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IASET

GAP ANALYSIS OF KNOWLEDGE MANAGEMENT OF CIBINONG SCIENCE & TECHNOLOGY PARK-INDONESIA

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ABSTRACT

In the current knowledge era, every human being starts to figure out how to manage knowledge. The process is carried out in such ways as composing new strategies, new tools, new methods and processes, which make people think to manage knowledge well, as individuals and an organization, especially for an organization or company, where the company is required to have Quality human resources (HR), new innovations, and knowledge to be able to competition.Knowledge management (KM) is present to provide solutions to old management problems in improving employee knowledge and combine business processes with the concept of knowledge management designed.The problems that occur in Cibinong Science and Technology Park (C-STP) is the management of employees who have not maximized, planning activities that have not maximized, and documentation of activities that are not done and knowledge sharing is still little implemented. Knowledge management sees that problem will have an impact on the STP activities in Cibinong, so it is necessary to do a new mechanism in the implementation of Strategy organization.

The use of data used in this study is primary data and secondary data. Primary data obtained through interview, observation, and questioner. Secondary data are obtained from literature studies in the form of journals, books, the internet, and documents owned by Center for Innovation LIPI. Further analysis method used in this research is the alignment of Knowledge Management with business strategy (using Zack Framework model), K-Gap Analysis (comparison analysis between the level of importance to the knowledge needed and employee mastery level), and Preparation of Strategic Knowledge Management.

From the results of data processing can be seen that the knowledge related to the strategic plan has the highest k-gap value of 1.40. The lowest k-gap value is the job description related knowledge with a value of 0.40. The next lowest k-gap value is the Incubator Development with a value of 0.50. Incubator development is one of the most important or major activities so that each employee is required to master the knowledge related incubator. The existence of knowledge gaps in the C-STP indicates that the organization has not been able to manage knowledge well. For that C-STP Manager needs to manage the existing knowledge so that knowledge gaps can be reduced by preparing the next knowledge management strategy. The strategy is to develop leadership policies, Build Awareness and Tradition, and Implement Practical Media Knowledge Management.

KEYWORDS: Knowledge Management**,** Gap Analysis**,** C-STP

INRTODUCTION

RESEARCH BACKGROUND

The era of globalization is characterized by increasing information about the development of science and technology. Increased information requires companies to have quality Human Resources in organizing information and

knowledge optimally. This makes the company must be able to motivate employees to improve the quality of performance through a continuous learning process. The company expects employees to develop themselves in their work in accordance with the intended competencies in their job descriptions. This is to suit the demands of organizational competence that will be built in the face of increasingly fierce competition. Therefore, a paradigm shift from resource-based to knowledge-based is needed. The change of paradigm has the potential to move the company so that employees are more intelligent and innovative to meet the organization's competence to be better.

In the current knowledge era, every human being starts to figure out how to manage knowledge. The process is carried out in such ways as composing new strategies, new tools, new methods and processes, which make people, think to manage knowledge well, as individuals and an organization, especially for an organization or company, where the company is required to have Quality human resources (HR), new innovations, and knowledge to be able to compete.

Knowledge management (KM) is present to provide solutions to old management problems, in improving employee knowledge and combine business processes, with the concept of knowledge management designed. Knowledge Management is an active discipline, that focuses on the movement of knowledge to which it can be applied (Jennex, 2008). Knowledge Management is also referred as the organization's knowledge management, in creating business value and producing sustainable competitive advantage, by optimizing the process of creating, communicating, and applying all the required knowledge in the pursuit of business objectives.

The problems that occur in Cibinong Science and Technology Park (C-STP), is the management of employees who have not maximized, planning activities that have not maximized, and documentation of activities that are not done and knowledge sharing is still little implemented. Knowledge management sees that, problem will have an impact on the STP activities in Cibinong, so it is necessary to do a new mechanism in the implementation of Strategy organization. Another result that arises is the Organization is less focused on the achievements of the results, that have been planned previously so that, the function of knowledge management in this case is not running optimally.

