EFFECTIVE MEASUREMENT TO KNOWLEDGE TRANSFER PROCESS: A CASE STUDY ON ELECTRICITY GENERATING AUTHORITY OF THAILAND

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ABSTRACT

This thematic paper is focused on the measurement of knowledge transfer process applying from the case study of the large organization in Thailand. The qualitative research has been conducted to gain the organization's factual insight. The data has been collected from KM Committee in the organization who taken care of all KM activity. According to the result, two measurement should be apply for knowledge transfer process which are Financial measure and Non-Financial measure.

KEY WORDS: Knowledge Management/ Knowledge Transfer/ Measurement

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CHAPTER I
INTRODUCTION

In economies, the high level of information and knowledge development are the most important factors of driving its success and competitive advantage. We believe the long-term competitiveness is mainly based on intangible components such as technological capabilities and skills and knowledge. So, managing knowledge is crucial in today's knowledge economy. According to Grey (1996), he defined "Knowledge Management" as "a collaborative and integrated approach to the creation, capture, organization, access and use of an enterprise's intellectual assets." To have a sustainable competitive advantage, the organization should realize how to effectively create, share, measure and improve knowledge through an organization.

1.1 Knowledge Management at Electricity Generating Authority of Thailand

In this paper, it is mainly focused on the organization named Electricity Generating Authority of Thailand (EGAT) which is Thailand's leading state-owned power utility under the Ministry of Energy. It is responsible for electric power generation and transmission for the whole country as well as bulk electric energy sales. Since EGAT is a very large organization where there are approximately 20,000 employees and power plants of different types which are located in 45 sites across the country. Hence, there will be many information flying all over in the organization. Moreover, some of those information can turn to be the insight or the knowledge and wisdom to the organization which starting from the individual knowledge. For example, the best practices or innovation from one power plant can transfer to another power plant for better performance. Moreover, currently EGAT has to face with the "Age Gap" situation where there will be many employees in the organization retired and many new generation enters into the organization. Thus, the organization started to consider on collecting knowledge

from the soon-to-be retiree and share all the best practices or techniques to the current employees in the organization for maintaining operational gap. As a result, Knowledge Management will become the important concept in the organization to collect, organize, share and utilize those information and knowledge throughout the organization. In addition, Knowledge Management can be the tool in breaking silo work environment and also the key enabler to build a learning organization.

In 2009, Knowledge Management was introduced in the organization. It started by setting the committee and initiating EGAT KM/LO Roadmap for running the performance in the organization and focusing on defining the core business knowledge of the organization in the first year. Later on, the organization started implementing EGAT KM Portal for collected and stored the core business knowledge in the system. The goal for knowledge management in the organization is to create learning to innovation. In 2012, it focused to create Best Practice utilization, strengthen KM Information System to widespread use of EGAT KM Portal and promoted the culture of knowledge sharing in the organization for emphasizing 'Individual KM' to create learning organization. In 2015, EGAT launched KM approach as "EGAT Knowledge Management System" as a structure to deploy all KM activities in the organization. In present, the EGAT KM/LO roadmap identifies to create organizational learning and aim for being the innovative organization in 2018.

Currently, EGAT has many KM tools in the organization such as BAR/AAR, CoPs/CFT, Best Practices or KM Forum. However, the process of sharing knowledge and evaluating knowledge management performance in the organization does not have the proper measurement to review its success in terms of the implementation and result. Furthermore, the organization does not overcome the challenge of developing a culture that embraces learning and sharing.

1.2 Problem Statement & Research Objectives

In order for the organization to achieve its goals, they have to measure. Thus, they can determine how successful organization and employee have been in achieving their objectives. In this paper, it will study on the effective measurement in knowledge transfer process on a case study of utilities organization in Thailand.

1.3 Potential Output

Effective measurement to Knowledge Transfer process applying for Electricity Generating Authority of Thailand.

CHAPTER II
LITERATURE REVIEW

This chapter is organized into two parts. The first part presents the literature review on defining knowledge and knowledge management. The second part includes defining measurement practices and the study on what the effective measurement that can measure the performance of knowledge transfer in the organization.

