

## The Development of a Knowledge Management (KM) Model for the Faculty of Nursing, Ratchathani University

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### Abstract

*The purposes of this research comprised: (1) to examine context and conditions previously to KM operation before developing a KM model for the Faculty of Nursing, Ratchathani University Thailand, (2) to develop a KM model for the Faculty of Nursing and (3) to investigate factors affecting success in KM for the Faculty of Nursing. 85 nursing faculty members of the university including 27 administrators in academic year 2006 were as population. Mixed methodologies were conducted to 53 nursing faculties from main campus sited in Ubon Ratchathani Province, and 47 ones in Udon Thani Campus who were as the sample gained by voluntary consent. Respectively 7 and 8 of them were administrators. They were divided into 7 groups to participate ,to construct and to implement the KM model which was based on participatory research, developmental plan one. The instruments composed of constructed model and questionnaires. The constructed model was tried out in the Faculty of Nursing both at the two places for 8 months. The team was shaped into committees, advisory committee, and 7 major groups for knowledge management operation which was based on the knowledge management process. They included classifying knowledge, building new knowledge, sharing*

*knowledge, implementing knowledge, disseminating knowledge, established of knowledge management center and evaluating knowledge. Five sets of the questionnaires with Likert scale used for gathering 5 dimensional data of the model. They were a knowledge management survey, appropriateness, factors affecting success, an evaluation form on success and members' satisfaction . The reliability were .8880, .8989, .8814, .8981, and .8999, respectively, by applying Cronbach alpha coefficient . Content analysis was applied to investigate qualitative data while means and standard deviation was done to quantitative one. The research results were as follows:*

*1) Before developing the KM model, in some elements, the nursing faculties had operated activities which were not systematic. However, not any single of them was a clear model.*

*2) The constructed model consisted of the 3 phases. They were preparing subjects, configuration with detailed flow chart and the model implementation following with network construction accompanied with strengthening. Respectively, each of them was within 3, 6 and 3 steps inside. Phases and steps were serial. It was confirmed that the first step of the third phase comprised 7 sequent KM processes.*

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3) *During the model implementation, there were remarkable phenomena which were essential to KM operation. They comprised 5 concrete activities such as systematic KM, KM centers, Building knowledge website and network, Getting the body of knowledge and finally sharing and transferring knowledge. The three groups of The Faculty of Nursing, Ratchathani University in main campus had gotten 53 tacit knowledge and 67 explicit one while the four groups in Udonthani campus had gotten 45 tacit knowledge and 120 explicit one.*

4) *After the model implementation, totally 285 titles acting as the body of knowledge in work performance were obtained. The faculties in every group rated towards the KM model on satisfaction as a whole, on the success as a whole and on appropriateness in high level.*

5) *The factors affecting success in knowledge management for the Faculty of Nursing included: supports from administrators in the university especially ones in Faculty of Nursing from all levels, knowledge management centers, knowledge management culture of faculties and knowledge management strategies through the use of well-trained knowledge workers, trust, synergy, accompanied with participation. Using the working principle of H.M. King Bhumibol Adulyadej, which included: systematic study of data, regarding, organizational*

**Keywords :** faculty of nursing, knowledge development, knowledge management, model development, the body of knowledge, mixed research methodologies.

### **Background and Significance of the problem**

Knowledge management is the new way of an organization administration.

Person is the most influential importance for each organization. They are many rapid changes all over the world. The new organizations have to be adapted to keep up with such changes to enable them to compete in the present world. (Vonthana Meungchun and other, 2005.)

The human walks into the knowledge management era. Organization administrators should take action as one of a compulsory role to develop a knowledge management (KM) model. Knowledge is important to be basement in higher educational institute. It should be driven progressively to support the knowledge-based economy era. Higher educational institute have to increase administration potentiality based on KM to maximize benefits of organizations in all levels, institute, society and national. The old tradition administration should be shifted to paradigm leading to new way of administration. KM can be considered into action for this purpose.

The basic way of thinking to be as recognition for KM in higher education institute can be revealed into the following 10 items: 1.) Knowledge will be and remain in human intelligence. 2.) Knowledge sharing and transferring are setting on their trust. 3.) Technology will be built up behavior derived from new knowledge. 4.) Knowledge administrator have to get rid of conflict between old culture and new one. 5.) Administrators's vision and leadership should be get along well with knowledge-based economy. 6) Measurement and evaluation of KM are necessary. 7) Knowledge strategies should be examined and developed all the time. 8) Supports, stimulation and promotion should be to built up in sharing and exchanging to profit to organizations. 9.) Supports and resource are critical and most important for KM. 10) KM innovation should begin from the pilot

project and then will be evaluate it by both of qualitative and quantitative methods (Marquardt 1996 ; Davenport, 1998. Pornshullee Archavaumrung, 2000). KM project is the most important in nursing profession education which uses of KM in both theory and practice learning. They all would have many profits for students, teachers and patients to recieve maximize quality of careing, safety, trusts which have to be accepted by locally to global society, (Ratchathani University, 2005)

The Faculty of Nursing is one of four faculties in the university, it was founded since 1995. They have graduated nurses earned the degree from the University which 6 generations are from main campus and 4 ones from the other one. (Ratchathani University, 1999.)

