

*Full Length Research Paper*

# Development of a knowledge management model for the development of a quality public sector management system for the office of the primary educational service area

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The objectives of this research were: 1) to study the current situation and problem of Knowledge Management of the office of the primary education service area, 2) to develop a Knowledge Management model, 3) to study the success of the implementation of the Knowledge Management system. There were 25 persons in the target group. There were 2 kinds of instrument: the instrument for work development was the Handbook for work implementation, and the instruments for data collection were: questionnaire, semi-structured interview form, action record form, knowledge Test. The statistic used for data collection included the percentage, mean and standard deviation. There were 3 phases of research implementation including: Phase 1: to study the current situation and problem, Phase 2: to design the Knowledge Management Model for developing Quality, and Phase 3: to use the Model, and study. The research findings found that: 1. The findings of current situation and problem the implementation was in "Moderate" level. Problems in using knowledge for organization, in every aspect are in "High" level. 2. The findings of model usage, and success in Knowledge Management for developing the Quality in Public Sector Management, in overall are in "High" level. 3. The findings from evaluating the success of the Knowledge Management model, based on indicators of success from the model, were that propriety was at an overall "High" level.

**Key words:** Km, management, educational, education service area.

## INTRODUCTION

Knowledge management is a process for promoting and enhancing a person's learning both inside and outside an organization. A body of knowledge cannot be evaluated in the same way as an asset or money, but it can increase the value of an organization. Consequently, a

Knowledge Management Model is a very important instrument for staff development. In addition, according to trends in social changes in technology and media, which have rapidly changed around the world, an organization must adjust itself to keep pace with the changes in global

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society. Staff cooperating as a working team is necessary for an organization to survive efficiently and compete with other organizations. Losuwanrat (2007) found that there are problems in Knowledge Management in the public sector. Practitioners lack knowledge, comprehension, and support from their executive administrators. There is a lack of readiness of resources and responsive strategic processes that cause problems with organizational culture, organizational characteristics, and information communication and technology databases. Such a system cannot be investigated as is needed. The steps are too complex. There are no documents for Knowledge Management that can be used instruments to aid in the use of staff members' potential in various dimensions through sharing tacit knowledge gained from experience and by constructing and applying one's knowledge and experience to construct a knowledge database and innovate. Such documents can be kept as a data source that could be accessed by staff members through various channels prepared by the organization to aid in the application of existing knowledge for work development, staff development, and organizational development (Chantarasombat, 2009).

In the present study, the Knowledge Management system of the Office of the Primary Educational Service Area was not precise. The data were only reports or presentations based on a time schedule. Therefore, it was necessary to evaluate the findings of official work by certifying official work practice at the end of the budget year. Furthermore, there were the following problems: 1) there was no work cooperation between the official work unit, the work unit in the Office of the Educational Service Area, and the school, and 2) the work unit's implementation of practice was separated from the regular work system, which caused considerable problems for the Office of the Educational Service Area (The Office of Basic Education Commission, 2007).

Based on the information reviewed above, the researcher viewed Knowledge Management to be a process that could lead to a new body of knowledge that would enable staff to work more efficiently. As a result, the researcher was interested in studying Knowledge Management in the Office of the Primary Educational Service Area by developing a long-term Knowledge Management Model to develop a quality public sector management system for the Office of the Primary Educational Service Area that could be applied efficiently to staff development, work development, and organizational development.

### Research objectives

The objectives of this study were as follows: to study the current Knowledge Management situation and problems in Knowledge Management system to develop a quality

public sector management system for the Office of the Primary Educational Service Area; to develop a Knowledge Management Model of quality public sector management for the Office of the Primary Educational Service Area; and to study the effect of applying the Knowledge Management Model to the quality of public sector management for the Office of the Primary Educational Service Area.

