Knowledge management model on empowering group management of a successful leading pomelo farmer group, northeast Thailand

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ABSTRACT: Pomelo orchard is not popular and limited to produce in Northeast Thailand, but one group of pomelo farmer in Chaiyaphum province has been successful in exporting pomelo to abroad. How this group is able to manage pomelo production for local and export market is an interesting question. This study believes that their knowledge management is one of the key for their success. Therefore, the objectives of this study were to understand knowledge management processes and to formulate the knowledge management process model on empowering group management of this group of pomelo farmer. This study collected data from August 2014 to July 2015 by group interview. The discussion with five key informants was used to understand the context of pomelo farmer group while in-depth interviews were used with seventeen households out of 47 pomelo farmer households to identify knowledge management practices. The participant observations during the interview were also included. Data collected indicated that even though original knowledge on empowering group management were from outside their community, success factors particularly on empowering group management were within their own group and community context. These factors were leadership, network, regular, learning platform, trial and error, informal meeting. These factors allowed effective knowledge flows in both horizontal and vertical fashions. Their tacit knowledge and knowledge sharing flows were possible through social space and shared two-way communication while tacit knowledge was captured to produce explicit knowledge on some issues. Thus, enable researchers to formulate the knowledge management model on empowering group management of a successful leading pomelo farmer group, northeast Thailand. This model may be applied to another group management.
Keywords: knowledge sharing, group empowerment, group management, pomelo farmer

Introduction

Knowledge was a dynamic human process for justifying personal belief towards the truth (Nonaka and Takeuchi, 1995) while Hartley and Rowley (2008) concluded that knowledge was the ideas or understandings with entity possesses that were used to take effective action to achieve the entity's goals. Then, the knowledge management was a process involving 70% of efforts (through attitude, sharing, innovation, skills, motivation, organization, etc.). It required 20% of process (through knowledge management maps, work flows, integration and best practices), and 10% of technology (through network, internet, data mining and analysis, and decision tools) was learning process (Bhatt, 2000). Knowledge is derived from data, and data have to be processed and arranged in such a way that meaningful interpretation can be reached. The knowledge remaining in a person was tacit knowledge while the knowledge transformed into any form of media was explicit knowledge (Hartley and Rowley, 2008; Nonaka and Takeuchi, 1995). Ability to increase effectiveness of knowledge is wisdom. Wisdom-added value requires the mental function which was judgment. The ethical and aesthetic values of these implications were inherent like a unique of person (Hartley and Rowley, 2008). From data to information, knowledge and wisdom required understanding within a context as demonstrated by Hartley and Rowley (2008) (Figure 1).

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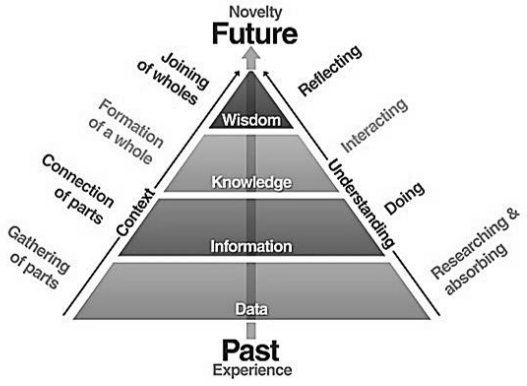

Figure 1 The process of learning on data, information, knowledge and wisdom.
Source: Hartley and Rowley (2008)

Agricultural development required knowledge, skills and farmers' organization in certain forms. Farmers, large or small farm holders have knowledge management and collaboration ability to be successful whether on production, organization and marketing. Farmer group or organization consists of farmers who collaborate to achieve the same objective in terms of farming or business. However, the group function was based on trust and close relationship as a network (Somanawat, 1998). Bhagwanjee and Stewart (2009) concluded that empowering was an act of helping communities to build, develop, increase their power of cooperation, sharing and working through participation.

