Abstract

Many look at knowledge management as an organizational initiative, which it is. However, can KM also be used to assist low technology situations such as rural villages? This paper describes the application of KM to the creation of a self-reliant community in Thailand. Changing demographics are threatening the ability of rural villages to sustain their viability as traditional methods of passing knowledge from one generation to the next are being circumvented by the movement of the young to the more urbanized areas of Thailand. KM is seen as a way of changing the traditional knowledge transfer process to something that assists those who remain in the villages. The KM approach investigated consisted of five stages: 1) Preparation, 2) Create motivation, awareness, promote participation, 3) Develop the KM plan, 4) Implement the KM plan, and 5) Evaluation. The approach was assessed and found to be successful by using 8 organizations over an 8 month period.

1. Introduction

The world is experiencing fast economic, social and technological changes and global competition relies on knowledge. Society not only relies on funds, labor, natural resources and raw materials for creating production values but also needs knowledge for creating innovation and intellectual property. Development of this body of knowledge can affect competition and the strength of community, organization, and institute which are regarded as the foundation of the process of country development [15]. Sharing this body of knowledge improves the ability of knowledge workers to further innovate. An important element of knowledge management (KM) is the process of knowledge sharing [11], [23]. Therefore, Thai society should promote knowledge creators and users to generate added value and competitive capability within a social context of improving Thai society, raising living standards, and general well being by using five religious principles. These five principles are morality, intelligence, right economy, right state, and strong society. These are in accordance with the National Plan for Economic and Social Development 9 (2002-2006). This plan determines development vision based on these five principles [23].

In Thai society, the most important thing is not resources such as labor or money; the most important resource is knowledge. Thai society is constantly learning. KM and learning processes are very important. Management of the leaning process for the community can help it discover and develop human potential until it can rely on itself. A strong Thai community which can rely on itself must support these four basic principles: 1) create reliability, 2) rehabilitate relationships, 3) develop management systems, and 4) learning process [16].

All strong Thai communities and organizations must be ready to learn. Self-reliant communities in the Changwat (administrative province) of Mahasarakham have various types of groups including cooperative groups, occupation groups and local wisdom groups. There are interesting areas of learning, particularly in the Tambon (sub-district) of Na kha and the Tambon (sub-district) of Pracha Phatthana in the Amphoe (district) of Wapi Pathum (Chantarasombat. 2004) These communities regard principles of community welfare and community enterprises as guidelines for self-reliance. They began activities by forming occupation groups, using available local raw materials to be transformed into products and using local wisdom to adjust to current situations. Thailand is attempting to create jobs and occupations for community people to rely on themselves. However, they still lack systematic KM/KM mechanisms to support the communities to work efficiently and continuously. Thus the researchers were interested in
conducting this study to develop a KM model for self-reliant communities in the Changwat (administrative province) of Maha Sarakham by applying a mix of participatory research, quantitative and qualitative research techniques. If a Thai community successfully implements the KM model for self-reliant communities, the community becomes self-reliant and loves one another better than before the implementation.

This paper presents the lessons and experience gained in developing KM and KMS for building self-reliant communities in Thailand. The purpose of this paper is three-fold:
1. To develop a KM process model for creating self-reliant communities in Thailand,
2. To examine success and satisfaction with KM and KMS developed for creating self-reliant communities implementing the KM model
3. To identify success factors for KM and KMS for creating self-reliant communities.

2. Background

Jennex [10] defines KM as the practice of selectively applying knowledge from previous experiences of decision making to current and future decision making activities with the express purpose of improving the organization’s effectiveness. Also, Jennex [10] viewed a KM system, KMS, as that system created to facilitate the capture, storage, retrieval, transfer, and reuse of knowledge. The perception of KM and KMS is that they holistically combine organizational and technical solutions to achieve the goals of knowledge retention and reuse to ultimately improve organizational and individual decision making. This is a Churchman [4] view of KM that allows KMS to take whatever form necessary to accomplish these goals. Another key definition of KM includes Hollsapple and Joshi [9] who consider KM as an entity's systematic and deliberate efforts to expand, cultivate, and apply available knowledge in ways that add value to the entity, in the sense of positive results in accomplishing its objectives or fulfilling its purpose. The entity's scope may be individual, organizational, tran organizational, national, etc. Finally, Alavi and Leidner [1] in their seminal work concluded that KM involves distinct but interdependent processes of knowledge creation, knowledge storage and retrieval, knowledge transfer, and knowledge application.