Another problem is that, there is no documentation of knowledge gained through the training, seminars, and workshops, that employees participate in and not sharing such knowledge with employees, who are not trained and have not yet documented the settlement of problems that have or have not occurred, also known as hidden knowledge. This knowledge needs to be converted into explicit (documented) knowledge to be shared and externalization (tacit to explicit) needs to be done.

The solution offered is that C-STP organizations must be able to manage the organization as a whole, including serious management of employees through asset management (thinking, knowledge, and experience). Then the organization must find out the things that are known and unknown, so that each employee can have competencies as expected by the organization. In addition, the other thing behind this research is the importance of knowing the gaps related to the implementation of knowledge management in the development of C-STP, so it is necessary to prepare a new strategy related to the implementation of knowledge management in C-STP.

METHODOLOGY

The use of data used in this study is primary data and secondary data. Primary data obtained through interview, observation, and spreading of the questioner, to the employees, that is as many as 20 respondents, by using sample

proportional random sampling method. Secondary data are obtained from literature studies in the form of journals, books, the internet, and documents owned by Center for Innovation LIPI. Further analysis method used in this research is the alignment of Knowledge Management with business strategy (using Zack Framework model), K-Gap Analysis (comparison analysis between the level of importance to the knowledge needed and employee mastery level), and Preparation of Strategic Knowledge Management.

RESULT AND DISCUSSIONS

In this research, before doing the gap analysis, it is necessary to firstly compile related knowledge management framework. This framework uses the AmritTiwana Framework (2002) roadmap that has been modified by the authors. Within this framework, explain the alignment of Knowledge management with business strategy, current Infrastructure Analysis, Infrastructure Knowledge Management Development, and Knowledge Asset Audit. Here is an overview of the knowledge management framework.
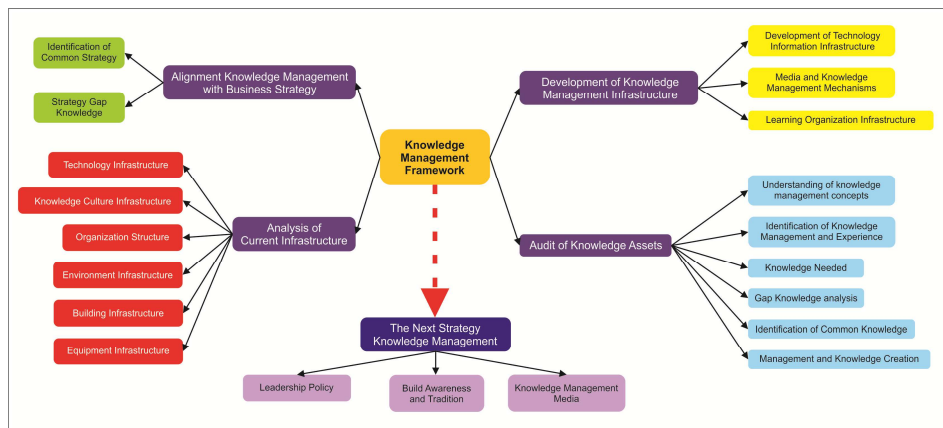
Figure 1: Knowledge Management Framework

From the above framework known advanced strategy related to the development of knowledge management. To carry out the strategy, it needs to be explained more related to the development of knowledge management that has been done now, so that the future will be known gap related to knowledge management. Therefore, it is necessary to compile a model analysis using the Zack Framework model to know the alignment of Knowledge Management with existing C-STP Business Strategy.
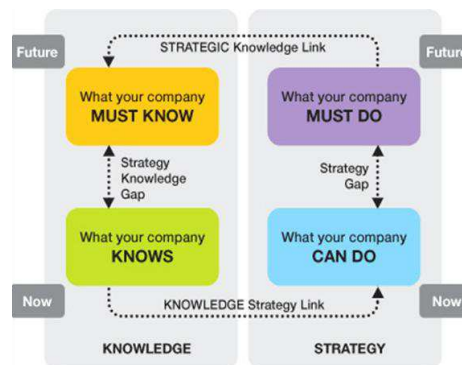
Source: Knowledge – Strategy Gap Analysis; Tiwana (2002)