Pomelo or pummelo is one of the tropical fruit widely grown in Asia. In Thailand, it is grown in all regions, particularly well known in Nakhon Chai Si, and Nakon Pathom province in the central Thailand. However, in northeast Thailand pomelo orchard is limited because of frequent drought, poor soil fertility and small land holding. In 2013, the total pomelo production area of Thailand was 30,000 hectares (1 ha = 6.25 rai) while that of the northeast Thailand was around 16,000 hectares in 12 provinces, of which 43% was in Chaiyaphum province (Athipanyakul and Chancharat, 2014). In this province, most of the pomelo farmers organized themselves into pomelo farmer group.

According to field observation and discussion with the pomelo farmers in Ban Thaen sub-district, Chaiyaphum province, they revealed that their pomelo production was as good as in the central Thailand in terms of productivity, quality, and marketing. They were recognized as an only well-organized group in the northeast Thailand. Many groups of small farm holders in northeast Thailand were not successful in pomelo farming because of weakness in production, group organization, or marketing, and it was exported as same as the central Thailand to China, Taiwan, Hong Kong and another country. Why this pomelo farmer group is successful is an interesting. The researchers believed that this farmer group was successful due to their ability to organize themselves through their learning process. How they can manage their group through learning is very important because this knowledge can be applied to many other groups in this region and beyond. Therefore, the objectives of this study are to elucidate their system of empowering group management and process of knowledge management.

Methods

Ban Thaen sub-district, Chaiyaphum province was purposively selected because there is only one pomelo farmer group in the northeast Thailand (**Figure 2**) that was recognized as a successful group in terms of production, marketing and importantly organizational management.

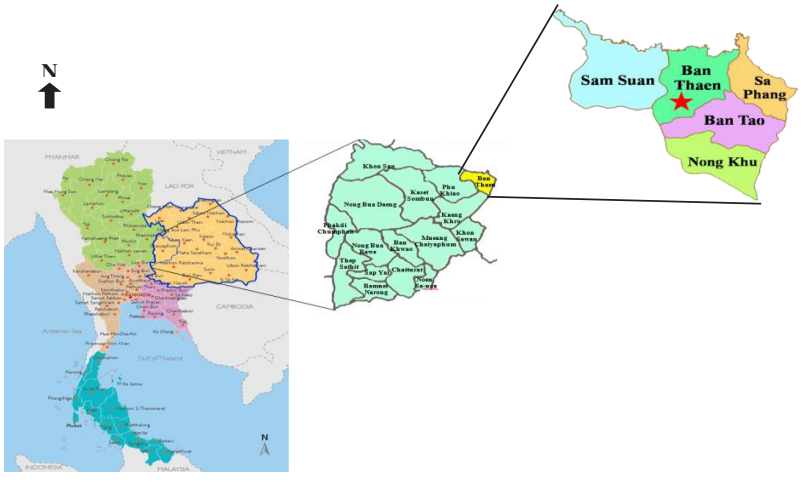

Figure 2 Study site: Ban Thaen sub-district, Chaiyaphum province
Source: https://goo.gl/xHyH1A

Secondary data were collected and analyzed along with primary data which were collected by group discussion, group interview, in-depth interview and participant observation during the interview as well as group activities. Purposive sampling technique was selected to find key informants from criteria (Borisutdhi, 2015). Group discussion was used with key informants. Five key informants, one female and four females, who are in the group committee of pomelo farmer and have been growing pomelo for more than years were selected for group interview and discussion. They are group leader, secretary, committee members. Group interview and discussion issues emphasized on history of group establishment, group management and group activities. However, local marketing and export, networks members' collaboration sources of knowledge and skills were also included. Seventeen representatives from 47 active pomelo farmer households were selected for household in-depth interview. All of seventeen farmer households were selected by farmer group criteria from pomelo production and pomelo product quality. The representatives based on the database of group member lists and were divided into 3 groups: group A=best, group B=good, and group D=fair production and product quality seven households of group A, six households of group B, and four households of group C were selected for in-depth interview. In-depth interview issues were membership, group activities and collaboration, truth the group leader, and sources of their knowledge and skill. Participant observation was used during household's interview in some farmers' activities. Observations

were made during farmers' activities in pomelo field, regular meeting, and pomelo festival. Detail notes were taken during the interviews, group discussion, regular and irregular meetings of the group members, pomelo festival, and observations. The data collection was conducted from August 2014 to July 2015.