2.1 Defining "Knowledge"

Nowadays, knowledge has become the most valuable resource in the organization and become an important issue for business organizations since today we are living in the knowledge-based society (Garud and Kumaraswany, 2005). Also, it is the vital key for the organization continuity since knowledge is one of the main factors that help the organization competing with their competitors and also the basis for organization success and viability. The meaning of the word 'Knowledge' has many different interpretations. It is related to the terms such as data, information, skill, intelligence, expertise, experience, idea or insight which all of these words depend on the context in which these words are used. For Plato, he viewed the word 'Knowledge' as "justified true belief". Later, Nonaka and Takeuchi (1995) defined the word 'Knowledge' to ''a dynamic human process of justifying personal belief toward the truth'' at the organizational level. For Davenport and Prusak (1998), the word 'Knowledge' has defined as ''a fluid mix of framed experiences, values, contextual information and expert insight''. On the other hand, in Drucker's opinion, he believed 'Knowledge' is information that ''changes something or somebody either by becoming grounds for action, or by making an individual or an institution capable of different and more effective action'', or more simply termed, ''specialized knowledge''. His opinion emphasized that the knowledge work will be done by knowledge workers and their productivity. However, for Nanoka, he believed that everyone in the organization should be involved in

knowledge-creating activities (Fei Gao Meng Li Steve Clarke, 2008). Hence, Drucker has a different point of view from Nonaka in terms of the key players in organization.

Knowledge can be divided into two dimensions: tacit and explicit (Nonaka, 2007). Tacit knowledge is a personal knowledge which it is difficult to communicate to others and hard to formalize based on practice and acquired by personal experiences. This kind of knowledge resides in the mind of people and it is difficult to be expressed verbally, symbolic and written forms such as expertise, insight and experience. Also, it can consider tacit knowledge as 'know-how' since people are developed it as a wealth of expertise. On the other hand, explicit knowledge is systematic and formal often based on established work processes and use people-to-documents approach (Elizabeth, 2001). It is easily to communicate and share knowledge. This kind of knowledge can codify or document and transfer easily to others.

Table 2.1 Comparison of properties of Tacit versus Explicit knowledge

Properties of Tacit knowledge	Properties of Explicit knowledge
▪ Ability to adapt, to deal with new and exceptional situations	▪ Ability to disseminate, to reproduce, to access and re-apply throughout the organization
▪ Expertise, know-how, know-why and care-why	▪ Ability to teach, to train
▪ Ability to collaborate, to share a vision, to transmit a culture	▪ Ability to organize, to systematize, to translate vision into a mission statement, into operational guidelines
▪ Coaching and mentoring to transfer experiential knowledge on a one-to-one, face-to-face basis	▪ Transfer knowledge via products, services and documented processes

To create, use and share tacit and explicit knowledge, there are four basic patterns for creating knowledge in the organization (Nonaka, 2007).
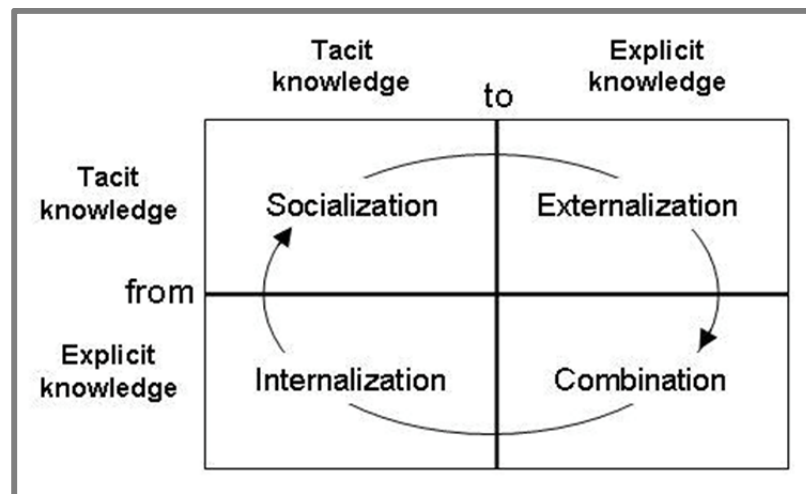
Figure 2.1 Four patterns of knowledge conversion (Nonaka and Takeuchi)

• From Tacit to Tacit (Socialization) - the act of sharing tacit knowledge directly with another. Individuals will acquire knowledge from others via observing, imitating, practicing or becoming socialized into a specific way such as learning from peers. Hence, knowledge is not explicit at this pattern since it cannot easily be leveraged by the organization as a whole (Nonaka, 2007).

