IMPLEMENTATION OF KNOWLEDGE MANAGEMENT SYSTEM IN PT INTIMAS WISESA

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Abstrak

Knowledge Management System (KMS) offers solutions for managing knowledge by support information technology. Through KMS, a company can keep the existing knowledge in a repository and can be accessed by employees at any time. In addition, through KMS, employees can collaborate together to develop knowledge. KMS Development in PT Intimas Wisesa use a wiki engine as supporting applications. Wiki engine chosen is the MediaWiki. MediaWiki provides the features that are useful for storing knowledge, disseminate knowledge, promote collaboration, and facilitate users in searching knowledge required. To measure the benefits of KMS implementation, it is used Knowledge Centric Organization (KCO) model proposed by US Department of Navy (DON). This model uses three types of specific measures to monitor the KM initiative from different perspectives: outcome metrics, output metrics, and system metrics.

Kata Kunci : knowledge management systems, collaboration,MediaWiki, KCO model

Abstract

Knowledge Management System (KMS) offers solutions for managing knowledge by support information technology. Through KMS, a company can keep the existing knowledge in a repository and can be accessed by employees at any time. In addition, through KMS, employees can collaborate together to develop knowledge. KMS Development in PT Intimas Wisesa use a wiki engine as supporting applications. Wiki engine chosen is the MediaWiki. MediaWiki provides the features that are useful for storing knowledge, disseminate knowledge, promote collaboration, and facilitate users in searching knowledge required. To measure the benefits of KMS implementation, it is used Knowledge Centric Organization (KCO) model proposed by US Department of Navy (DON). This model uses three types of specific measures to monitor the KM initiative from different perspectives: outcome metrics, output metrics, and system metrics.

Keywords : knowledge management systems, collaboration,MediaWiki, KCO model

CHAPTER 1
THE PROBLEM

First thing to do before developing knowledge management system in PT Intimas Wisesa understands the problem within company. This chapter describes the problem occur in company, so knowledge management system is become a solution to solve that problem.

1.1 Rationale

PT Intimas Wisesa is a manufacturing company that manufactures printing inks, especially water-based ink and special ink. In the course of its business, the products produced by PT Intimas Wisesa have increased significantly. In 1991, PT Intimas Wisesa was able to produce about 20 tons per month. Then increase in 1996 produced products ranging from 120 tons per month. The success obtained by the PT Intimas Wisesa was not being separated from technological support and experienced employees. They have strong commitment to preserve quality of products and take full responsibility for the products, without distinguishing small companies or large corporations.

The production process plays a crucial role and determining the ability of PT Intimas Wisesa to survive and win in competition with competitors. In a series of production processes, production department involving several divisions underneath it, such as:

- Color Guide & Calibration, who served in determining the manufacture of color standards in accordance with the request of the user guide
- Research and Development (R & D), who served in making a formula to produce products
- Base / Materials, which is responsible in providing the material used to make a product
- Quality Control, which is responsible for determining the quality of products produced

Knowledge possessed by the employee into the main capital to support the success of the production process. Knowledge can be defined as a set of information that has a pattern and the specific implications and have the ability to predict and act (capacity to act). Knowledge can be obtained from the documents (explicit knowledge) or thoughts that are still stored in human heads (tacit knowledge). In point of view of production processes in the PT Intimas

Wisesa, explicit knowledge can be found through the document Working Instruction (WI) and Standard Operating Procedure (SOP), while tacit knowledge derived from the experiences of employees. PT Intimas Wisesa will face potential lost of knowledge if the employee who has the knowledge (tacit knowledge) to leave the company without first leave / pass on the knowledge he had.

Explicit knowledge and tacit knowledge are equally important role in solving problems found by the officers. What makes the difference between explicit knowledge and tacit knowledge in the production process lies in the convenience / time required to search. Explicit knowledge should be easier to find, because it was contained in official documents. However, problems arise because the WI and SOP documents that have been defined to support the production process is only known by some employees and not be shared to other employees.