Figure 2: Gap Analysis Model Zack Framework

Aligning Knowledge Management with Business Strategy

The following is the alignment of Knowledge Management with C-STP's business strategy, which is as follows:

Table 1. Aligning Knowledge Management with C-STP Business Strategy

What the Organization knows	What the Organization can do
1. The preparation of work programs has not been documented 2. Job Description of each employee has not been spread 3. Achievement of performance gained 4. The presence of training (in-house and external), seminars, workshops followed by employees 5. Available intranet network/internet as media browsing, e-mail, and means of online promotion	1. System selection activities based on future orientation and well documented 2. Evaluation of work is done based on existing guidelines and adjusted duties and functions of employees 3. Maintain the performance obtained and further developed in accordance with the path 4. Employees who take the training record the knowledge they get during the training to increase the knowledge base of employees and the organization 5. Internet network is used as a medium of increased knowledge, knowledge sharing, and to conduct online promotions
What the Organization Should Know	**What the organization should do**
1. How to capture Knowledge assets 2. How to make work completion more systematic and best practice 3. Engineering processing, storage, and dissemination of documents using IT 4. How to form effective presentation and sharing knowledge 5. Understand the stages of knowledge management process	1. Documenting and disseminating all knowledge of work programs 2. Provide a systematic way of completing the work 3. Process and disseminate SOP documents computerized for faster and more effective 4. Facilitate employees who have attended training for knowledge-sharing presentations 5. Conducting the process and stages of knowledge management

K-Gap Analysis

The value of knowledge gap is obtained by fulfilling two things, namely to know the value of importance and level of knowledge mastery. The degree of importance shows how important the knowledge is to the company and the level of mastery indicates the extent to which employee's master knowledge. After that the value of k-gap obtained from calculating the value of the difference between the value of importance and mastery. The greater the value of k-gap, the more the knowledge gap occurs. This gap will indicate the direction of improvement / development that should be done or the minimum limit of improvement of current conditions so that the knowledge gap is getting smaller. Having obtained the gap value of each required knowledge, it can be determined to which includes the mandatory knowledge and knowledge choice, for each field. From the results of questionnaires that have been done there is no knowledge of choice because all the knowledge has a value of interests > 3.00 which means included into the required knowledge.

The formula calculates the average level of importance:

$$NKi = \frac{(K1 x1)+(K2 x\ 2)+(K3\ x\ 3)+(K4 x4)+(K4 x5)}{R}$$

Where:

NKi   : Value of interest to knowledge i

K   : Number of respondents answers "A,B,C,D, or E"

R   : Number of Responden

The formula calculates the average level of mastery:

$$NPi = \frac{(P1x1)+(P2x\ 2)+(P3\ x\ 3)+(P4x4)+(P4x5)}{R}$$

Where:

NKi   : Value of mastery to knowledge i

P   : Number of respondents answers "A,B,C,D, or E"

R   : Number of Respondents

The following comparison of employee knowledge between the levels of importance with the level of mastery:

Table 2.K-Gap Analysis

No.	Statement	Level of Interest						Level of Mastery						K-Gap
		1	2	3	4	5	Nki	1	2	3	4	5	Npi	
1.	Vision and mission	0	0	5	7	8	4.15	0	3	9	5	3	3.4	**0.75**
2.	Strategic Plan	0	1	3	4	12	4.35	0	5	12	2	1	2.95	**1.40**
3.	Organization Value "PASTI"	0	2	5	7	6	3.85	0	6	6	5	3	3.25	**0.60**
4.	ISO 9001:2015	0	0	7	7	6	3.95	0	7	5	4	4	3.25	**0.70**
5.	Job Description	0	3	5	5	7	3.8	0	3	8	7	2	3.4	**0.40**
6.	Human Resource Development	0	2	6	4	8	3.9	0	5	7	4	3	3.1	**0.80**
7.	Dissemination Program	0	0	4	6	10	4.3	0	5	5	4	6	3.55	**0.75**
8.	Development of Incubator	0	0	6	8	6	4	0	4	6	6	4	3.5	**0.50**
9.	Technology Transfer	0	0	3	9	8	4.25	0	5	7	5	3	3.3	**0.95**
10.	Technology Valuation	0	2	2	7	9	4.15	0	5	6	4	5	3.45	**0.70**

