

KNOWLEDGE MANAGEMENT IMPLEMENTATION USING SECI MODEL AT SARINAH ORGANIC FARMER GROUPS

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ABSTRACT

Sarinah Organic Farmer Groups is a group of farmers that was formed due to awareness and a shared desire to produce healthy rice and maintain soil remained fertile, water and environmental conditions were maintained. The objective of this paper is to manage knowledge that was created in process improvement when getting organic certification using SECI Model. Transfer tacit to tacit (socialization) was done by discussion and team meeting to identify critical problems. Transfer tacit to explicit (externalization) was done by dialogue, writing possible cause or new ideas to solve the problems. Combination (explicit to explicit) was done by publishing knowledge through web sites. Internalization was done by implementation some improvement programs.

Keywords : *Sarinah Organic Farmer Groups, Knowledge Management, SECI Model*

1. INTRODUCTION

Quality and process improvement programs in rice production are not only create quality rice and healthy rice that comply to export standard but also can create new knowledge. This knowledge needs to be managed as its organizational capital and for learning practices. Research about managing knowledge that was created in six sigma improvement program has been done by Arendt (2008) by using SECI (socialization, externalization, combination and internalization) model.

The study was conducted at a manufacturer of organic rice farmer group called Sarinah Organic. Sarinah Organic Farmers Group established due to awareness and a shared desire to produce healthy products with the soils conditions fertile, water and environmental conditions keep maintained. This group realized that the rice fields in the block Ciparay is no longer fertile due to chemical fertilization continuously so that the soil becomes sticky and difficult to process

Sarinah Organic was conducted in 2010. Until now, members of the group continue to grow both the number of members or production area Until the growing season in

2011/2012 average production reached 8,157 tons/ ha with 32 members and now sarinah organic already has approval of organic certification by INOFIS.

The objective of this paper is to manage knowledge that was created in process improvement when getting organic certification using SECI Model.

2. LITERATURE REVIEW

2.1 Knowledge Typologies and Knowledge Management

There are so many researchers who interest in how tacit knowledge is created and shared within the organizations. Starting with Nonaka and Takeuchi (1995) who divide knowledge as tacit knowledge and explicit knowledge. Knowledge of experience tends to be tacit, physical and subjective, where knowledge of rationality (mind) tends to be explicit. Form the perspective of Nonaka and Takeuchi (1995), knowledge Management is a knowledge conversion process between tacit and explicit knowledge that consist of four different modes :

1. Socialization

Conversion of tacit knowledge into new tacit knowledge, social interaction and

performed with a variety of experiences among members of the organization.

2. Externalization

Conversion of tacit knowledge into explicit knowledge that is new.

3. Combination

Creation of an explicit knowledge by merging, category, reclassification, and synthesizing existing explicit knowledge.

4. Internalization

Conversion of explicit knowledge into new tacit knowledge.

Futhermore, the concept of Nonaka and Takeuchi is followed by others scientist, such as Sharif et al. (2004), proposes a knowledge management model whis is adapted for representing Lessons Learned System (LLS) Framework. The model was derived by mapping the Nonaka's knowledge management model. Moreover, Johnson (2007) increase our understanding for how organizational knowledge is created and how best practices are shared and used in an organization in order to carry out daily work routines and solve emerging problems in a micro perspective at IKEA Japan.

2.2 Six Sigma and SECI Model

Arendt (2008) explained that knowledge of individuals is the foundation to the succesfull application of six sigma and an engine for increasing the knowledge effectively. Arendt (2008) also explained that using six sigma is not only to improve process but it can create knowledge within an organization too. For example socialization mode can consist of teem meeting and brainstorming activities, Externalization can consists of cause and effect diagram, value stream mapping and failure mode and effect analysis since it converts tacit knowledge of individuals into explicit knowledge. Combination process can be done with analyzing relationships between process elements using design of experiment and also regression analysis so it can create new explicit knowledge so it is part of combination process. Internalization is related to control charts, standard operation procedure and mistake proofing.

3. RESEARCH METHODS

Steps in this research consist of sozialization step (team meeting and brainstorming for problem identification), externalization step (control plan and FMEA development), combination step (best practices article development and upload to portal) and internalization step (standard operating procedure development).