Developing existing knowledge by exploring the experiences of employees (tacit knowledge) is one way that can be done to maintain and develop existing knowledge in PT Intimas Wisesa. In addition, the culture of sharing must be built for the development of knowledge can be continued. Through a culture of sharing, employees can learn from each other and spark ideas - new ideas based on his experience and update existing knowledge.

1.2 Theoretical Framework

Toffler (1980) divides the history of human civilization into three eras, they are: the era of manual, industrial era and the era of knowledge. Manual era took place when the dominant factor needed to manage the industrial system is the power of human (physical). Productivity is determined by how much workers produce per unit time and is very dependent on the strength of employee's physical energy.

At the industrial era, the machine plays an important role in determining the outcome of production. At this time, productivity is determined by the worker skills in managing and operating the machines used in industry.

The era of knowledge focuses on knowledge as a virtual capital that could determine the development and growth of the company. The era of knowledge increasing rapidly since the growth of information technology (IT) that supports globally disseminating knowledge. There are three characteristics of the order of life in the era of knowledge, they are:

- Information and knowledge can be obtained quickly and too quickly outdated
- The problems that happen in everyday life are more complex.

- There is pattern of change in the political, economic, social and cultural, have positive impacts on the sustainability of the organization. Changes and the impact are increasingly difficult to predict.

Sugilar, Tjakraatmadja and Lantu (2006) states that: employee's knowledge is an investment for an organization to increase competitive advantage. Therefore to address the various changes of direction, each individual must continue to develop a competition that has, one way is to develop the knowledge he had.

Knowledge Management (KM) can be extended to "management of organizational knowledge for creating business value and generating a competitive advantage." Knowledge management enables the creation, communication, and application of knowledge of all kinds to achieve business goals [Tiwana, 1999]. Knowledge management is a framework, a management mind-set, that includes building on pass experiences (libraries, data banks, smart people) and creating new vehicles for exchanging knowledge (knowledge-enabled intranet sites, communities of practice, network) [O'Dell et al. 2000]

If observed in the previous section, PT Intimas Wisesa have problems in managing knowledge. At the company, most of the knowledge required to support the production process in the form of tacit knowledge (derived from the experience of employees and only mastered by the employee.) While such knowledge is more difficult to capture and can be lost along with the departure of employees who have them. Loss of knowledge means losing a valuable asset for the company.

Knowledge management with the ability to: create, organize, and develop knowledge, can be a solution for PT Intimas Wisesa in solving existing problems. Through the knowledge capture process, company can capture the tacit knowledge held by the employee before the employee left the company without leaving the knowledge he had. Knowledge learns/reuse and collaboration among employees can help companies to develop their knowledge. Development of knowledge would be something worthwhile for the company, because this process may bring new knowledge that is useful for company development.

With the support of information technology (IT), existing knowledge can also be disseminated to employees more broadly. In addition, IT also can accelerate the search for knowledge required by employees.

1.3 Conceptual Framework / Paradigm

Traditionally, knowledge transfer that occurs in the production department is illustrated in figure 1-1.