• From Explicit to Explicit (Combination) - the act of combining different forms of explicit knowledge into a new whole such as gathering many data sources to form a financial report and that report will create the new knowledge to the organization because it synthesizes information from different data sources. However, this combination does not extend the company's existing knowledge base (Nonaka, 2007).

• From Tacit to Explicit (Externalization) - the act of articulating tacit knowledge, converting and sharing to other tangible forms. For example, it can record discussions in a manual and use the content to create a new thing (Nonaka, 2007).

• From Explicit to Tacit (Internalization) - the act of interpreting explicit knowledge and internalizing or accepting by others since to create tacit knowledge, it needs an articulation and internalization of knowledge as a part of person's knowledge base (Nonaka, 2007).

2.2 Defining "Knowledge Management" and its process

Knowledge Management is the integrated approach which identifying, managing and sharing organization's information assets that including databases, policies, procedures, unarticulated expertise and experience that stored in individuals (Martha, 1999).

Davenport and Prusak (1998) stated the three main stages of knowledge management which are (1) Knowledge Creation, (2) Knowledge Codification/ Coordination and (3) Knowledge Transfer. For knowledge creation, it is the act of creating new knowledge. It is a continuous process which created between individuals or between individuals and the environment referred to four patterns of knowledge conversion (Nonaka and Takeuchi). Second, knowledge codification/coordination is the act of organizing knowledge into a form that is accessible to those who needs it. Knowledge will be explicit, organized, portable and easy to understand since it is already set the specific aim than making knowledge generally available. In the organization, the top management should define the aim or the organizational goal to guide this knowledge codification and the adequate knowledge for those goals. Last, the significant process for knowledge management is knowledge transfer where it can happen in a formal or informal way. Nonaka and Takeuchi (1995), knowledge transfer is the fundamental process to share the best practices, create new knowledge and achieve shared learning. Van den Hooff, B., & Ridder, J. (2004), knowledge transfer can be defined as the act of individuals mutually exchange their knowledge (tacit and explicit) and jointly create new knowledge. In addition, knowledge transfer can occur as a dynamic learning process which involved organizational interactions with customers and suppliers and resulting in innovation (Kim and Nelson, 2000).

2.3 Focusing on "Knowledge Transfer" process

According to Davenport and Prusak (1998) stated the three main stages of knowledge management, this paper will only focus on "Knowledge Transfer" process applying to the case of EGAT. As the result, the organization can evaluate their knowledge system that it is contributed the value of sharing and best practice as well as enable individuals to learn more and apply knowledge all over the organization.

Knowledge Transfer in the organization defined as the process of one unit such as department, group or division is affected by the experience of another (Argote, L., Ingram, P., 2000). A social interaction culture that included employee's experience, knowledge exchange and skills by the all of department or organization (Rad, M. S., Dahlan, H. M., Noorminshah, A., Nilashi, M., & Ibrahim, O., 2014). In addition, it is the process of transferring knowledge between groups, departments and organizations as well as businesses. It is the means to manage and retain organizational knowledge (N. S. Binti Mohamad Sani and N. S. Binti Mohamad Sani, 2015). Knowledge Transfer is the processes between a source and a recipient. The example of one approach which defining the success of knowledge transfer is focused on the degree to which the knowledge is re-created in the recipient (Cumming, 2003).

Kim and Lee (2006), they identified four mechanisms for transferring individual knowledge in the organization. First, the Knowledge contribution to organizational databases. Second, Knowledge Transfer in formal interaction within or across teams. Third, Knowledge Transfer in informal interaction. Last, Knowledge Transfer within communities of practice.

Pavel Štrach André M. Everett (2006), a significant factor in motivating knowledge transfer is trust among the individuals or organizational units. Trust will stimulate social exchange. Also, Nonaka, I. (1990), he mentioned the important knowledge transfer motivator is trust. Thus, motivations to knowledge transfer affect people's behavior, intentions and personal interests which inhibit the willingness to engage in knowledge transfer.