Davenport and Prusak [5] view knowledge as an evolving mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. They found that in organizations, knowledge often becomes embedded in documents or repositories and in organizational routines, processes, practices, and norms. They also say that for knowledge to have value it must include the human additions of context, culture, experience, and interpretation. Nonaka and Takeuchi [12] expands this view by stating that knowledge is about meaning in the sense that it is context-specific. This implies that users of knowledge must understand and have experience with the context, or surrounding conditions and influences, in which the knowledge is generated and used for it to have meaning to them. This also implies that for a knowledge repository to be useful it must also store the context in which the knowledge was generated. That knowledge is context specific argues against the idea that knowledge can be applied universally, however it does not argue against the concept of organizational knowledge. Organizational knowledge is considered to be an integral component of what organizational members remember and use meaning that knowledge is actionable. This paper applies these concepts in the Thai culture and illustrates how knowledge and KM can be culturally applied.

3. Methodology

The study was divided into five phases:

Phase 1: Literature Review. Involved the study of KM literature for basic concepts and definitions as well as relevant models. Formulated the conceptual framework used to generate the KM model for Thai self-reliant communities.

Phase 2: Focus Group Selection. Two villages were selected, Ban Nam Kliang and Ban Lao Rat Phathan. These villages were selected because they had established community organization groups and had begun self reliant community development activities but had not implemented KM. Additionally, eight community organizations were selected for the study: agricultural cooperative group, mulberry and silk raising group, biofertilizer group, Thai traditional massage group, toxin-free rice production group, herbal Thai noodles group, cultural conservation group, and savings group. The requirements for group selection included three dimensions: establishment, sizes, and activity types. Establishment dimension had 2 types: established by the state and established by each community itself. Size dimension had large size, medium size, and small size. Dimension of activity types had various types such as cooperative, occupation group, and local wisdom.

Phase 3: KM Process Model Development. A tentative process model for KM in self-reliant communities in Thailand was generated based on the research conceptual framework generated in phase 1.
and based on the scope of major activities for KM [12], [14]; [24]. The tentative KM model was submitted to five experts for review based on appropriateness, feasibility, and congruence with KM plans and group development plans. Their comments were used to revise the KM model for self-reliant communities in Thailand and improve it.

Phase 4: Implementation of the KM process in the two villages.

Phase 5: Assessment of the effectiveness of the KM Process Model. Eight community organizational groups were selected to be surveyed for opinions on the effectiveness of the implemented KM process model: 1) agricultural cooperative group of Nam Kliang Wiang Chiang, 2) mulberry and silk raising group, 3) biofertilizer group, 4) Thai traditional massage group, 5) toxin-free rice production group, 6) herbal Thai noodles group, 7) civic-society--cultural conservation group, 8) and savings group. Forty evaluation/questionnaire forms were sent to the identified group members. There were 20 group members in each of the two villages: Ban Nam Kliang and Ban Lao Rat Phatthana. A total of 34 responses were received; 16 responses from Ban Nam Kliang and 18 responses from the Ban Lao Rat Phatthana. Eight months were spent evaluating the KM process model with the groups. The questionnaires consisted of 25 5-point Likert scale items. Responses were analyzed by determining the mean and standard deviation for each of the villages.

4. The KM Approach

The developed KM process model for self-reliant communities in Thailand is shown in Figure 1. As can be seen in Figure 1, the KM Process Model for Self-Reliant Community in Thailand has 18 activities grouped into five stages.