### RESEARCH METHODOLOGY

There are three phases in this study: Phase 1 involved studying the current situation and problems in Knowledge Management to develop a quality public sector management system for the Office of the Primary Educational Service Area. The following three steps were implemented (Table 1):

Step 1: The researcher searched for information and documents regarding Knowledge Management, the Knowledge Management process, and the quality of public sector management. The related research literature was studied to determine the conceptual framework. According to the synthesis of the Knowledge Management literature, the researcher determined the current state of Knowledge Management and a vision for the application of Knowledge Management, organized a systematic Knowledge Management system, evaluation the current Knowledge Management system, and developed a conceptual framework.

Step 2: The researcher described the current situation and problems in the Knowledge Management system of the Office of the Primary Educational Service Area.

Phase 2: The researcher in depth interview with the Director and design a model to develop a quality public sector management system for the Office of the Primary Educational Service Area as follow to:

Step 1: The researcher conducted an in-depth interview with the Director of the Office of the Primary Educational Service Area and evaluated the outcomes from the development a management model using the evaluation scores from the certification of official practice during the 2011 budget year. "Very Good" scores (evaluation score = 500) were found in four Educational Service Areas.

Step 2: The researcher outlined the Knowledge Management Model. The elements of this step were as follows. First, outline the tentative Knowledge Management Model for the Office of the Primary Educational Service Area. The five steps of the Knowledge Management Model were as follows: develop the Vision of Knowledge Management; Knowledge Construction and Searching; Systematic Knowledge Storage; Knowledge Application; and Evaluation.

Quality public sector management involves the following seven factors derived from the guidelines for developing a public sector management system: Organizational Leadership; Strategic Planning; Recognizing those Receiving Service; Measurement and Analysis; Staff Orientation; Organizational Process Management; and Implementation Outcomes at the Organizational Level.

Subsequently, the researcher outlined the guidelines from the Handbook for Knowledge Management and presented the tentative Knowledge Management Model to be investigated for propriety, feasibility, utility, and congruence by seven experts.

The five steps of the activity plan were determined to be as follows: 1) developing awareness, 2) establishing an activity plan,

**Table 1.** Phases of the study.

| Phase  | Step  | Person involved                        | Procedures/collecting data         | Results/ outcomes  |
|--|---|--|------------------------------------|--|
| 1. Involve studying the current situation and problems in knowledge                  | 1.To search for information and document  | researcher                             | Study, criticize, collect data     | Conceptual framework   |
|  | 2. To describe the current situation and problems in the Knowledge Management system the Office of the Primary Educational Service Area | researcher and subject involved        | Question form                      | current & problem of Knowledge Management  |
| 2. To design a model to develop a quality public sector management system            | 1. in depth interview with the Director   | researcher                             | in-depth – interview               | current & problem of Knowledge Management  |
|  | 2. draft model of Knowledge Management  | researcher and target group 25 persons | - the action record form           | problem of Knowledge Management of target group<br>- a draft of Knowledge Management Model |
| 3.To use the model and studying Knowledge Management outcome of the management model | 1. to develop the develop the knowledge Management Model the Knowledge Test   | Target group                           | The knowledge test                 | - scores   |
|  | 2.to evaluate the Knowledge Management Model  | - Target group                         | - The satisfaction Assessment form | level of satisfaction  |

3) developing implementation procedures, 4) sharing knowledge, and 5) evaluating the plan and drawing conclusions.

Phase 3: Using the model and studying Knowledge Management outcomes of the management model for the Office of the Primary Educational Service Area, the steps were as follows:

Step 1: Using the Knowledge Management Model of the Office of the Primary Educational Service Area. Implementation was based on five steps and 14 sub-activities of the Activity Management Plan to develop the staff's participatory learning, which were performed as follows: 1) Developing awareness consisted of three activities: (1) studying the staff's knowledge management status, (2) holding a conference to enhance knowledge and comprehension of Knowledge Management and to develop criteria of quality public sector management, and (3) developing an understanding of the activity, motivation, and awareness of working collaboratively. 2) Establishing an activity plan consisted of two activities: (4) establishing documents and a handbook for practice in Knowledge Management to develop a quality private sector management system, (5) establishing a practitioners' potential development plan and enhancing skill and experience in Knowledge Management. 3) Developing implementation procedures consisted of three activities: (6) putting the plan into practice to promote experience in Knowledge Management to develop a quality public sector management system, (7) using the Knowledge Management Model to develop a quality public sector management system, and (8) developing a Knowledge Management Network for developing a