Organization culture like co-operation and collaboration can be an enabler of knowledge transfer, (Swee C. Goh, 2002). Additionally, a strong co-operative and collaborative culture is the significant prerequisite for knowledge transfer between individuals and groups. Thus, knowledge transfer will occur in the organization if employees show a high level of co-operative behaviors. Another important factor is an appropriate infrastructure to reinforce and support knowledge transfer. Refer to Nonaka, he mentioned the breaking down hierarchies in the organization will enable knowledge transfer (Nonaka, 1994). The silo organization or the organization that has hierarchical levels will not encourage to have knowledge transfer.

2.4 Defining "Measurement"

"The systematic assignment of numbers to entities." is defined as measurement (Pervaiz K. AhmedKwang K. LimMohamed Zairi, 1999). Measuring can provide the information for decision makers to monitor key factors that related to the progress and quality and also monitor the performance against the action plan. Therefore, the measurement will help the decision makers to make the right decision based on objective information (Ishigaki & Jones, 2003). Measuring can be an effective management tool since it can help decision makers in the organization to work in the proactive way because they can identify and correct problems early and also minimize the risk since risks that uncovered late are more costly to fix. Measurement can also track specific objectives against the plan and visually see progress toward the organizational objectives. In addition, measurement can support the communication throughout all levels of the organization because objective measurement can reduce ambiguity and make the communication between two parties are more effective.

To define more on the word "Measurement", there are many authors defined it in terms of the attributes of performance (Pervaiz K. AhmedKwang K. Lim Mohamed Zairi, 1999). The desired behavioral attributes are often selected to focus for measurement since they will provide feedback on activities which motivate behavior leading to continuous improvement such as flexibility, productivity and customer satisfaction (Lynch and Cross, 1991). Furthermore, to achieve the organizational goals, it needs to have the measurement since it is the basis for controlling, evaluating and improving processes (Pervaiz K. AhmedKwang K. LimMohamed Zairi, 1999). To support by the foundation of Manufacturing Committee of the National Academy of Engineering, they highlight that "World Class Manufacturers recognize the importance of metrics in helping to define the goals and performance expectations for the organization. They adopt or develop appropriate metrics to interpret and describe quantitatively the criteria used to measure the effectiveness of the manufacturing system and its many interrelated components (Heim and Compton, 1992)." Performance measures also helps in reflecting the contribution of each team or process towards their organizational goals (Turney, 1993).

In terms of performance measurement, Evangelidis stated it is "the process of determining how successful organizations or individuals have been in attaining their

objectives." His approach is recognized as focusing on the significant input and output in development of the performance measurement system. In addition, "Characteristics of outputs that are identified for purposes of evaluation" is defined as performance measures by Euske (Eusky, 1984). Good performance measures should have a range of hierarchical levels which are corporate, business and functional (Hax and Majluf, 1991). The reason is there will be many stakeholders involved with and each has different requirements. Therefore, the integrated set of performance measure should take account of these factors.

Ghalayini and Noble (1996) proposed the three stages of measurement approaches which are 'Traditional Measures' focusing on Financial measures such as ROI, profits, increased productivity, cost reduction and time saved. The second stage is 'Non-traditional Measures' focusing on Non-Financial measures. Its characteristics are intended to improve performance because it fosters improvement rather than only monitor performance. Moreover, the Non-Financial measures are related to improve skills/competency, morale improvement, enhanced innovation, improved employee satisfaction and operational matters like facilitated decision making for managers and workers. The last stage is 'Integrated Measures' focusing in both use of Financial and Non-Financial measures. It examines from multiple angles such as using Balance Business Scorecard and Activity Based Management.
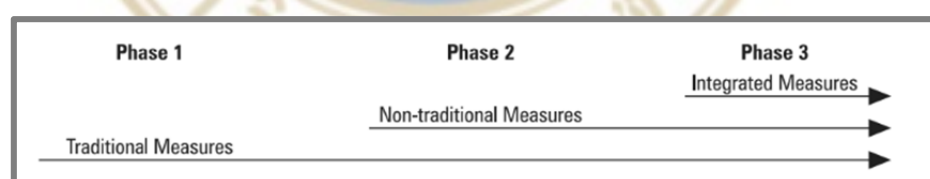
Figure 2.2   Evolution in Measurement Approaches

2.5 Measuring Knowledge Transfer Process

To measure knowledge, it is one of the most difficult KM activities because the intangible nature of knowledge makes its measurement as a complex task (Kankanhalli and Tan, 2005). Lee (2002), he measured tacit knowledge transferring by social interactions. Over 90% of true knowledge transferring came from tacit to tacit knowledge transfer

process. Moreover, effectiveness of knowledge transfer can measure via the changes in the knowledge of recipient unit (Argote, Ingram, 2000).