The KM process was implemented in the two selected villages with the support of a KM advising team from Mahasarakham University in northern Thailand. The advising team provided support throughout the period of the study. It is interesting to note that all the community organizations still continued using KM in the issues they were interested in and desired to develop their work process body of knowledge even after the KM study was completed.
5. Findings and Observations

Both villages were able to implement the KM process model. Each functional group was able to form a KM team consisting of community knowledge managers that served as facilitators, group work performers, record keepers, and coordinators. Lessons learned were generated through work performance and with knowledge obtained from solving problems and answering questions to create the appropriate body of knowledge. The community learning process occurred through building, classifying, storing, implementing, sharing, and evaluating knowledge. KM centers were created and served to be drivers for the groups to meet and share knowledge in each village. Additionally web based KM centers were created as repositories and sources for disseminating KM outcomes and knowledge.

The community organizations/groups were highly satisfied with KM operation for self-reliant communities as a whole. When accessed at the village level Ban Lao Rat Phatthana had more satisfaction with operation of community organization knowledge management than Ban Nam Kliang. Ban Lao Rat Phatthana had an average satisfaction of 3.70 compared to Ban Nam Kliang’s 3.32. This was determined to be due to greater top management...
support as at Ban Lao Rat Phatthana, all the community organization groups were greatly satisfied with KM operation because the community leaders were interested in and had participatory administration, distributed work for all members to do according to the functional roles of KM centers, leading to operation to achieve the goals, visions, and missions. However, three community organization groups at Ban Nam Kliang had satisfaction with KM operation at a high level and one group at a medium level because the community leaders who were KM center heads had not yet realized the importance of group forming and participatory work performance and because they did not participate in activities continuously.

The success factors for the KM Process Model for Self-Reliant Communities in Thailand are summarized as follows:

A) The inclusion of the KM research advisory team as participant, learner, instructor, and manager reinforced the use of the KM process model.

B) Provision of opportunities for participants to participate in all stages and activities of the KM Process Model contributed to the participants viewing themselves as owners of the KM process. This factor generated continuity and commitment to perform work by them. Also, it generated reliability in their own organizational body of knowledge and more overall self-reliance in themselves and the village.

C) Learning by practicing, improving, and developing work, raising new questions, and implementing in practices to achieve the goals could be caused by participatory action research (PAR), which could originate interactions with one another in their own group and other groups in the village.

D) People and self-reliant communities were enthusiastic to learn. For work performance in their own groups and sharing learning at the group, village, and cross-village levels, they tried to use tacit knowledge through practice and trying out until they were confident. There were documentation of lessons and record keeping as explicit documents. Then the meaningful body of knowledge of the community organizations occurred.

E) There were supporting mechanisms of KM centers of community organizations, which Tambon Administrative Organizations of these villages had been partnerships. These Tambon organizations allotted budgets to support some activities based on the plans/projects, and their representatives participated in the research as participants.

6. Discussion

The KM Model for Self-Reliant Communities in Thailand was found to be successful and able to originate expected outcomes. This was because in developing the model, the researchers used the conceptual framework from analyzing and synthesizing concepts and research results of qualified persons at an international level both in the part of KM and the part of techniques of development such as the KM concepts of Nonaka and Takeuchi, Vicharn Panich, and the KM process of Wiig. Integration into development techniques included the use of principles of working of His Majesty (HM) the King of Thailand involving self-reliance, participation; and knowing, love, and, unity. These were community preparation, after-action recording, questioning, and knowledge sharing both on real and unreal forums. Also, there were mechanisms supporting KM: village KM centers as centers for operational sources and as websites, resulting in integrated KM for self-reliant communities.

Some evidence indicating success which should be discussed included the following:

A) Important learning persons. Every organization had four groups of knowledge managers: facilitators, practitioners, note takers, and network managers. This is in accordance with Nonaka and Takeuchi [12]. Members of each organization understood their own functions in KM: the real knowledge manager was the practitioner; the medium-level administrators were interpreters who transformed tacit knowledge to explicit knowledge on paper. The group of knowledge managers determined goals, created the climate to help in sharing knowledge, and extracted knowledge to originate values [14].