quality public sector management system. 4) Sharing knowledge consisted of two activities: (9) learning about Knowledge Management at the person level, the individual and organizational levels, and (10) expressing opinions and creating guidelines for improving the use of recommendations gained from the Knowledge Management system. 5) Evaluating and drawing conclusions consisted of four activities: (11) concluding the lesson and revising the Knowledge Management system, (12) implementing steps to improve the body of knowledge created for developing a public sector management system, (13) discussing and drawing conclusions from the use of the Knowledge Management system, and (14) evaluating the Knowledge Management process.

Step 2: the researcher implemented the following steps to study the findings from the development of Knowledge Management practices for public sector management of the Office of the Primary Educational Service Area. The success of Knowledge Management in developing a public sector management system for the Office of the Primary Educational Service Area was evaluated using the indicators of success used in the Knowledge Management Model. Satisfaction with the Knowledge Management system developed was evaluated in the Office of the Primary Educational Service Area's public sector management (Table 2).

### Research instruments

Two types of research instruments were used: the instrument for work development and the instruments for data collection. The

**Table 2.** Knowledge management test.

| Knowledge Management Test | N  | ( $\bar{x}$ ) | S.D. | t     | P     |
|---------------------------|----|---------------|------|-------|-------|
| Pre Test                  | 25 | 11.32         | 1.73 | 70.69 | .000* |
| Post Test                 | 25 | 27.48         | 0.92 |       |       |

latter included the following: the Questionnaire; the Semi-structured Interview; the Action Record; the Knowledge Test; and the Satisfaction Evaluation Form for the implementation of a Knowledge Management developed for the public sector management of the Office of the Primary Educational Service Area

## RESEARCH FINDINGS

The current state of Knowledge Management in the public service management of the Office of the Primary Educational Service Area was overall "Moderate" for implementation. Considering each factor, the researcher found that the following factors were implemented at a "High" level: developing a vision for Knowledge Management, organizational leadership, strategic planning, measurement and analysis of Knowledge Management, human resource orientation, and the implementation of process management outcomes through communicating information and technology. The other aspects were implemented at a "Moderate" level.

The findings from the design of the Knowledge Management Model for the Office of the Primary Educational Service Area indicated that five steps were involved in the implementation of the model: 1) developing a vision for Knowledge Management, 2) searching for and constructing knowledge, 3) systematically storing knowledge, 4) applying knowledge, and 5) evaluating the Knowledge Management system. In the end, five steps and 14 sub-activities were obtained for the activity plan.

Developing awareness consisted of three activities: (1) studying the role of the current Knowledge Management system in developing a quality public sector management staff, (2) holding a conference for the development of a quality public sector management staff, and (3) developing motivation and awareness of working collaboratively using Knowledge Management to develop a quality public sector management system.

Establishing and implementing the plan consisted of two activities: (1) establishing documents and a handbook for Knowledge Management.

Implementing the plan consisted of two activities: (1) putting the plan into practice and enhancing the experience of Knowledge Management for the development of a quality public sector management system, and (2) using the Knowledge Management Model to develop a quality public sector management system.

Sharing learning consisted of two activities: (1) learning about Knowledge Management for the development of a

quality public sector management system at the individual, group, and organizational levels, (2) expressing opinions about and making recommendations for Knowledge Management in the development of a quality public sector management system, and (3) developing a Knowledge Management Network for developing such a system.

Evaluating and drawing conclusions consisted of four activities: (1) concluding the lesson and reflecting on the role of Knowledge Management in the development of a quality public sector management system, (2) improving the body of knowledge used in Knowledge Management, (3) discussing and drawing conclusions from the Knowledge Management Network, and (4) evaluating the Knowledge Management process.