The Related Knowledge, Strategic plan has the highest importance value of 4.35. This will be very important in the process of organizational development in the future, because the strategic plan has been adapted to the existing environmental conditions. If the strategic plan is not considered important, then the direction of organizational development will become increasingly unclear. The second sequence is related to the Dissemination Program with a value of 4.3. This is a program that is done in introducing the results of research and development of the resulting technology to be properly targeted to the industry and other stakeholders.

The level of knowledge mastery about Dissemination program is on the first level with a value of 3.55. This can be due to the researchers or employees have mastered the dissemination program so that it can easily in the program. With good mastery, the dissemination of knowledge related to the results of technology penetration and development can be easily accepted by stakeholders. The second sequence is the mastery of knowledge related to the development of incubator with a value of 3.5. Implementation of incubator development is an activity that has been implemented for a long time, so that employees and organizations have mastered the related incubator development process in C-STP.

From the results of data processing can be seen that the knowledge related to the strategic plan has the highest k-gap value of 1.40. This shows that the level of high importance, but low level of mastery. Employees are aware of the importance of an organization's strategic plan, but they have no knowledge of the strategic plan. This will affect the level of performance achievement of the C-STP. With employees not mastering the strategic plan, it is necessary to conduct further meetings to conduct refinements related to this strategic plan.

Knowledge of technology transfer takes second place with the k-gap value of 0.95. This technology transfer program is an activity that delivers the results of research and technology development to the industry or stakeholders. This program is very important to be done if with the mastery of knowledge owned by employees is very low; it will be difficult to be able to make it happen. Therefore, it is necessary to do a repair solution such as increasing the competence of human resources and recruit a qualified marketing consultant.

The lowest k-gap value is the job description related knowledge with a value of 0.40. It can be interpreted that the organization and employees have clearly understood the job description of each employee so that the work can be completed optimally. In addition, the mastery of job description, that can be owned to improve the performance of employees.

The existence of a knowledge gap at Cibinong-Science Technology Park indicates that the organization has not been able to manage knowledge well. For that C-STP Manager needs to manage the existing knowledge so that the existing knowledge gap can be minimized. Thus, in the future, that good knowledge management can improve organizational performance. To be able to realize it, need to immediately increase the knowledge of employees through training programs, workshops, seminars, and others.

Strategy Knowledge Management

After the K-Gap analysis, it is known that knowledge gaps are gained in improving the performance of Cibinong Science and Technology Park. The presence of such gaps can lead to a decrease in performance over the future. Therefore, it is necessary to formulate a new strategy for implementing Knowledge Management in order to reduce the existing gap between the level of interest and mastery. Here is Strategy Knowledge Management to follow up the gaps contained in existing knowledge.
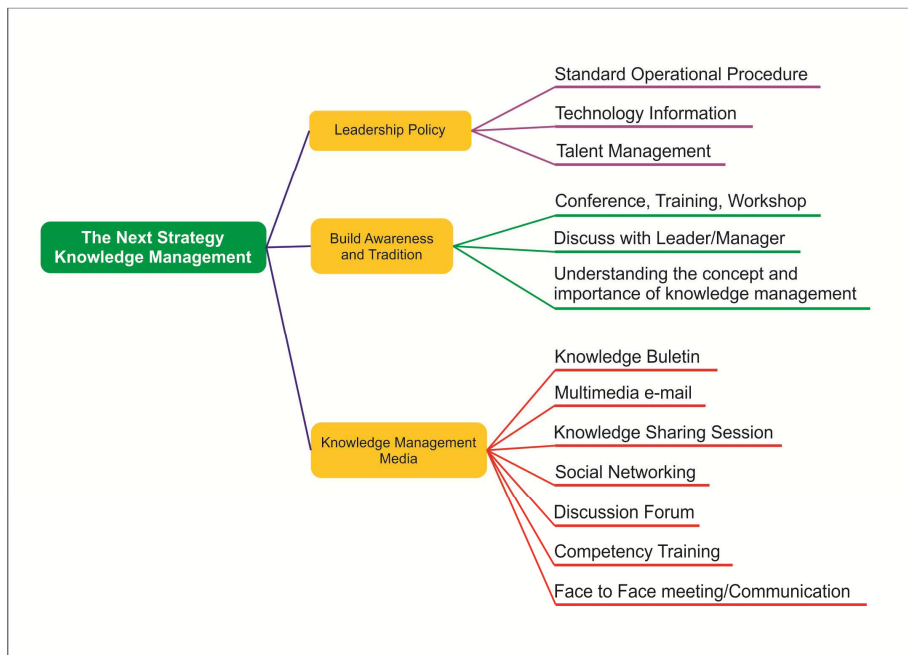
Gambar 3. The Next Strategy Knowledge Management