Results and Discussions

1. General information of the study site

Ban Thaen sub-district, Chaiyaphum province, was established in 1969. Currently, there are 5 sub-districts, 66 villages, with 37,150 peoples and 8,644 households. Ban Thaen sub-district is an important agricultural area, and most of the residents are rice-based farmers (Ban Thaen Sub District Administrative Organization, 2015).

2. Formation of pomelo farmer group

Group discussion revealed that after a pioneer leader started growing pomelo in 1987, a pioneer leader experienced from his own trial and error till they were successful. The leader gained a million Thai Baht (1 USD= 25 Thai Baht, 1990) from his first harvest in 1993 in 2.4 hectares (1 ha= 6.25 rai) area of his pomelo farm. Other farmers began to visit and observed his pomelo field which gave formation to an informal pomelo farmer group. In 1997, many farmers consulted with the leader and organized excursion to learn how to operate different type of fruit farming. Then, some farmers started to grow pomelo on their own land, and the group expanded gradually. They sold their pomelo product with the group leader to the middleman from Nakhon Pathom province and were further exported to Europe. From that experience, they organized the informal pomelo farmer group to consult about their problems with members on pomelo production and marketing. As a result, they were able to determine price and choose markets as a an empower group. In 2002-2003, pomelo production area had been rapidly expanded in Ban Thaen sub-district and many related organizations. For example, provincial cooperative officers extended their assistance by giving training them on empowering group management, administration, and cooperation in activities.

3. Formal pomelo farmer group administration

Chiyaphum Provincial cooperative officers assisted the group to register as a formal pomelo farmer group in 2005 (**Figure 3**). The groups have regular meeting, approximately 5 times per year. Most of the topics discussed in the meeting are related to pomelo production problem, pomelo price, middlemen, bargaining power, being the learning center for visiting and training.

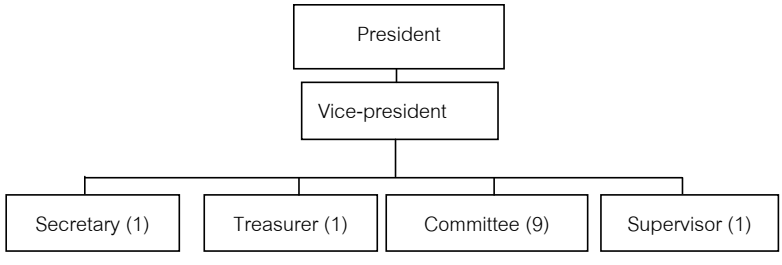

Figure 3 Group committee structure of formal pomelo farmer group at Ban Thaen sub-district, Chaiyaphum province

Source: Group interview with pomelo farmer group committee

4. Learning and knowledge management on empowering group management

During their regular meetings, tacit knowledge of individual member gained from their experiences from their practices was shared. Discussions in the meetings were noted by the secretary and some members (on some issues). At this stage, more tacit knowledge was transferred to explicit knowledge. However, some of this explicit knowledge was noted because of the Chaiyaphum Provincial Cooperative's regulation such as accounting and member registration. As a formal group, various agencies from outside involved in the group operation such as community enterprises, agricultural extension officers, and district officers. These organizations gave them additional training on production techniques or information related to empowering group management or marketing (including pomelo fair).

However, these happened after the group had learnt from their own experiences. It is interesting to note that the remaining explicit knowledge was recorded from their own learning process because they realized that it is useful for their own pomelo production marketing, group management, and profit sharing. Therefore, the knowledge management goes along with group learning processes. Their knowledge management processes consist of "outside in" and "inside in" flows of information and skills. That is explicit and tacit knowledge from outside their group which flow into their members through farm visit, training, or observation. Similarly, explicit and tacit knowledge flow within their group members through regular meeting, farm visit by outsides or their own excursion, labor sharing during farm activities, conversation between individual members, and in a small group. By doing so, they also created network within their group and outside such as extension network and marketing network locally as well as regionally (outside northeast Thailand). These networks are important for information flow for their own benefits and new knowledge. For instance, a new pattern of pomelo planting, pest management, and mushroom cultivation in pomelo tree plots, is created. These learning processes are similar to the model DIKW of learning proposed by Hartley and Rowley (2008).