According to Mohamed A.F. Ragab Amr Arisha, they defined the three main approaches to identify the knowledge measurement method which are (1) Financial methods, (2) Intellectual Capital (IC) methods and (3) Performance methods.

For financial methods, it uses information from the organization's financial statements to calculate an overall value for a company via financial models. Next, Intellectual Capital (IC) methods use sets of quantitative metrics to measure the IC component such as Human Capital, Structural Capital and Relational Capital. The metric can be counted in monetary values, direct counts or ratio and percentages (Lerro et al., 2012). Last, Performance methods measure by the impact of knowledge when applied or Performance methods. In this method, there are process performance measure to monitor the performance of KM initiatives (Vestal, 2002). The example of this process metric is the KMS usage or the number of communities of practice. They assume the more people use a KMS, the more knowledgeable they become and this will lead to the increase in organizational performance. Thus, this process metric can only measure the insight into the engagement of employees in KM initiatives. However, it does not establish the linkage between KM activities and organization's performance (Khalifa et al., 2008). In addition of "Performance method", there is another metric named 'Output performance measures' which measures from the result of KMS implementation. It will compare the performance before and after the KM initiatives implementation and examine its effect on the organization (Vestal, 2002).

There are also three commonly used techniques to measure knowledge management which are (1) Benchmarking, (2) The Balance Scorecard Method and (3) The House of Quality (Dalkir, 2005).

The Benchmarking Method is the search for industrywide best practices which lead to superior performance. It is the study of similar companies to determine how things are done best in order to adapt their methods for our own use. Benchmarking is the straightforward KM metric which have two dimensions: Internal Benchmarking, to compare against other units within the same organization or a comparison over different time periods and External Benchmarking, to compare with other companies.

The Balance Scorecard Method (BSC) is a measurement that allow the organization to clarify its vision and strategy and translate them into actions. It is a conceptual framework that translating organizational vision into set of performance indicators and distributing among four dimensions which are Financial, Customer, Internal Business Processes and Learning and Growth. The financial dimension will include measures such as economic value added, operating income and return on capital employed. The customer dimension will include measure such as customer satisfaction and market shares in targeted segments. The internal business process will include measures such as quality and cost. The learning and growth will include measures such as employee satisfaction and employee skill sets. Hence, this method intends to be a performance improvement metric and provide the objective measures of the current situation.
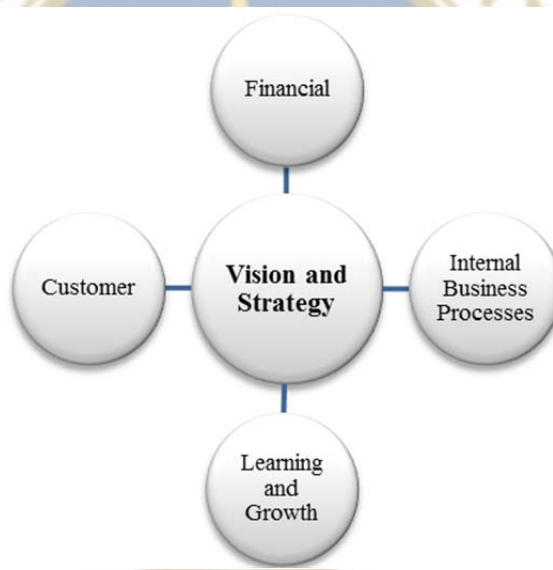
Figure 2.3 The Balance Scorecard Method