Leadership Policy

- Implement rewards and punishments

- Training, seminars, and workshops to employees and Managers.

- Knowledge management leadership (Knowledge-based leadership)

- Preparation of Standard Operational Procedure.

- Updating and upgrading information technology to support the development of Knowledge Management (from hardware, software, internet/intranet network and its users)

- The readiness of application and web portal to Knowledge Management and Knowledge Management media.

- Implement the talent management program in HR Management

Building Awareness and Tradition

Activities that can be done in building awareness and tradition of sharing information as follows:

- Seminars and workshops on knowledge management to add awareness of leadership and all C-STP human resources on the importance of knowledge management as a valuable asset.

- Leaders and managers make time for casual discussions with employees about knowledge and experience.

- Employees understand the concept of knowledge management, from how to capture, process, store and share the knowledge and its impact on C-STP progress.

Implement Practical Media, Knowledge Management

The process of running the media Knowledge Management is under the responsibility of the leadership. With non-IT infrastructure and existing IT infrastructure, C-STP can use more practical Knowledge Management media such as:

- **Knowledge Bulletin.** This Bulletin may be published monthly or bi-monthly, containing updated knowledge of current management / business knowledge by C-STP.

- **Multimedia Email**. Emails that are varied, like there are pictures, sound/audio, video, full color and other visual elements. Unlike traditional emails whose content is a bit boring.

- **Knowledge Sharing Session.** For about 1-2 hours, at least every one / two months. It can be done by inviting outside or internal speakers, guided by a moderator and attended by C-STP leaders. This sharing session can then be uploaded to the knowledge portal or social networking group owned by C-STP, so that every employee can access the material.

- **Social Networking.** For about 1-2 hours, at least every one / two months. It can be done by inviting outside or internal speakers, guided by a moderator and attended by C-STP leaders. This sharing session can then be uploaded to the knowledge portal or social networking group owned by C-STP so that every employee can access the material.

- **Discussion forum**. After employees find new problems and solutions or gain new knowledge, the next step is to invite other employees to discuss the new findings. Discussion forums also consist of moderators, minutes and speakers from internal or external C-STP.

- **Education, Training, Seminar, and Workshop.** Conduct regular training, seminars, workshops, one or three months for educational development and potential C-STP employees and add new knowledge in accordance with the needs and development of science and technology.

- **Face to Face Meeting.** The meeting was attended by only a few people and was done directly, a more knowledgeable and experienced employee shared the knowledge he had with other new employees or with long-time employees who as opposed to talking at the time.

CONCLUSIONS

From the results of data processing can be seen that the knowledge related to the strategic plan has the highest k-gap value of 1.40. This shows that the level of high importance, but low level of mastery so that in the future will need to be studied further related to this strategic plan so that each employee can perform their duties and functions. The lowest k-gap value is the job description related knowledge with a value of 0.40. It can be interpreted that the organization and employees have clearly understood the job description of each employee so that the work can be completed optimally. The next lowest k-gap value is the Incubator Development with a value of 0.50. Incubator development is one of the most important or major activities so that each employee is required to master the knowledge related incubator.

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