B) Learning together with practices. Sources of knowledge were problems, question raising, problem solving by real practitioners until the proper body of knowledge emerged, leading to KM based on the issues the members were interested in. The KM issues included classifying, storing, implementing, and sharing knowledge; and evaluation. This is in congruence with the principles of working of King Bhumibol Adulyadej [13]. The King considers that for knowing, love and unity, people and the group of people must know by knowing that before beginning to do anything, we must know it first, know all the factors, know the problems, and know how to solve those problems. We must have love to have to consider beginning to act in solving those problems. Also, we must have unity in practice. We should always remember that nobody can work alone. We must work collaboratively and spiritedly as an organization or a staff to have power to solve the problems successfully. This is in accordance with Prawet Wasi [21] who says that anybody’s learning is not sufficient to make a task successful because other involved people, organizations, and institutes have not learned; and only learning together in practice will bring success which
must manage knowledge through practices as package of knowledge of each group of organizations. Also, it is in congruence with Naowarat Phlainoi [17] who says that after-action recording (AAR) is regarded as important learning in extraction of proper knowledge gist and findings of persons or organizations.

C) KM centers as drivers. KM centers were drivers for groups to meet and share learning at each village and to operate work to achieve the established visions, missions, goals, and purposes. Each center administrative committee followed up the progress in work development through the real monthly meeting forum and the realities forum. There were web sites in the Internet system as sources of disseminating KM works and as sources of storing knowledge and sharing learning. This is in accordance with the concept of Nonaka and Takeuchi [12] and Panich [14] that KM must rely on utilization of information technology and communication to support KM and on instruments or technology to use in KM.

The self-reliant communities had satisfaction with KM operation of community organizations as a whole at a high level. When classified into villages, it was found that three community organization groups at Ban Nam Kliang had satisfaction with KM operation at a high level and one group at a medium level because the community leaders who were KM center heads had not yet realized the importance of group forming and participatory work performance and because they did not participate in activities continuously. However, at Ban Lao Rat Phatthana, all the community organization groups had satisfaction with KM operation at a high level because the community leaders were interested in and had participatory administration, distributed work for all members to do according to the functional roles of KM centers, leading to operation to achieve the goals, visions, and missions.

Some significant success factors of the KM model which should be discussed were as follows.

A.) For the important persons in KM of self-reliant communities when this research was being conducted in the last phase, the team of participants intended to work for the public advantages to originate success according to their functional roles, expressed their sense of belonging to activities and plans/work, and sought more cooperation from persons and organizations both in and outside their communities.

B.) Providing opportunities for participants to have participation from the beginning; thinking together, planning together, performing together, checking together, and being responsible for conducting research together. This is in congruence with Paitoon Sinlarat [18]. The principles of administration of organization leaders which trusted these leaders were having prestige and having high influences on the organization. Therefore, if the leader built understanding and cooperatively determined assumptions on participatory working together and then it would affect working together, satisfaction with working and having good work climate; and would push work to be successful.

C.) Learning by practicing is the way of life. It is practiced by actual action. Experience in the new body of knowledge emerges, which can help in actual applications. There occurred connection and relationships with one another between persons and groups of organizations. Integrated KM and participatory research emerge’ this is in accordance with the research work of Yawanut Thinnalak [19]. She conducted a study entitled Building Knowledge of Thai Society for Permanent Development. She found that building knowledge appropriately in accordance with Thai society was regarded as the way of self-reliance; developed the learning innovations in which they had aptitudes, could build the body of knowledge for solving problems and living joyfully in the society.

D) Mechanisms supporting working together: KM centers for self-reliant communiting under management by the team of participants to follow up the progress in operation of self-reliant communities to originate continuity and connection and relationships among one another. There were web sites and utilization of the Internet system as sources of seeking knowledge and disseminating KM works and as sources of storing other finds of knowledge and sharing knowledge of community people.

7. Recommendations and Future Research

After completion of the KM Process Model assessment, the KM research team reflected on possible lessons learned and improvements. The following are recommendations of the KM research team.