The findings obtained after 7 experts evaluated the model indicate that 1) the propriety of the model was "Very High", with a mean value of 4.24; (2) the feasibility was "High", with a mean value of 4.27; and (3) the utility was "High", with a mean value of 4.29. Overall, the model was evaluated to be at a "High" level, with a mean value of 4.43.

The findings from evaluating the model usage and the success of Knowledge Management in developing a quality public sector management system for the Office of the Primary Educational Service Area were as follows:

The staff obtained knowledge of and skill in Knowledge Management. They worked more systematically by creating a shared learning climate, and the propriety of the model usage was found to be "High".

The findings from Success Evaluation indicate the following. At the individual level, individuals had awareness of the significance of learning and experience in Knowledge Management from practice. Success at the individual level was evaluated to be "High". At the group level, a common vision was developed. Working as a team was encouraged through training and workshop. The group members developed a shared learning climate. Success at the group level was evaluated to be at "The Highest" level. At the organizational level, a culture of learning was developed, including systems for monitoring and investigating work practice. The climate enhanced learning. Success at the organizational level was evaluated to be "High".

Satisfaction with the implementation of Knowledge Management to develop a quality public sector management system was, overall, found to be "High".

According to this study, a Knowledge Management

Model for the development of a quality public sector management system for the Office of the Primary Educational Service Area was obtained and was appropriate to the context, and the staff were able to obtain knowledge and skill to work more efficiently (Figure 1).

## DISCUSSION

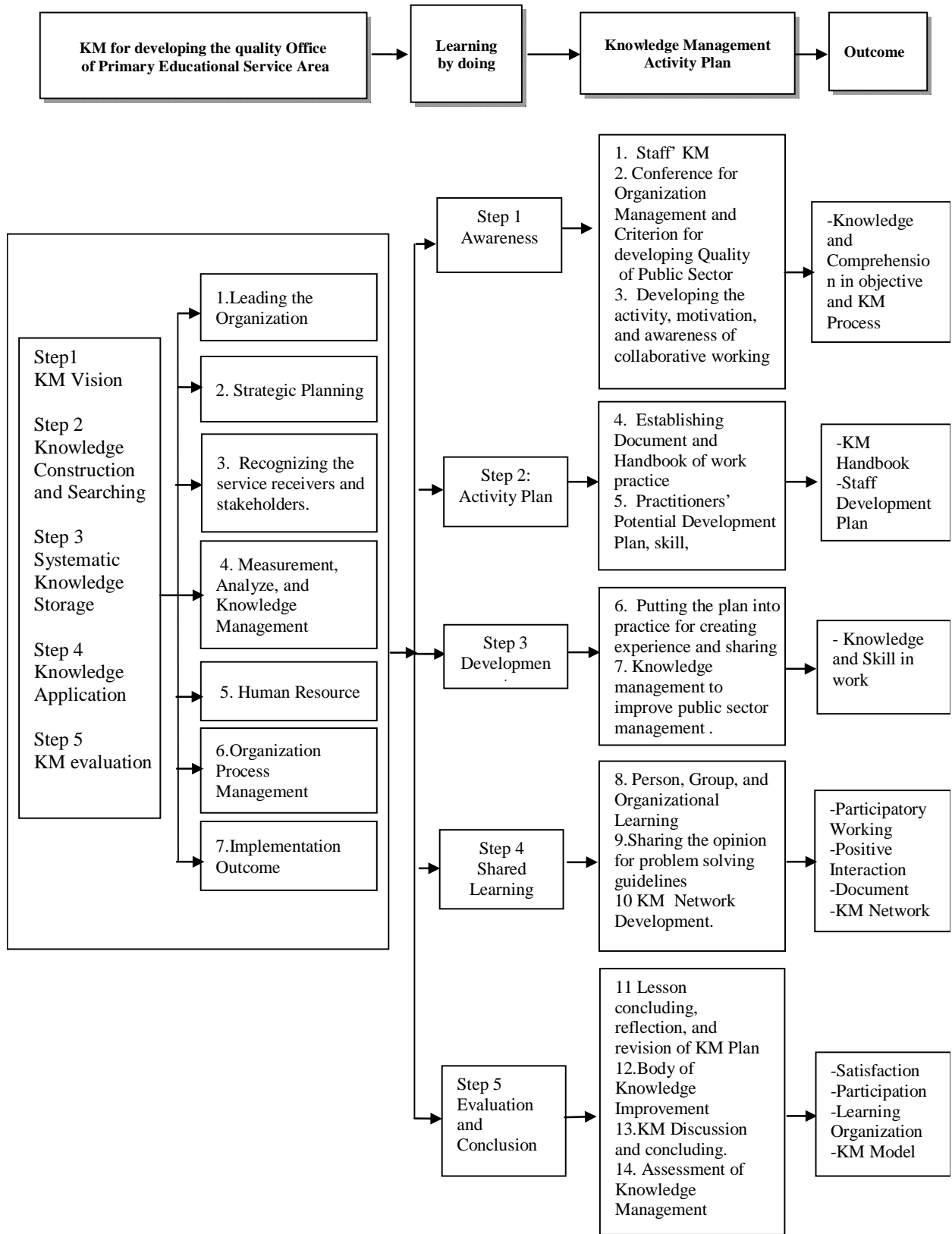
According to the research findings, there are interesting issues to be discussed as follows:

1. The findings of current situation and problem in Knowledge Management for developing the Educational Quality the Public Administration and Management of the Office of Primary Educational Service Area, found that the overall implementation for Knowledge Management Process in the Office of Primary Educational Service Area was in "Moderate" level. The research findings might be due to the globalization situation including the changing environmental conditions. It was supported by Tipwan Lo-suwan-rat's findings (2007) that found that the problems of Knowledge Management in Public Organization were as follows: the practitioners in Knowledge Management lacked of knowledge and comprehension, the lack of support by high executives, the lack of readiness in resource and related processes, the problem of Organizational Culture, the characteristics of Organization, the data base of Information Technology System, the unresponsiveness to strategy, objective as well as user's need, the work unit couldn't investigate the working system as it should be, the complex steps, the lack of supplementary documents such as the lack of handbook or there was a handbook but it was difficult to be used in real situation. In addition, it was supported by statement from The Office of Basic Education Commission (2007) that the Knowledge Management of the Office of Educational Service Area was not obvious, the findings were only the presentations of report according to time frame which the official practices had to be evaluated based on the assured statement during the end of budget year. Furthermore, the problems were also found: 1) the cooperation of official units and work units from both of the Office of Educational Service Area and the schools, was smooth in "Low" level, 2) the implementation of work practice units, was in different parts without integration to be assimilated with regular work system leading to a lot of problems in work of the Office of Educational Service Area.

2. The findings of designing for Knowledge Management Model for developing the Educational Quality the Public Administration and Management of the Office of Primary Educational Service Area, the Knowledge Management Process Model was obtained including 5 steps: 1) the development of Vision in Knowledge Management, 2) the Knowledge Construction and Searching, 3) the Know-

ledge Storage to be systematic, 4) the Knowledge Application, and 5) the Knowledge Management Evaluation as well as Public Administration and Management based on 7 aspects of framework as follows: 1) the Organizational Leading, 2) the Strategic Planning, 3) the Service Based for the persons who were provided service, 4) the Staff Oriented, 5) the Measurement and Analysis, 6) the Process Management of Organization, and 7) the Product of Organization, and implemented based on 5 steps of Activity Plan including 14 activities: 1) the Development of Awareness consisted of 3 activities as: (1) the study of staffs' Knowledge Management Situation, (2) the Conference for developing one's knowledge and comprehension, (3) the development of Motivation and Awareness in working, 2) the step of establishment for Implementation Plan consisted of 2 activities: (1) the establishment of documents and handbook for work practice, and (2) the establishment of Work Practitioners' developmental plan, 3) the step of Implementation according to plan consisted of 2 activities as: (1) the Plan was put into practice, and experience promotion, and (2) the Knowledge Management Model was used for developing the Public Administration and Management, 4) the step of Sharing consisted of 3 activities : (1) the Learning in individual level, group level, and organizational level, (2) the Collaborative Presentation in opinion as well as recommendations, and (3) the development of Knowledge Management Network, 5) the step of Measurement and Evaluation consisted of 4 activities : (1) the conclusion of Lesson and Reflection, (2) the improvement for Body of Knowledge Level, (3) the Discussions and Conclusions of Knowledge Management, and (4) the evaluation of Knowledge Management Process.