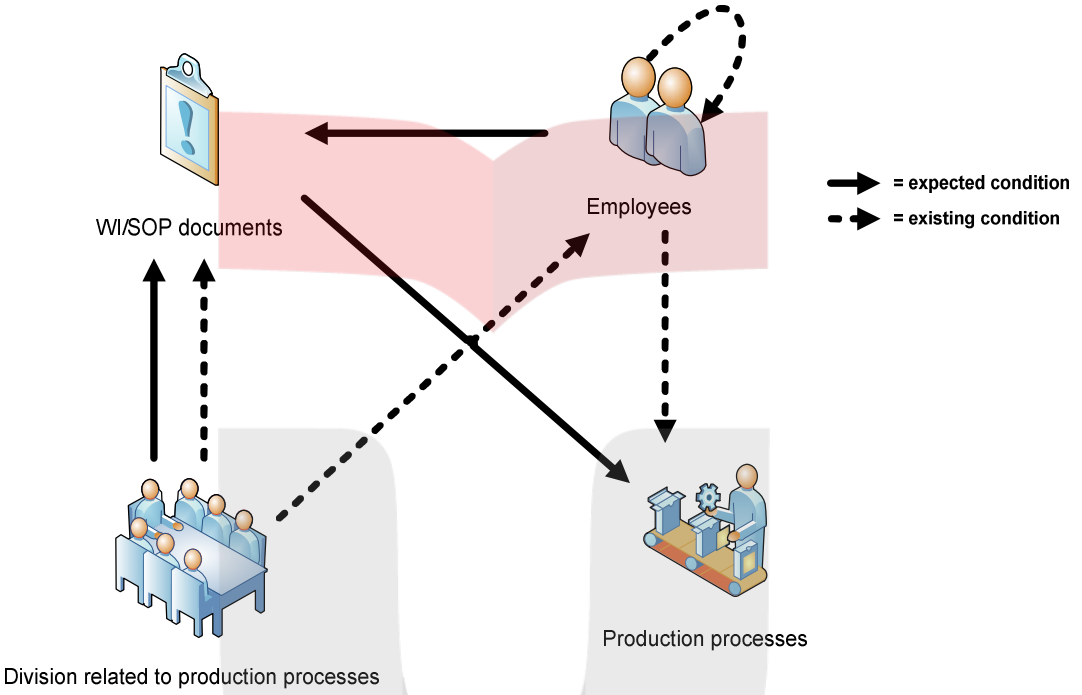

Figure 1-1 Information transfer's schema

As shown in figure 1-1, transfer of knowledge occurs through direct communication between the new employee with an experienced employee or person in charge of production.

Arrows with dotted lines in figure 1-1 is a condition that occurs in the PT Intimas Wisesa in general. Documentation relating to the production process is made by management in the production department and other departments concerned. Through regular evaluation meetings held every month, sometimes management update document. On the employee side, to fulfill the required knowledge, they gain knowledge of other employees who have faced the same problem or ask directly to management. Employee's activities in tapping the knowledge possessed by other employees as it are often not documented.

Experienced employees often have more knowledge than the management to resolve problems that arise in the production process. Documenting knowledge of experienced staff will help PT Intimas Wisesa in enriching the knowledge base of existing knowledge.

Meanwhile, solid arrows represent the ideal conditions as desired. Desired ideal condition focuses on the fulfillment of explicit knowledge to support the production process. If the conditions that exist today, only the management that plays a role in developing the

document on the expected conditions, employee through the experiences they had, also play a role in developing existing knowledge. In the end, the existence of the document becomes the main source for the employee as a reference to support the production process.

Thus, this paper will discuss efforts to gather and develop knowledge by capturing the employee's experiences into a document that can be accessed at any time by the employee. Through this mechanism, the time needed by the employee to seek the knowledge he needs will be more rapid and uniform. System that is able to collect and disseminate knowledge is knowledge management system.

Knowledge management system (KMS) serves as a bridge between knowledge and production process. To reach the desired ideal conditions, KMS that is built will involve technology, people (in this case, employees), and PT Intimas Wisesa as an organization. Figure 1-2 illustrates the linkages between technology, people, and the organization as a component of knowledge management.