4. RESULTS AND DISCUSSION

4.1 Socialization process

At this stage, socialization is done by intensive meeting, brainstorming and observing the activities that occur in the process of organic rice production in farmer groups Sarinah. Any problems related to activities in carrying out the production process was detected. The problems are then discussed to find a way out.

Table 1. Process Function & Problem

No	Process function	Problem
1	Composting	- Not well mixed - Shortages of raw material
2	Use of local microorganism / MOL (Mikro Organisme Lokal)	- MOL maturity does not match
3	Seed testing	- Min 5 % vacuum seed is not reached
4	Seedbed	- Mini 90 % growth is not achieved
5	Land processing	- Soil not treated well
6	Compost sowing	- Min 80 % land mixed is not reached
7	Cultivation	- Planting more than one per hole - Spacing does not match
8	Local microorganism spraying	- Does not match with plant growth time
9	Weeds removal	- Uncontrollable weeds growth
10	Pest and plant diseases monitoring	- Not detected
12	Harvesting	- Large yield Losses - Slow speed

b. Externalization process.

At this stage, FMEA was developed for each process. For example :

Process function : composting Failure

mode : shortages of raw material

Effect : target is not reached and production decreased

Cause : Farmers are less concerned with procurement of raw materials

c. Combination process.

At this stage all of the data improvement and development that has been applied to processing and then placed on a blog so that the information can be used by various parties. At this stage all the improvements that have been implemented in social media like blogs so that all members of sarinah organic can access and interact therein. The blog address is provided in this study is pasarindukberascipinang.org. The result of these improvements will then be put into the blog in the form of articles so that the knowledge that has been collected can be reused by community groups. This blog will also be provided articles on rice supply chain in Bandung, discussion forums, expert systems that support the reuse of knowledge that has been gathered.

d . Internalization process.

At this stage all the improvements that have been planned and then implemented within the company. Below are described some improvement implementation efforts for farmer groups and some improvement suggestions for the future. Implementation is being done to solve the problem

1. Tarpaulin usage for losses reducing

Of the factors that cause waste that has been described previously, threshing by humans is one of the factors causing the most easily controlled waste therefore necessary tools to reduce human-caused waste on the threshing process. As these tools are harvesting machine (harvester) or thresher machine, but the price is so high that the tools used alternative tools are relatively inexpensive and can help decrease waste in the process . Tarpaulin function is to accommodate the amount of unhulled rice that falls on the production processes of post-harvest rice which is in the process of cutting (slashing), collecting rice, and transport. It can also be used as a base in the grain drying process so that the

amount of grain that can be dried to increase and decrease processing time. The processing time is decreased causing increased efficiency and productivity

2 . Installation of water pumps and pipes

Problems encountered in the process of irrigation in Sarinah Organic Farmers Group is in the form of :

- a. Irrigation channel layout that does not comply with the height / plot of land terracing in farmer groups , so that the water does not irrigate thoroughly.
- b. Lack of water for rice cultivation occurs on the eve of the end of the rainy season . This leads to lack of productivity in the dry season, so the cultivation and production process is only done once a year, while the rice needs of the community will tend to increase with increases in population.

Position the machine is placed in the highest part in the plot so that the rice terraces running water fills the entire planting area (based on the concept of terracing). After the measurements were taken by members of the Farmers Group companies Sarinah known that the distance between the source of water to rice is about 40 m. It required a modified pipes to complement the function of the engine water pump.

5. CONCLUSION

- a. Knowledge management approach can be used to manage knowledge that was created in process improvement program such as in Sarinah Organic Farmers Group.
- b. Transfer tacit to tacit (socialization) was done by discussion and team meeting to identify critical problems. Transfer tacit to explicit (externalization) was done by dialogue, writing possible cause or new ideas to solve the problems. Combination (explicit to explicit) was done by publishing knowledge through web sites. Internalization was done by implementation some improvement programs.
- c. Implementation Knowledge Management on Sarinah Organic Farmers Group is expected speed up the production process and reducing the

waste that is precisely the implementation stage of the SECI Model.

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