The House of Quality Method aims to show the connection between true quality, quality characteristics and process characteristics. The goals and its objectives are located at the left of the house which is the outcomes. At the top of the house, useful metrics can be placed. At the middle, it is the level of correlation between the metrics and the performance outcomes. While priorities are next assigned to each of these goals by placing weights to the right of the house.
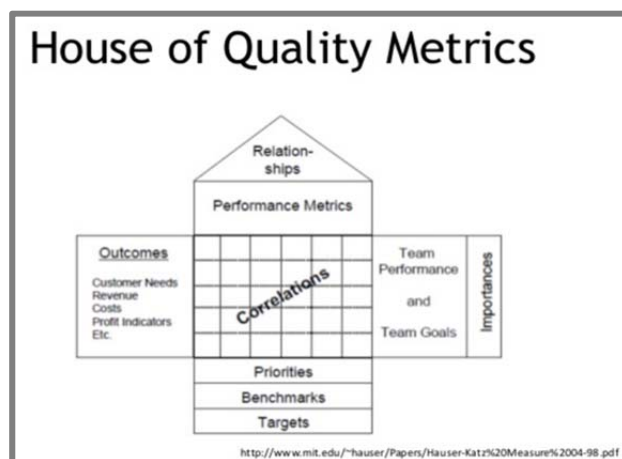
Figure 2.4 The House of Quality Method

From all of the literature review that gathered in this paper, the researcher will characterize the measurement of knowledge transfer process into two dimensions for this research framework which are (1) Financial measure and (2) Non-Financial measure.

Table 2.2 Research framework of measurement to Knowledge Transfer process

Financial measure	Non-Financial measure
▪ Return on Investment (ROI)	▪ Intellectual Capital
▪ Profits	▪ Improved performance
▪ Cost Reduction	▪ Improved quality
▪ Time-saved	▪ Benchmarking
	▪ Enhanced innovation
	▪ Improved skills/competency

CHAPTER III
RESEARCH METHODOLOGY

In this paper, the purpose of this study is to study on the effective measurement in knowledge transfer process in the organization.

This chapter intends to describe (1) Research approach and design, (2) Study of population and sample, (3) Data collection (4) Data analysis.

3.1 Research Approach and Design

The researcher uses qualitative research method as a tool for collecting data. This method will provide the benefit in terms of opinions and views in the organization since the interviewer can ask the direct question to the interviewees. The researcher will have a face-to-face interview asking approximately 3 to 4 questions to Chief of Knowledge Office and KM committees in the organization.

3.2 The study of Population and Sample

The researcher will collect data from 12 respondents. One respondent will be Chief Knowledge Officer and eleven will be KM committees. All questions will be open-ended in order to get to know the viewpoint from each group of respondent.

3.3 Data Collection

For the data collection part of this research, the researcher will conduct the interview with two sets of data. The questions will be asked in series of interview sessions. The interviews for data collection will conduct as one-on-one interview. The first data set will use to interview Chief Knowledge Officer in order to find out the overview and current situation of Knowledge Management in the organization. The second data

set will use to interview KM committees in order to find out the information related to organizational knowledge transfer process.

Table 3.1 List of interview questions

Questions for Chief Knowledge Officer	Questions for KM Committee
1. What is the goal of Knowledge Management in the organization? 2. How do you deploy Knowledge Management in the organization? 3. How do you measure Knowledge Transfer process in the organization?	1. How do you transfer organizational knowledge in your business unit? 2. What forms of knowledge transfer is suitable for the organization? 3. What are the key success factors for transferring knowledge in your business unit? 4. How do you measure Knowledge Transfer process in your business unit?

3.4 Data analysis

The data analysis will start from transcribing the interview records, gather the important information and develop the summary and recommendation for effective measurement of knowledge transfer process in the organization.

CHAPTER IV

RESEARCH FINDINGS AND ANALYSIS

n this chapter, it is composed of research findings and data analysis from the interview that conducted to interview Chief Knowledge Officer and KM committees. For this research, qualitative research is selected because of its ability to provide a deeper understanding on what effective measurement should be used to measure knowledge transfer process in the organization and the data are found below from 12 interviewees. The researcher interviewed one Chief Knowledge Officer and eleven KM committees. The interview session took approximately half an hour to one hour per person. The age of the interviewees is approximately 30 to 55 years of age.

By interviewed Chief Knowledge Officer, the goal of Knowledge Management in the organization is defined as *"We do KM to create innovation that can be commercialized and beneficial to the organization"*.