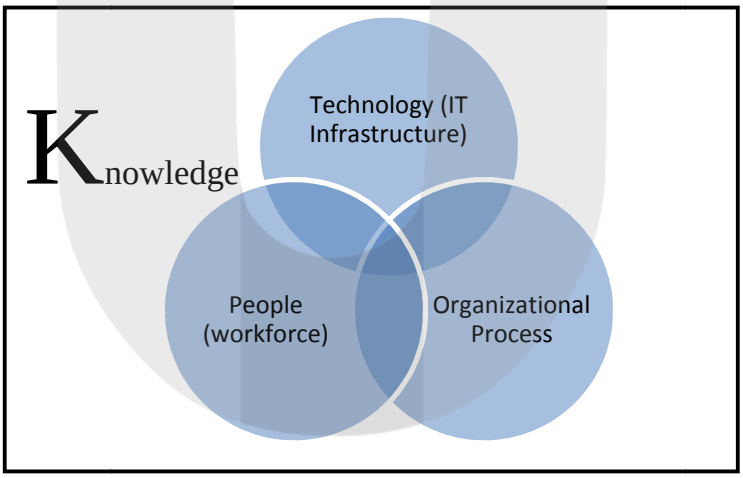

Figure 1-2 Knowledge management system components [Awad&Ghaziri,2003]

Nonaka and Takeuchi (1995) propose a model of the knowledge creating process to understand the dynamic nature of knowledge creation, and to manage such a process effectively: the SECI model.

There is a spiral of knowledge involved in their model, where the explicit and tacit knowledge interact with each other in a continuous process. This process leads to creation of new knowledge. The central thought of the model is that knowledge held by individuals is shared with other individuals so it interconnects to a new knowledge. The spiral of knowledge or the amount of knowledge so to say, grows all the time when more rounds are done in the model.

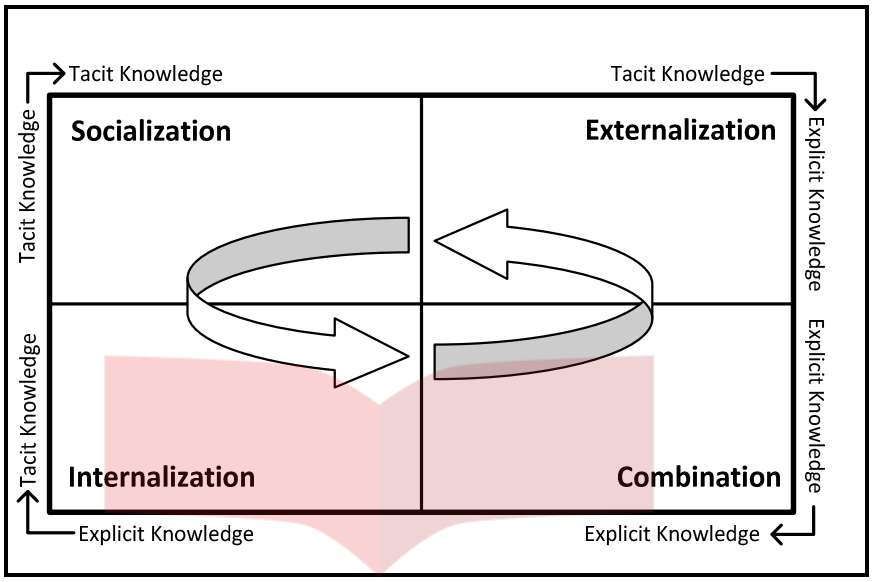

Figure 1-3 SECI Model

- **Socialization**

  Socialization is a process of creating common tacit knowledge through shared experiences. To start socialization, we need to build a "field" of interaction, where individuals share experiences at the same time and space, thereby creating common unarticulated beliefs or embodied skills.

- **Externalization**

  Externalization is a process of articulating tacit knowledge into such explicit knowledge as concepts and/or diagrams, often using metaphors, analogies, and/or sketches. This mode is triggered by a dialogue intended to create concepts from tacit knowledge. Creating a new product concept is a good example of externalization

- **Combination**

  Combination is a process of assembling new and existing explicit knowledge into a systemic knowledge such as a set of specifications for a prototype of new product. More often than not, a newly-created concept should be combined with existing explicit knowledge to materialize it into something tangible

- **Internalization**

  Internalization is a process of embodying explicit knowledge into tacit, operational knowledge such as know-how. This mode is triggered by "learning by doing or using." Explicit knowledge documented into text, sound, or video formats facilitate the internalization process. Therefore, manuals, quintessential explicit knowledge, are widely used for internalization

1.4 Statement of the Problem

The problems in this thesis are:

1. How to capture the tacit knowledge associated with the production process in PT Intimas Wisesa
2. Then how create explicit knowledge from tacit knowledge has been captured.
3. Thus how explicit knowledge can disseminate to all employees easily and involve employees more broadly (not just management) to develop existing knowledge.