7.1. Recommendations for implementing the KM Process Model

For implementation of the developed KM model for self-reliant communities to obtain full benefits, it is necessary to operate all the 5 stages and 18 major activities. In case the self-reliant communities have ongoing KM operations, they can begin operation from Activity 11, summarize and review plans and activities for developing KM. KM operation of the organization groups may begin together with activities for group development which are not quite difficult, or may operate upgrading the body of knowledge and KM in...
the issues in which the groups are interested. Additionally, Activities 16-18 are important for the KM centers at the village level and must be implemented to create continuity in the KM process.

The team of participants regarded as real knowledge managers including facilitators, group practitioners, note takers, and coordinators should prepare readiness in the academic aspects: participatory planning, community master plans, learning together with practices in utilizing Internet and web sites. (Note: neither of the subject villages had Internet access prior to the KM project.)

The KM centers of self-reliant communities regarded as mechanisms driving the team of participants to share knowledge of what they have found and summarized lessons with conclusions should take after-action records for summarizing to the appropriate body of knowledge of the organization groups as obtained from practices on both real forum and realistic forum.

Support and promote self-reliant communities to use community plans as plans for determining the direction of community development based on the visions and strategies for developing the determined areas. There must be continuous follow-ups and evaluation. Also, there must be objective indicators of KM success for KM of self-reliant communities.

7.2. Areas for Future Research

Learning processes should be examined together with practices of self-reliant communities in individuals and groups. Particular attention needs to be paid to determining the appropriate frequency and type of knowledge artifact. Examples of knowledge artifacts include summaries, narrations, transcription of lessons, knowledge sharing, and note-taking.

There should be research in and development of activity curricula for developing capacity for community leaders, organization group leaders, and local knowledge managers. This training should enable these persons to be efficient in KM so that they can serve as process resources and facilitators in the community to generate learning leading to healthy and joyful villages.

There should be research and development for upgrading KM centers of self-reliant communities to better enable community organization network involving practices of knowledge managers leading to transference of experiences and working standards as a part of learning difference course in providing education.

This research should be replicated in more villages to ensure the KM Process Model can be generalized to all of Thailand.

8. Conclusions

Can KM be used in a low technology environment to assist traditional social structures in changing the way knowledge is transferred? This paper suggests it can. While applied in a Thai rural context, the practical implication of this research is that any social process that relies on a traditional, family based, knowledge pass down approach (father to son, mother to daughter, parent to child) can be maintained by changing the knowledge transfer process to a more social basis per Nonaka and Takeuchi [12] (in particular by applying the socialization process). The key to success is in creating local social structures to replace broken family structures. This paper looks at rural villages in Thailand where the youth are migrating away from the rural villages to the opportunities in the urban centers. The remaining villagers are facing economic decline as the traditional family structures are failing to pass knowledge to villagers outside of the family. Researchers used a KM Process Model that was based on the creation of social “families;” groups forged on common interest in a knowledge area. Each group identified knowledge leaders and knowledge capture processes that led to the creation of group specialized bodies of knowledge. These bodies of knowledge served as replacement knowledge repositories for traditional family repositories and were made available to all in the social group. The two villages where the KM Process Model was piloted experienced economic success. This leads to the conclusion that this research is successful in helping to create economically sustainable rural villages.

Limitations to this research are an unclear understanding of the impact of Thai culture on the success of the KM Process Model. Further research is needed to determine if the reason the KM Process Model was successful is due to unique characteristics of Thai culture. If Thai culture is found to be a significant contributor to the KM Process Model then this may limit the ability to generalize the research results to other contexts.

9. Acknowledgements

Our greatest appreciation to Royal Grace of His Majesty, King Bhumibol Adulyadej for royally conferring “Bhumibol Scholarship” to support this research.. Our thanks to Mahasarakham University for also financially supporting this research project. Our thanks to Dr. Matthew H. S. Kuofie of USA for serving
as an external Doctoral Dissertation Committee member

10. References


[13] Office of Special Committee for Coordination in Projects from H.M. the King’s Considerations (Unknown date). The Working Principles of H.M. the King. Bangkok: King Chulalongkorn’s Cadet School.