5. Knowledge management through knowledge sharing on empowering group management

Beside regular meeting, group members shared their knowledge by both accidentally and purposively meeting such as meeting in temple on religious activities, on the road within their community, members' farm visit, or other occasions. These types of sharing were based on tacit knowledge exchange. This is possible because they live in the same community, so they have much more chance to meet each other, more often than regular meetings. The sharing was more cordial and informal, so they could go into details of their concerned issues. However, members can purposively share their specific knowledge whenever they want by consulting with knowledgeable farmers or the leader of pomelo farmers, and government officers.

As described above, the group captured knowledge from outside their community and practiced in their farms. Thus, their skills were developed, and new knowledge were created. Then, the existing and new knowledge was shared between the group members accidentally or purposively but mainly in the form of tacit knowledge. In the regular group meeting, the tacit knowledge dominated the event, but some tacit knowledge was transferred to explicit knowledge such as accounting and some production techniques. With this pattern of knowledge management, tacit knowledge among

the members of the group remained un-captured. However, as long as they remained cohesive within their group, the usefulness of the tacit knowledge still remained with them. Besides, the above knowledge flow consultation was another channel of the knowledge sharing. The members of this group often consulted with the group leader sometime in group and sometime individually. Similarly, Sommanawat (1998) concluded that the function of the group was based on trust and close relationship as a network. The "outside-in" flow of knowledge also occurred after the formal group formation. They sometime arranged an excursion in order to gain more knowledge from outside and transferred the knowledge to all of their members. In addition, they received knowledge from outside through media such as journals, television, and social media. These processes were similar to that of Nonaka (1994) who concluded that the ideas were formed in the minds of individuals; interaction between individuals typically played a critical role in developing these ideas. That is to say, "communities of interaction" contributed to the amplification and development of new knowledge. While these communities span departmental or indeed organizational boundaries, the point to note is that they defined a further dimension to organizational knowledge creation, which was associated with the extent of social interaction between individuals which shared and developed knowledge. This was referred to as the "ontological" dimension of knowledge creation and led their empowering to group empowerment.

6. Eagerness to Learn on empowering group management

From interviews and participation observation, this pomelo farmer group had outstanding learning characteristics. When they were in an informal group, they were eager to learn by self-paid farm visits. At least, one self-paid farm visit per year was practiced till now. This practice was not commonly practiced by most of the farmer groups in this region. In addition, they actively used social media such as Facebook and Line applications to learn on empowering group management, techniques, and marketing and communicated with other groups. Moreover, the group leader was appointed as the leader of pomelo production farmers of northeast Thailand. The leader also contacted with others group in each region by Line application. However, pomelo farmer group collaborated willingly with many organizations as a volunteer because they could promote their production in every gathering or fair, and their pomelo farmer group also collaborated with related government offices (Marquardt, 1996).

External contacts indicated above allowed the group to share their tacit knowledge and to transfer the knowledge to other pomelo farmer groups. Their eagerness to learn was the foundation of their achievement and had contributed their knowledge to another related groups until the present time. The essential for sharing the tacit knowledge in particular, the explicit knowledge of the group, and between other groups was a "social space" within or outside their community, to facilitate the sharing (Nonaka and Takeuchi, 1995; Somanawat, 1998; Haley and Mellén, 2015). It was a vital space even though it had been mainly used for tacit knowledge sharing.

7. Model of Knowledge Management on empowering group management

From this study, the knowledge management process model cou be built as shown in **Figure 4**. The flow and sharing of tacit knowledge was possible through "social space". Flow and sharing was not one way but two-way communication

(Uslaner, 2001; Treevanchai, 2003). At the same time, it was iterative, so knowledge was expanded and accumulated as described in the SECI theory by Nonaka (Nonaka et al., 2006). Then, it was applied. It should be noted that tacit knowledge management is not only prevail among the pomelo farmer groups but other groups. Knowledge was started to flow from outside of the community and was applied within the community. Then, the old and new knowledge was created after its application and flow between members of the group within the village. The knowledge flow through sharing within the group whether from farmer to farmer or to group meeting was possible because of readily available social space managed by the group.