1.5 Scope and Delimitation

The objective of this thesis is to build a KMS that capable of making explicit knowledge from tacit knowledge captured and disseminated to employees. Explicit knowledge is presented in a standard document that is known in PT Intimas Wisesa, namely in the form of working instruction and standard operating procedures. Through knowledge management system, employees can also be involved to develop existing knowledge.

Because the breadth of knowledge that exist in PT Intimas Wisesa, in this thesis, knowledge will be managed is limited only to the knowledge associated with the production process. Wiki engine used to store and disseminate explicit knowledge in digital form.

1.6 Importance of the Study

This thesis is expected to contribute to PT Intimas Wisesa in managing knowledge, particularly capturing explicit knowledge held by employees. Through the implementation of KMS is also expected to build a culture of share and learn among employees so that existing knowledge will always be developed. The more successful knowledge management is expected to maintain and improve the quality of products and production processes.

CHAPTER 5
CONCLUSION AND RECOMENDATOIN

As closing for this thesis, in this chapter describes conlucion and future work for implementation of knowledge management system in PT Intimas Wisesa.

5.1 Conclusions

KMS Development at PT Intimas Wisesa use wiki engine. Wiki engine chosen is the Media Wiki. Media wiki act as a media/application that store of existing knowledge in company into a repository and sharing knowledge to the user. To facilitate users in accessing the knowledge contained in the repository, the application can be accessed through the computer network. Through the knowledge stored in the repository, employees can use the expected return (learn) knowledge to support their work.

To capture the knowledge associated by the production process, composed a team whose task was to explore the tacit knowledge (derived from the experience of employees), and then actualized into explicit knowledge (working document instruction and standard operating procedure), to further disseminate this knowledge to employees more broadly. In the knowledge capture activity, the source of their knowledge knowledge poured on the standard documents already provided. Knowledge comes from experience or its supporting documents. To focus the excavation of knowledge, knowledge that is poured is in accordance to directions (requirements) that have been defined in the quality policy.

Knowledge-capture process has produced 14 (fourteen) documents consisting of: 4 (four) standard operating procedure documents and 10 (ten) working instruction documents. These 14 (fourteen) documents produced in the process of knowledge capture meets all requirements set forth in the quality policy relating to the production process. All of these documents is met the requirements stated in quality policy.

Through the wiki engine used to support the KMS, employees can collaborate together to develop knowledge. Employees that do not have the authority to change the knowledge stored in the repository can provide comments or discussion on knowledge.

By implementing KMS, employees can be facilitated due to seek knowledge to be faster. To support the search for knowledge that stored in the repository, the Media wiki provides indexing feature. These features can help to speed up the search time by adding an index on existing knowledge in the repository, according by frequency of the knowledge sought by the user.

5.2 Recommendations

A determinant of successful implementation of KMS, particularly to develop existing knowledge in the company, is growing culture of share and learns. Through a culture of share and learn, employees have the awareness of the importance of the existence of a knowledge and are willing to share the knowledge he has and learn from the experience of its other employees by aim to develop knowledge.

Based on the processing of questionnaires to measure the implementation of the KMS, it was found that 97% of employees strongly agree if management gives rewards to employees that are actively involved in developing the existing knowledge. Thus, in order to develop their knowledge effectively, management must determine that appropriate mechanism to provide rewards to employees that take an active role in developing knowledge.

To support the company's business strategy more broadly, knowledge should be managed in the KMS is not just limited on knowledge associated by the production process. Better yet, if the development of knowledge also involves customers and sister company as a source of knowledge. Customers can become a valuable source of knowledge, because as users of products produced by the company, they have an assessment of the quality of the products used.

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