. It is necessary to be able to compete in a global market without borders. Competence in personnel management is essential, along with excellent management skills and the development of knowledge to work with new technologies and the latest innovations needed to perform operations within the organization effectively (Nanoka, and Takeuchi, 1995; Marquardt, 2002).

Objective 2; For guidelines in the development of effective knowledge management among personnel at TOT Public Company Limited, the researcher analyzed the principles, concepts and theories of knowledge management for human resource development planning to be efficient and beneficial to individuals and organizations, leading to the management of the agency with the following potential:

1. Knowledge setting consists of guidelines for development as follows: 1) Participation in the formulation of knowledge; 2) Planning or identifying knowledge; 3) Regulating vision and competence of the person; 4) Determining the type of knowledge for the work to be performed; 5) Performance of knowledge to be used because involving the employees in awareness and



participation in expressing their opinions on important decisions by providing opportunities for participation will help create unity and cooperation to work on important matters of the organization, which is essential in an era of borderless globalization and competition by relying on knowledge, the ability of personnel to manage knowledge with planning to identify actionable knowledge to create systematic knowledge management innovation in determining the types of knowledge, thoughts, actions and experiences of individuals. It is a way to generate knowledge or innovation and store it as a source of information. That can be reached by means of various channels provided by the organization focusing on applying existing knowledge to practice, which contributes to the sharing and transfer of knowledge. Finally, the available knowledge will be distributed and circulated in a balanced manner to enhance its ability to continue to develop. As the concept of Phakmai (2007) who said that the first thing people need to ask is the knowledge that is important and necessary to the organization and knowledge needed to carry out activities. This will enable them to define the knowledge that needs to be acquired and built into the organization.

2. Building and seeking knowledge consist of guidelines for development as follows: 1) The gathering of scattered knowledge; 2) The pursuit of knowledge leading to real knowledge; 3) Encourage and support from administrators; 4) The quest for continuous information; 5) Job development for the formation of skills and expertise because workers should have a way to search for and collect knowledge that is scattered or hidden in various places, both inside and outside the organization, together with promotion and support from administrators and colleagues, which is used and developed regularly resulting in skills and expertise. Seeking knowledge creates a culture of curiosity in the pursuit of knowledge from both inside and outside, leading to the development of operational efficiency which should begin by communicating the matter clearly with the personnel in the organization to develop the knowledge that has been in operation until the formation of expertise, gaining experience and causing new skills. As Phakmai (2007) points out, promoting scattered and hidden knowledge on a regular basis will result in skillfulness consistent with the concept of Department of Environmental Health which said that developing an organization to be effective and competitive without restrictions requires knowing the competence of personnel, knowledge management, and good management including increasing skills of knowledge to keep pace with new technologies and innovations, which can be used in the organization effectively (BEH, 2017)

3. Organizing knowledge into a system consists of guidelines for development as follows: 1) Record knowledge in various media; 2) Index for easy search; 3) Set the workflow and store it



in categories; 4) Keep the knowledge; 5) Use information technology to collect information because the departments need to set guidelines for collecting knowledge into a system such as education, experimentation, database records, clear written records, policies, and procedures based on learning requirements categorized according to the learning necessity and job purpose. Indexing is done for searching easily, conveniently and quickly to knowledge application. The more knowledge the organization has, the more valuable the people and organization will be. As Wongprasert (2005) who said that after receiving information, store the information and publish it for the employees of the organization. The next thing needed to be done is to have a good collection of data.

4. Knowledge processing and refining consist of guidelines for development as follows: 1) Dissemination of knowledge and innovation; 2) Having a meeting before, during, and after the work; 3) Interpersonal exchange of experience; 4) Experimentation with new knowledge; 5) Creating new knowledge from skills and expertise because the organization should have a public relations operation about promoting participation and the exchange of knowledge with others. There should be a trial of the new knowledge to increase the efficiency of the personnel and organization, resulting in enhanced effectiveness. As Panich (2005) observed, knowledge management is a common process among workers in an organization or a sub-department of an organization, who create and use the knowledge of work for better results with the goal of developing jobs and people. consistent with the concepts of Kucza (2001) said that having knowledge management is an activity that deals with the organization of the process for creating knowledge, and revision trials to improve the processes that affect knowledge management to better meet requirements.

5. Knowledge access consists of guidelines for development as follows: 1) Public relations; 2) Access and use of simple and easy knowledge; 3) Use of information technology systems to access knowledge; 4) Other communication to access knowledge because the organization has duties and responsibilities for conducting public relations operations as well as disseminating the progress activities and results of the organization. Knowledge should be organized into a system for use in the performance of work. Network systems and the application of information technology should be developed to promote and develop learning resources to be diverse. As Wichan (2007) points out, the knowledge management process involves sharing, exchange, dissemination, distribution and transfer of knowledge, which has many forms and channels such as organizing seminars, teaching, and exchanging knowledge with each other through the utilization and application of performance. Consistent with the concept of Tannembaum (1997) the



information system and computer technology will be able to support effective knowledge management as a tool for people to search, exchange, and store, including applying knowledge easily and quickly. Those organizations with stronger learning environments appeared to demonstrate greater organizational effectiveness.