Figure 4.1 EGAT Knowledge Mangement System

'EGAT Knowledge Management System' was introduced by Chief Knowledge Officer as in Figure 5 and explained the implementation of the system in the organization. It runs on the concept of P-D-C-A which is the management method that used in the business practice for the continual improvement of processes. Knowledge Management in EGAT has 5 processes which are (1) Knowledge Identification, (2) Knowledge Creation and Acquisition, (3) Knowledge Classification and Organization, (4) Knowledge Sharing and (5) Knowledge Utilization. Therefore, the concept of Knowledge Transfer will be matched with the fourth process 'Knowledge Sharing' for organizational knowledge in EGAT.

Different business units have different methods in knowledge transfer process. Setting up the classroom training is one of many examples in the organization. The employees can attend as the formal education and receive knowledge from that classroom they attended. In addition, some business units have set up the communities of practices (CoPs) to share and transfer knowledge and experience between employees. This communities of practices are connecting employees who work in different times and places and produce the virtual interaction and knowledge transfer. Also, some business units have many experts in the technical field that are going to retire. Therefore, they transfer knowledge via storytelling like KM Forum/Conference as well as share experiences among employees to get the insight information and knowledge and increase the participation from employees while they are having the session for this storytelling.

Every year in the last quarter, KM committee will conduct 'EGAT Knowledge Management Assessment (EGAT KMA)' to evaluate its KM performance. Its objective is to evaluate knowledge management in each business unit in the organization. The results will inform them to review their past performances and compare with other business units, know their strengths and weaknesses and also best practices that can promote to other business units. The evaluation is conducted via 5-rating scale with 6 topics to consider which are

- KM Leadership
- KM Strategic Planning
- KM Target Focus Group
- Knowledge & Information Technology Management
- KM Workforce Focus

• KM Operations Focus

Under 'Knowledge & Information Technology Management', it is an assessment on the the fourth step 'Knowledge Sharing' in EGAT Knowledge Management System in Figure 5. The evaluation is focused on the process of transferring knowledge in the organization both internally and externally, the learning and sharing activities in the organization and the use of knowledge from the KM portal to create knowledge extension, best practices and innovation in the organization. At the end, they will do a summary and management review for the next year plan of KM.

In Chief Knowledge Officer's view, she believed the form of knowledge transfer in the organization would be different due to the target group. For example, the Baby Boomers and Generation X will prefer to do a group meeting or construct the communities of practices (CoPs) to transfer knowledge and share their experiences while those generation Y would prefer to search the information from the internet or portal. Therefore, Chief Knowledge Officer summarized that "In EGAT, there should have the spaces especially face-to-face for every employee to make the conversation, share knowledge, experience or best practices and communicate among the interest groups".

In terms of knowledge transfer measurement, Chief Knowledge Officer said *"EGAT do have the measurement. However, it is not practical"*. It means even the approach is deployed to all business unit in the organization, they do not apply practically due to their individualism in each business unit in terms of people, workplace culture and also type of works. Moreover, she noticed that EGAT has Non-Financial measure on knowledge transfer process. Overall, we do knowledge transfer to prevent the operational gaps from retirees in every year and significantly to enhance their current work processes or solve the issues in their business unit. She mentioned *"The measure of knowledge transfer process should be the work output"*. Apart from the organizational knowledge that we would receive from knowledge transfer process, it will create engagement, strengthen the relationship among the employee and also create the learning culture in the organization.

4.1 Knowledge Transfer process in EGAT

In each business unit, they have to do KM followed EGAT Knowledge Management System in Figure 5. In each business unit especially in the core business function such as Generation, Fuel, Power Plant Development or Transmission System, they transfer knowledge by setting Communities of Practices (CoPs) or Cross Functional Team (CFT). When the groups are formed, they will review their past performances and construct the plan to improve their work processes or solve the challenges that they are facing in their business units or the initiatives are set up as a goal of work improvement. By setting up this work plan and forming the CoPs, knowledge will transfer better than the classroom training or on-the-job training. Moreover, there are other benefits that gained from knowledge transfer process such as trust, collaboration, productivity and relationship as some respondents stated below:

"After the process of Knowledge Transfer, it can build trust among the employees."

"Knowledge Transfer can increase speed and quality of performance."

"Collaboration among the team are strengthened due to setting up of communities of practices (CoPs) for transferring the knowledge."