These findings might be because the current world is Knowledge based Society. The Socio-economic movement needs to be based on Knowledge as a major factor. Since the process in using the Knowledge Based with ultimate benefit for organization had to be based on Intelligent Knowledge Management so that the organization would be competent in efficient competition as well as implementation leading to Learning Organization. The Knowledge3 Management would be well established in the Learning Organization by reforming the official system, determining the official divisions to develop one's knowledge, comprehension, skill, and expertise to be sufficient with work practice being relevant to social condition with rapid changes, and determining the policies for official work units to be Consistent Learning Organization including the sharing among people for developing the participation as well as promoting and developing every government official's knowledge and competency to serve the new trend of official management focusing on the improvement of work efficiency to be accomplished in official practice. It



**Figure 1.** Knowledge management model (KM Model) for the development of a quality public sector management for the office of the primary educational service area.

was supported by Naun-la-or Sangsook's (2007) study in "Knowledge Management of Ramkhamhang University," the findings found that the Knowledge Management Model being appropriate in future should be implemented in 4 aspects including: (1) the Knowledge Construction should be implemented by emphasizing on the staff development for constructing the knowledge being supported for its implementation by The University, and real practice, (2) the Knowledge Storage, the University should implement by determining the process for data collection in the University as well as the project for constructing the data base of University, (3) the Knowledge Dissemination, the University should implement by establishing the policy for using the instrument in searching for Information Technology of knowledge from the stored data base, determining the techniques for disseminating the information into different work units as well as methods for disseminating knowledge into sub-work units, and (4) the Knowledge Application, the University should implement by using knowledge from data base as well as communication system for work flowing into different work units in University. It was also supported by Hansapiromchoke's (2007) study in "Development of Knowledge Management Model for Public Work Unit"; the findings showed that the Knowledge Management Model for Public Work Unit consisted of 7 steps as: 1) the knowledge determination, the teamwork building, the knowledge surveying and collection, the ranking for priority of knowledge, and the determining for necessary knowledge sources, 2) the knowledge searching from inside and outside work units, 3) the knowledge construction, the teamwork building for knowledge construction, the teamwork conference, and knowledge integration for work practice development, 4) the systematic knowledge storage, the determination of knowledge structure, and the collection of systematic knowledge storage, 5) the sharing in learning activity management, the organization of knowledge dissemination, 6) the knowledge application for human development, work development, and work unit development, and 7) the following up and evaluation in Input factor, Process, and Product as well as the components for Knowledge Management Model for public work units consisted of 4 factors: 1) Learning was classified by individual level, group level, work unit level, and learning skill, 2) work unit, vision and goal, strategy, culture including the preparation and behavior modification, communication, process and instrument, recognition, praise, and rewarding, and organizational structure, 3) human consisted of the administrators, staffs, and service receivers, 4) technology consisted of Information Technology System for learning improvement. It was supported by Sa-nao Klin-ngam's (2008) study in "Development of Knowledge Management Model in Rajabhat Universities"; the findings showed that the administrators' leadership as the highest level of signifi-

cance, and the infrastructure of Knowledge Management, Organizational Culture, Information Communication and Technology System. The Measurement and Evaluation was in the second order respectively. For the Knowledge Management Process in Universities, found that it consisted of the steps, the knowledge determination, the knowledge searching, the knowledge construction, the knowledge sharing, the knowledge storage, and the knowledge application.