Even though most of knowledge were being managed within the group, the management of knowledge from outside was also critical. The characteristics of knowledge management process model of pomelo farmer group were occurred from both passive and active learning. Passive learning gained from government agencies and organizations encouraged pomelo farmer group such as training, inputs supporting, activities promoting, etc. Moreover, active learning was gained from pursuit of their self-knowledge. Particularly, volunteers pay money by themselves not only for farms visit to other groups but also other farms in their region, so this learning leads them have group empowerment.

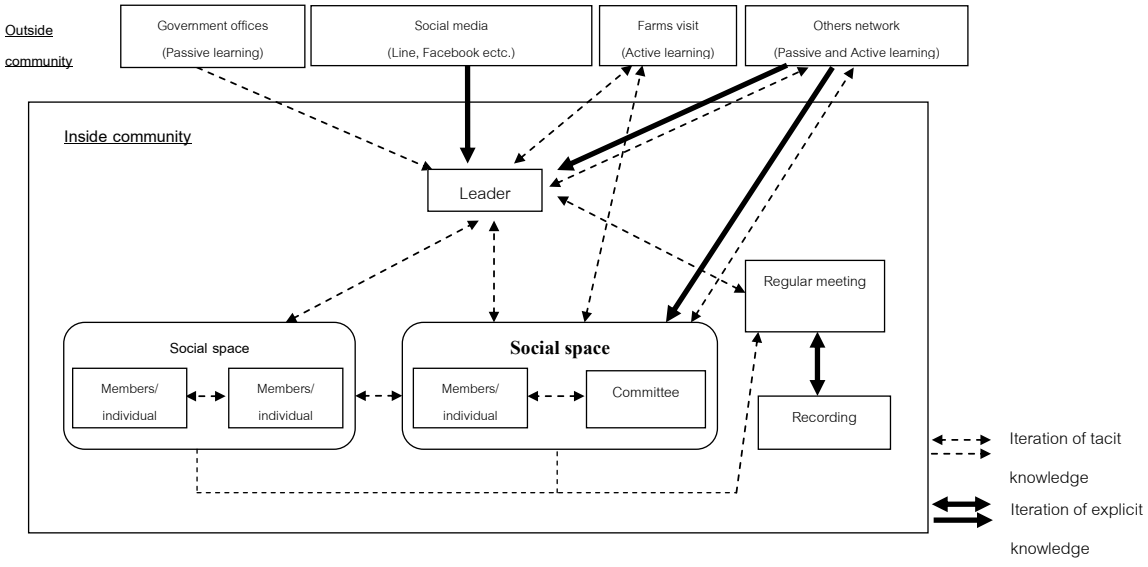

Figure 4 Knowledge management model on empowering group management of a successful leading pomelo farmer group, northeast Thailand

Conclusions and Recommendations

The group of pomelo farmers in Ban Thaen Sub-district, Chaiyaphum province has been successful due to their own social capital base such as leadership, trust, and cooperation as a community. They also have eagerness to learn and acquire more knowledge and are ready to self-support. The knowledge management on empowering group management of the group of pomelo farmers is created through 'outside-in' and 'inside-in' concept of knowledge flow. They have their own social space for knowledge sharing both individual and group. Their iterative learning processes

allow them to accumulate knowledge and skills exponentially. Outside agencies provide information and some supports, but knowledge management is mainly carried out by the group itself leading to group empowerment.

It can be concluded that the knowledge management of the group through leader is a key of their best practice and sustainable production and marketing because the above process motivates them to become active learners in both individual and group whether it is “outside-in” or “inside-in”. This model is one of many models which captures the knowledge management through leader till successful farmer groups. Nevertheless, many models and related factors still affect farmers on their sustainability and success.

However, this group can be used as a learning center for other groups. The model identified in this study can be applied to empower other similar groups, and the key factors empowering group management creating leadership are social capital and knowledge management through social space interaction.

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