The researcher had been interested in constucting newly KM Model for the Faculty of Nursing, Ratchathani University to yield administration in the organization and their culture effective. This will enable them for world of competition.

### Research Objectives

1. To examine conditions previously to knowledge management operation before developing a knowledge management model for the Faculty of Nursing, Ratchathani University , Thailand.
2. To develop a KM model for the Faculty of Nursing
3. To investigate factors affecting success in KM for the Faculty of Nursing.

### Reserch Methodology

Mixed methodologies were conducted along this study which followed by 3 phases.

The first phase : Documents study was involved and make the conceptual framework.

1. To study theory and KM framework to construct newly model.

2. To develop research concept, framework , the activity network related to KM for the Faculty of Nursing, Life recycle of KM and the factors affecting success in KM.

**The second phase :** population and the sample were identified as follows.

**Population:** They were 85 nursing faculty members of the university including 27 administrators in academic year 2006.

**Sampling:**They were 53 nursing faculties from main campus sited in Ubon Ratchathani Province, and 47 ones in Udon Thani Campus who were as the sample gained by voluntary consent. Respectively 7 and 8 of them were administrators. They were divided into 7 groups to participate ,to construct and to implement the KM model..

According to main campus and Udonthani campus,sample was able to be revealed in details as follows;

**1. Main Campus in Changwat Ubon Rachathani :** The sample consisted of 53 Faculties Ratchathani University. They were divided into 3 groups under voluntary consent. Group one consisted of two departments; a.) Fundamental Nursing and b.) Basic Science and General Education. Group two consisted of two departments,a.) Mental Health and Psychiatric Nursing and b.) Community Health Nursing. Group three consisted of three departments ; a.)Obstratic Nursing, b.) Children and Adolescence Nursing and c.) Adult and Elderly Nursing.

**2. Udon Thani Campus:** They consisted of 47 administrators and nursing faculties divided into 4 groups under voluntary consent. Group one insisted of three departments ,a.) Fundamental Nursing ,b.) Basic Science and General Education and c.) Adult and Elderly Nursing.

Group two consisted of a.) Community Health Nursing and b.) Mental Health and Psychiatric Nursing. Group three consisted of Obstetrics Nursing. Group Four consisted of Administration Nursing Department.

**The third phase :** Newly KM model construction was divided into 2 steps.

3.1 To develop tentative KM model for the faculty of nursing, Rachathani University, the researcher used the conceptual framework claimed by many scholars. They were KM process (Wiig, 1993 ; Nonaka and Takeuchi 1995. ; Marquardt, 1996 ; Alavi , 1997 ; Vigarn Panit 2005. and Katchara Rukchard. 2006. KM based Dasgupta, 1998. ; Bartor and Martin, 1997 ; Tiyoaw, 2000 ; Matekarunjit, 1993 ; Rukchard, 2006. and factors of success (Senge, 1990 ; Tiyoaw, 2000 ; Von Krogh, 1998 ; Darvenport and Prusak, 1998) The tentative model was proposed to five of experts to examine appropriateness, practicableness and getting a long well with the action plan.

3.2 To intervene the tentative KM model to the university for 8 months from August 1st, 2006 to March 31st, 2007. Model verification was conducted latently under consultation with 5 experts during the on going of the tentative KM model .

## Research Results

The research results could be summarized as follows :

1.) Before developing the knowledge management model, in some elements, the nursing faculties had operated activities which were not systematic. However, not any single of them was a clear model.

2.) The constructed model consisted of the 3 phases. They were preparing subjects, configuration with detailed flow chart and the model implementation following with network construction accompanied with strengthening. Respectively, each of them

was within 3, 6 and 3 steps inside. Phases and steps were serial. It was confirmed that the first step of the third phase comprised 7 sequent processes.