6. Knowledge sharing consists of guidelines for development as follows: 1) Exchange and brainstorming as a team; 2) Creating a working network; 3) Direct and indirect dissemination of knowledge; 4) Disseminating knowledge and applying the knowledge that has been built up properly. Because of the creation of participation, storage and exchange of knowledge with each other is developed in the work to be effective. This includes being able to apply the knowledge easily and quickly for efficiency in operations. The organization is responsible for promoting, supporting, and coordinating individuals, families, communities and other organizations to form network partners to strengthen the organization's operations, including disseminating information and knowledge through technology exchange of knowledge, within and outside the organization. Management aims to bring knowledge from the knowledge source to the users in order to improve work efficiency and generate innovation efficiently. As Wichan (2007) stated, the exchange, dissemination and transfer of knowledge has many forms and channels leading to utilization, application, benefit and achievement. It must be possible to expand knowledge and competitiveness in the organization to be higher and consistent with the concept of BEH (2017) who said that developing the organization for potential competitiveness is a key factor to network with students for the benefit of current or future work.

7. Learning and applying knowledge consist of guidelines for development as follows: 1) Enhancing skills in planning, problem solving, decision making, evaluation; 2) Explicit application of knowledge; 3) Expansion of knowledge; 4) Facilitating access to knowledge; 5) Organizing other educational activities, which can be discussed as follows: Effective organizations need to develop their capacities in the search for diffuse and latent knowledge to utilize and operate regularly, together with the ability to use knowledge to drive knowledge development and innovation. Further, there will be benefit to the organization and personnel, who will be able to expand their knowledge of working effectively, disclose information honestly and check accuracy by allowing the public to access information easily as well as having an efficient monitoring and evaluation system or process. This creates mutual trust and enables efficient operations. As Phakmai (2007) noted, knowledge that is important and necessary to the organization is required knowledge to carry out activities and operations. This will enable organizations to determine the knowledge that



needs to be acquired, built and used to achieve the outcome of the vision and the knowledge required to perform specific duties.

Conclusion

This study was a process research approach with theoretical sampling; the data are analyzed for prioritization of the priority needs index (PNI), and focus group discussion. Present a theoretical model of knowledge management of the organization's personnel in 7 components include: 1. Assignment of knowledge, 2. Building and seeking knowledge, 3. Organizing knowledge into a system, 4. Knowledge processing and filtering, 5. Access to knowledge, 6. Sharing and exchanging knowledge, and 7. Learning and applying knowledge. These components will enable the organization to have a policy guideline towards personnel for the development of knowledge which leads to the development of the organization as a whole effectively.

Suggestions

1. Suggestions for the development of management with appropriateness and concrete quality for those involved can be a guideline for promoting and developing personnel as follows:

1.1 Personnel should be supported to increase their knowledge and ability, have a role and participate in policy-making, and organize activities to define knowledge related to organizational development, such as management brainstorming activities or meetings to prepare strategic plans, etc., as well as building cooperation with various departments, both inside and outside the organization, to seek knowledge together efficiently.

1.2 Relevant documents should be systematically collected such as mail merge, lesson transcription, knowledge management manual, document storage of knowledge warehouse by applying PDCA (Plan Do Check Act) principles to knowledge management in the organization to process and filter knowledge, including laying the foundation of knowledge management in the organization and developing personnel to be able to implement knowledge management and support a knowledge exchange platform in order to extract a set of knowledge from the learning exchange process.

1.3 There should be improvement of the organization such as 1) the case of explicit knowledge may be documented, a knowledge base or information technology, etc. and 2) the case of knowledge is deeply embedded in a person by forming a cross-functional team system,



learning community or practitioner community, mentor system, shuffle, borrowing personnel to help out or a knowledge exchange platform, etc.

2. Suggestions for important continuation of development

2.1 The organization should promote and develop volunteer work by providing opportunities for personnel who have the intention and interest to develop the organization into a learning organization. Group relations activities with interpolating activities for mutual opinion acceptance should be conducted.

2.2 There should be a suitable atmosphere for the exchange of knowledge, and accepting the opinions of personnel, including the use of edutainment techniques during exchange

2.3 The organization should provide incentives for behavioral change and personnel engagement at all levels, including short-term and long-term incentives, awards recognition, and providing special grants, etc.

2.4 The organization should have multiple communication channels for its personnel. This may be done by preparing a knowledge management journal / brochure, preparing knowledge management websites, and creating a personal journal on a website or web blog.

References

- Bureau of Environmental Health. (2017). *Operational Guidelines for Individual Personnel Development Plan*. Bangkok: Strategy and Planning Division: Bureau of Environmental Health Press.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- Kucza, T. (2001). *Knowledge management process model*. Retrieved February 20, 2012, from <http://www.inf.vtt.fi/pdf/publication/2001/p455.pdf>.
- Marquardt, J. (2002). *Building the Learning Organization: A Systems Approach to Quantum Improvement and Global Success*. New York: McGraw-Hill.
- Nanoka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Create the Dynamics of innovation*. New York: Oxford University Press.
- Panich, W. (2005). *Knowledge management and Thai government administration*. Bangkok: Knowledge Management Institution.
- Phakmai, S. (2007). *Knowledge management in schools under the Sakaeo Primary Educational Service Area Office 2*. (Master's Thesis). Burapha University. Chonburi.



- Phonphai, P. (2001). *Knowledge management: Concept and Case studies*. Bangkok: Chulalongkorn University.
- Probst, G., Raub, S., & Romgardt, K. (2000). *Managing Knowledge: Building Blocks for Success*. Chichester: John Wiley & Sons.
- Tannenbaum, S. (1997). Enhancing continuous learning: Diagnostic findings from multiple companies. *Human Resource Management*. 36(4): 437-452.
- Wichan, B. (2007). *Knowledge management to practical intelligence*. Bangkok: Tankamol Press Limited Partnership.
- Wongprasert, C. (2005). *Introduction to information management*. Bangkok: Tankamol Press Limited Partnership.