"Doing communities of practices (CoPs) can help supporting the technical skills"

However, in the supporting function such as Administration, Policy and Planning and Account and Finance, they mostly do Before Action Review (BAR) and After Action Review (AAR) for reviewing their work processes and their knowledge transfer processes are occurred while they are doing these two actions. They can have a guideline for reviewing their works and do not have to start from the beginning to create a new task.

4.2 Measurement to Knowledge Transfer process in EGAT

In 2004, EGAT started to do Knowledge Management in order to be ready for organizational change in terms of preventing operational gap from the huge retirement in the near future. They focus on transferring knowledge from the retirees to the current employees in the organization or collecting their knowledge and best practices in the

knowledge portal. In the past, they do not have any measurement to measure the success of the process. Therefore, at the end of the year, the goal of doing knowledge management in the organization was to collect organizational knowledge for 20 topics per year from each business unit and also do 'Body of Knowledge' from the retiree.

Later, EGAT started to construct KM roadmap in 2009 and had KM action plan for the entire organization. The measurement of knowledge transfer process was set up to enhance their current work processes or solve the current issues that facing in their business units. Even its goal is to create innovation in the organization, it does not measure in terms of financial aspect. Some respondents mentioned as following samples:

"We do Knowledge Management as a tool to enhance work processes in our business unit and the financial aspect does not set as the goal."

"We set the goal to reduce cost of production and use Knowledge Management to help in solving the current issues that we are facing."

"By doing Knowledge Management, we can save time in doing our job. Newcomers can start the job by their own searching from the stored knowledge."

Because EGAT is the state enterprise, the policy is governed by the government or the board of director. They will mainly focus on work productivity or solve their current issues. Therefore, the measure of the work success will be the work output instead of financial values like revenues or profit margin. Then, the financial value will occur in terms of the value-added to the current work or the reduction in cost of production or time-saving process. Some respondents in the core business unit stated:

"In EGAT context, we do not mainly focus on financial benefits. We do Knowledge Management to improve the work process and the financial benefit came as an indirect outcome."

CHAPTER V
CONCLUSION AND RECOMMENDATION

5.1 Practical Implication

The research focused on the measurement to knowledge transfer process in EGAT. The results of findings are shown in Chapter IV and this chapter will be the conclusion of this paper and the recommendation of previous studied topic.

The findings present that in knowledge transfer process of EGAT, they had both Financial and Non-Financial measure. However, the Non-Financial measure is mainly focused on this organization because the goal of transferring knowledge is to improve work performance or solve the current work issue and collect knowledge for EGAT retiree knowledge directory. By setting CoPs/CFT to do knowledge transfer, they can share experiences and best practices among the group. This will enhance work performance and improve skills of the employees. However, when they apply knowledge management and improve their work performance, they can receive financial outcomes as the indirect benefit. Mostly in EGAT, time saved and cost reduction are two major reasons in their work improvement. Therefore, the goal of transferring knowledge in the organization can contribute the success of work improvement. Also, it can indirectly contribute the financial benefit because of the improvement.

However, in the long run the measurement of transferring knowledge should be set in the financial benefit. The reason referred to Chief Knowledge Officer mentioned on the organizational goal doing knowledge management to create innovation that can be commercialized and beneficial to the organization. To be commercialized, the organization should set the goal in terms of Financial measure for transferring knowledge to design the purpose of sharing knowledge and utilize or share the knowledge for improving work processes or developing new styles.

Therefore, in EGAT they need both Financial and Non-Financial measure to apply the effective measurement to Knowledge Transfer process to identify the potential returns and also the feedback that enables a business evaluated the success or

failure of its initiative. Financial measure would recommend to provide a picture of the entity's revenue and costs. On the other hand, Non-Financial measure would provide an in-depth look into the business's health, success and position for long-term growth.

5.2 Limitations and Recommendation for future research

In this paper, the researcher found that the sample size of this paper which is 12 respondents might be a small number to represent enough details for the large organization like EGAT. Using more sample sizes can show more real experiences from different business units. In terms of future research, it is recommended to expand the sample size to EGAT employees who had the experiences with knowledge management in their business units because this paper focused only Chief Knowledge Officer and KM Committee who had directly involved with Knowledge Management in the organization. Moreover, it would be beneficial if there is a further research on the effective measurement of the overall knowledge management in the organization to have the holistic view of knowledge management.

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