3. The findings of Model Use, and success of Knowledge Management Implementation for developing the Public Management Quality of the Office of Primary Educational Service Area, found that the staffs had better knowledge and comprehension in Knowledge Management Process for developing the Public Management Quality. The implementation consisted of average value = 11.32. After implementation, the staffs had better knowledge and comprehension = 27.46. Before the implementation, the staffs lacked of knowledge and skill in Knowledge Management for public administration and management. After implementation, the staffs obtained knowledge and skill in Knowledge Management, they were able to their vision in Knowledge Management as well as construct and search for knowledge. They could organize their knowledge systematically. They applied knowledge by sharing and exchanging their knowledge. They created the sharing climate and disseminated knowledge into working group or responsible persons. These research findings might be because the Office of Kalasin Primary Educational Service Area 2 promoted the staffs to construct and share their knowledge. The Office of Educational Service Area was aware of the awareness development in their culture for staffs under jurisdiction. Since the administrators recognized as well as listened to their colleagues.

They were friendly with their co-workers and persistent in self-development as well as organizational development sustainably and truly. Moreover, the Office of Educational Service Area implemented the Knowledge Management as a Process. As a result, their organization was the Learning Organization including the knowledge searching by developing the climate and culture facilitating their staffs to be energetic for sharing with each other from conference as well as workshop seminar, comparing their findings from field trip study and applying in work practice to be more efficient. It was supported by Chalngat Insee's (2007) study in "Development of Knowledge Management Model in the Faculty of Nursing in Rachatani University" found that the Knowledge Management Model was efficient and appropriate with the administrators and staffs. They had satisfaction and evaluated the success of Knowledge Management in "High" level. It was supported by Yiemsang's (2007) study in "Development of Knowledge Management Model in the Office of Mahasarakam

Educational Service Area 1"; the findings showed that every staff group viewed that the implementation of Knowledge Management was successful in "High" level. It was also supported by Gruber's (2000) study in "Organizational Culture," whether it would affect the shared knowledge. The research findings showed that the following factors affected by promoting the shared knowledge use of organization as the opened and trustworthy organization, the communication channel, the support by top executives, and the rewarding system.

The researcher recommended that the rewarding system as an important factor of organization would enhance the knowledge us. In the organization, it was required to design for transparency being opened by the experts. Besides, the researcher also recommended that the organization should focus on the comprehension and organizational support which would enhance the knowledge sharing, exchanging, and using rather than the technology. It was supported by Epstein's (2000) study in "Knowledge Sharing and Exchanging in Organization"; the research findings showed that one's close relationship played an important role in knowledge dissemination since being friends would cause ones' better knowledge or experience sharing.

## RECOMMENDATIONS

To use the developed Knowledge Management Model effectively, all five steps and 14 sub-activities should be practiced so that the implementation will be efficient and effective. To develop learning activities based on the five steps, it is necessary to understand each activity clearly and apply each activity to be relevant to the context in each Educational Area with different levels of readiness. The Educational Service Area should promote and enhance research of and development in other types of Knowledge Management Models as well as search for the best practices in the Educational Service Area and extend those practices.

### Recommendations for future research

Research and development of efficient Chief School Administrators in knowledge management should be conducted to develop a quality public sector management system for the Office of the Educational Service Area. The other aspects of the Knowledge Management Model should be studied to obtain precise and efficient guidelines for learning in the organization as well as to develop the public sector management system of the Office of the Primary Educational Service Area because Knowledge Management in an organization is very useful for implementing knowledge management.

Factors affecting Knowledge Management that could affect the efficiency of the Office of the Educational Service Area should be studied. Various levels of participatory action research should be conducted, for instance, at the school, provincial, and regional levels, to analyze the research findings to create a predictive equation and develop a Knowledge Management system that is relevant to different contexts and localities.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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