First Phase: preparing subjects	1 Making understanding with the president
	2 Staff meeting to gain understanding about vision,mission,policy, target and objectives
	3 examine context and conditions previously to KM operation.
Second Phase: configuration with detailed flow chart	4 Call for developmental plan with participation of the staffs.
	5 Making the K.M. vision, mission policy, target and objective together
	6 Setting the consultants and K.M. committees
	7 Developing team potentiality
	8 Initiate 7 KM groups for KM management operation
Third Phase: the model implementation following with network construction accompanied with strengthening	9. Setting up KM centers
	10. KM operation based on KM Processes 1.)classifying knowledge, 2.) building new knowledge, 3.) sharing knowledge, 4.)implementing knowledge, 5.) disseminating knowledge, 6.) established of knowledge management center and 7.) evaluating knowledge
	11 Public relations
	12 Disseminating Knowledge and building knowledge network for internal and external of the university

#### The Knowledge Management Model for the Faculty of Nursing Ratchathani University

- N.B. a.) Using the working principle of H.M.King Bhumibol Adulyadej, which included : systematic study of data, regarding, organizational culture, participation, honesty, sincerity and knowing, love, and unity.  
b.) KM needs the principle of participation, synergy and trust.  
c.) On going of evaluating following with improvement was done during KM  
d.) KM operation was pararely done with regular job on duty.  
e.) The principle of formative assessment while conducting this study.

3.) During the model implementation, there were remarkable phenomena which were essential to KM operation.They comprised 5 concrete activities such as systematic KM, KM centers, Building knowledge website and network, Getting the body of knowledge and finally sharing and transferring knowledge. The three groups of The Faculty of Nursing, Ratchathani University in main campus had gotten 53 tacit knowledge and 67 explicit one while the four groups in Udonthani campus had gotten 45 tacit knowledge and 120 explicit one.

4.) After the model implementation , There were totally 285 titles acting as the body of knowledge in work performance were obtained.The faculties in every group rated towards the KM model on satisfaction as a whole ,on the success as a whole and on



appropriateness in high level.

5.) The factors affecting success in knowledge management for the Faculty of Nursing included : supports from administrators in the university especially ones in Faculty of Nursing from all levels , knowledge management centers, knowledge management culture of faculties and knowledge management strategies through the use of well-trained knowledge workers, trust, synergy, accompanied with participation.

### Discussion

From the results of this study, the following, are issues which should be discussed :

1. The researcher-developed KM model for the faculty of Nursing, Ratchathani University, was the model tried out in the Faculty of Nursing in Changwat Ubon Ratchathani and at Udon Thani Campus for 8 months. It was found to be a highly effective KM model. The model was considered from several issues. First, KM was operated based on all the 7 processes : classifying knowledge, building new knowledge, sharing knowledge, providing knowledge, storing knowledge, applying knowledge, and disseminating knowledge by the teaching staff of each institute with totally 7 groups that conducted the research. The body of knowledge was benefits with a great number of lancelets. Second, there occurred KM centers in the form of operational source at the university and in the form of website as sources of storing knowledge, disseminating knowledge, sharing and publicizing KM. Third, the knowledge obtained from KM was implemented in organization of learning and work performance of the teaching staff and the Faculty of Nursing administrator.

Fourth, all the 7 groups of the teaching staff viewed that the KM model was appropriate at a high level. They showed their satisfaction with KM at a high level, and viewed that the KM operation was successful at a high level. Fifth, the teaching staff and the administrator had knowledge and understanding, realized the importance of KM in the organization, and were interested and enthusiastic about KM operation. The outcomes mentioned were likely because the researcher developed the KM model by analyzing and synthesizing the 8 conceptual frameworks involving KM together with upholding the 5 operational principles. For the conceptual frameworks involving KM, the researcher used those in terms of the KM processes of Wiig (1993) ; Nonaka and Takeuchi (1995) ; Marquardt (1996) ; Alavi (1997) ; and Wichan Phanit (2005) ; conceptual frameworks in terms of KM fundamentals of Bartor and Martin (1997), Dasgupta (1998), and Katchara Rukchard (2006). For the 2 parts of working principles, the researcher upheld the working principle of H.M. King Bhumibol Adulyadej. (The Office of Special Committee for Coordination in the Projects Following Royal Ideas. Unknown date : 3-32) which included : systematic study of data, regarding. Organizational culture, participation, honesty, sincerity ; and knowing, love, and unity. The researcher also upheld the principle of formative assessment while conducting this study.

2. For the results of examining the factors of success in KM, the following several factors were found : the use of effective KM model, and the other factors to be discussed included support and promotion from administrators at every level, KM centers, and the uses of different strategies for KM operation :

2.1 In being supported and promoted by the university administrators including the president, vice presidents, assistant presidents ; and Faculty of Nursing administrators including faculty dean, assistant deans, and different department heads in the Faculty of Nursing. These were the first important part. In any operation, it was necessary to create understanding to administrators to have them realize the importance of the matter to operate. No matter how different it was, the researcher had to demonstrate her intention on and perseverance by upholding the guideline of Maha Chanok (H.M. the King's work of writing) and by using several techniques of presenting and explaining for the administrators to understand and realize the importance of conducting the research. These thing could cause the administrators to support and promote and provide cooperation and unity from personnel in all divisions. The operation could continue smoothly with work power. This was in congruence with Kansuda Makhasiranon's research (2003). She found that there were 8 elements affecting KM efficiency. The first element was the leader or the administrator.

2.2 The efficiently established KM center was an important mechanism to drive KM, providing knowledge, and storing knowledge. The center was the resource of meeting and sharing knowledge and experiences. It was also the knowledge network and connection of knowledge. It could cause KM groups to operate to achieve all the established visions, missions, goals, policies and purposes. There were an advisory committee and KM operational committee for follow-ups of the operation and for solving the problems occurring while operating in continuity. These could cause the KM operation to achieve all the established purposes.

2.3 The uses of different strategies could promote the emergence of factors affecting success in KM as follows:

1) Strategies, trust, synergy, and participation could cause the teaching staff to generate trust in one another in KM operation as well as being proud of their own works that they had created the body of knowledge in a great number, had systematically stored knowledge on website, in documents, portfolios, and had disseminated the knowledge on the university radio. Pride and trust in their administrators and institute occurred. For this strategy the researcher upheld the working principle of H.M. King Bhumibol Adulyadej (The Office of Special Committee for Coordination in the Projects; Following Royal Ideas. Unknown date : 3-32) involving participation, sincerity to one another ; and knowing, love, and unity. This was in accordance with the concepts of Von Krogh (1998), Tiyoaw (2000), Bartor and Martin (1997), Katchara Rukchard (2006), and Met Metkarunchit (1993). These concepts gave the importance to the basic concepts as an instrument and a mechanism for KM which needed to rely on trust in each other, synergy, and participation of people who worked together in the organization.

2) For the use of the strategy, well-trained knowledge workers performed their duties in collecting and storing knowledge, providing website as knowledge network, storing and sharing knowledge, acting as knowledge public relations for the teaching staff and people in general. The well-trained knowledge workers performed particular duties in collecting works from KM groups, publishing, putting on website, and storing knowledge at the KM centers. The teaching staff could receive

convenience. This was in congruence with the concept of Dasgupta (1998) who emphasized that KM to be successful had to use strategies of well-trained knowledge workers to perform their duties in collecting and storing knowledge.

3) The strategy for communication of KM was mobilization of knowledge through media to persons involved. This could cause sharing learning and understanding persons involved, generating changes in terms of attitude and behaviors, and increasing degrees of persons' ability. This was in congruence with the concepts of Bartor and Martin (1997) Sano Tiyoaw (1997) and Katchara Rukchard (2006) who put an emphasis on the basic concept in using information communication technology as an instrument and a mechanism of KM in the organization.

2.4 Organizational culture at private educational institutions with orientation of products, responsibility, and punctuality to work performance in order to be able to fully produce products, the organization being able to exist, and when adding the systematic KM model to the existing organizational culture of the educational institution could be one of the factors which promoted this KM to achieve the established goals.

### **Recommendations for work development**

1) According to the development of working were as follows :

1.1) Trust would be useful strategy for creating in organization.

1.2) Synergy strategy would be useful for operating many activities to tighten love, cooperation in developing organization.

1.3) Participation strategy would be the main factors in learning organization as it supports the philosophy of

equity and acceptance of human potentialities.

1.4) Knowledge management process should be a main principle in staff developing leading to organization development in keeping-up with global social economic growing.

2) Suggestions for practicing :

KM operation can be promoted based on KM Processes vai a.) classifying knowledge, b.) building new knowledge, c.) sharing knowledge, d.) implementing knowledge, e.) disseminating knowledge, f.) established of knowledge management center and g.) evaluating knowledge to reach all of objectives through leaders' charisma and beliving leader and organization.

3) Recommendation for further reearches were as follows : Building up new concepts in KM process proper for Thai higher education should derive from the insight of both Western and Eastern theories and pratice.

Other KM models be studied for the clear ways of practice and efficiency in learning organization such as collaboration. The KM models should be also studied in various contexts of learning such as distant learning, in class-room learning which would be proposed for a business organizations not only educational organizations because KM had common roles that are utilizable to any activities related to human being. KM model will be efficient to apply for the students to build up the knowledge via cooperation between the students and faculties Long life learning and knowledge acquisition should be promoted via KM operation for any specific groups.

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