

KM IMPLEMENTATION IN CENTRAL TEAM

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Introduction

Eternal is one of the world's leading integrated energy companies. Company's success is driven by the people and their commitment to get results the right way—by operating responsibly, executing with excellence, applying innovative technologies and capturing new opportunities for profitable growth. Eternal are involved in virtually every facet of the energy industry. Eternal explore for, produce and transport crude oil and natural gas; refine, market and distribute transportation fuels and lubricants; manufacture and sell petrochemical products; generate power and produce geothermal energy; provide renewable energy and energy efficiency solutions; and develop the energy resources of the future, including research into advanced biofuels.

Eternal is a major partner in Indonesia's economy and an active member of the community. Through wholly owned subsidiary PT Eternal Riau Indonesia, are the largest producer of Indonesia's crude oil. Eternal is searching for new oil and natural gas reserves from central Sumatra to offshore East Kalimantan to West Papua and continue to innovate with new technologies that are used to sustain and enhance production from existing reservoirs. Another subsidiary, Etergeo Indonesia, Ltd., helps make Eternal one of the world's leading producers of geothermal energy. Eternal sells lubricants in Indonesia through subsidiary PT Eternal Oil Products Indonesia.

Central Team is part of Capital Project Management, a department that work on projects with capital value above USD 5,000,000. Eternal are working with various stakeholders such as Government, Ministry of Environment and internal stakeholders such as Facility Operation and Operation Engineering.

There are 5 steps in project execution that called Eternal Project Management Process (EPMP) process.

EPMP is the core process for project management within the Capital Project Management System. EPMP is a phase-gated process designed to improve decision making and execution of projects by fostering better planning, collaboration, and communication. EPMP provides a common

framework for managing projects by describing a systematic methodology for moving a project opportunity from initial definition to a completed asset. The five EPMP phases and their objectives are as follows:

Phase 1: Identify and Assess Opportunities

Clearly frame the opportunity to be pursued and ensure alignment with business objectives. Perform a preliminary economic assessment of uncertainties, potential value, and associated risks. Develop the plan for Phase 2, including the Appraisal Plan, and decide whether to move into Phase 2.

Phase 2: Generate and Select Alternative(s)

Generate and assess a wide range of creative, doable alternatives for the project based on the endorsed project Frame. Select the alternative that provides the highest value for the business, develop the plan for Phase 3, and decide whether to move into Phase 3.

Phase 3: Develop Preferred Alternative

Adequately define the project, develop estimates that align with the scope and execution strategy, and quantify risks and uncertainties. Determine if the project meets the business objectives. Develop the plan for Phase 4 and make the Final Investment Decision (FID).

Phase 4: Execute

Execute the project in accordance with the PEP, Appropriation Request (GO-36) and other FID commitments. Start up and transition the completed asset to the business unit.

Phase 5: Operate and Evaluate

Monitor performance of the asset. Benchmark the asset performance against business objectives (the Part 5 Lookback). Share results and lessons learned. Identify new opportunities.

Decision gates separate these distinct phases and, in some cases, additional decision gates may be required mid-way through a phase. Project teams must successfully complete an agreed-upon set of deliverables in each phase prior to obtaining approval to proceed to the next phase. EPMP helps establish the decisions that should be made at each decision gate prior to undertaking the next phase. The process provides guidance on the business and project activities that are normally necessary to support each of the key project decisions. However, it is up to the Decision Executive (DE),

following communication with the project team and Decision Review Board (DRB), to decide what must be done for each project.

Central Team led by a team manager, with 19 headcounts that directly reporting to her. There are three project managers covering 15 capital projects between them. The rest are 13 facility engineers and 2 project control. Each project has one facility engineer assigned, with a project manager supervising him.

There are many benefits (Hanisch, Lindner, Mueller, & Wald, 2009) from Knowledge Management implementation that can increase Project management effectiveness, especially in meeting project's budget and schedule.

Table 1 Benefits of KM Implementation in Project

Benefits of KM
<ul style="list-style-type: none">• Deliverables on schedule• Cost savings• Improved quality• Avoids reinventing the wheel.• Enables the tapping of existing knowledge in the current project environment to be applied toward future projects.• Provides a strategic advantage to the organization.• Helps to avoid waste, duplication, and other mistakes.• Learns from the problems or issues encountered and solutions devised in past projects and applies them to current projects.• Helps share best practices.• Promote successful innovation and enables teams to make better and faster decisions.• Increase rate of return in projects.• Promotes collaboration, collective wisdom, and experience.

Problem in projects (Srikantaiah, Koenig, & Hawamdeh, 2010) is that the team members aren't sure what they know and what they don't know. This unawareness becomes a bottleneck in utilizing resources and knowledge efficiently and cost effectively in projects. If knowledge is captured and managed properly, then the project:

- Provides faster access to knowledge and/or information to project members, leading to new ideas and creativity.
- Helps in improving productivity and providing better customer relations and satisfaction

- Improves the decision making process in terms of quality and time if knowledge is shared efficiently.
- Helps in creating collaborative environment.
- Reflects intellectual capital through the collective wisdom and experience of human capital assets. This helps in improving performance in and the quality of the project.
- Helps to avoid waste and duplication by encouraging knowledge reuse, thus reducing cost and time.
- Identifies risk by addressing the various risks existing in a project and its related tasks.
- Mitigates risk. It improves the flow of knowledge in all directions, integrating processes.

Challenge of Knowledge Management

Central Team several problems need to be addressed. One major issue is that most of the projects last for multiple years, while member of the group usually last for less than 4 years on average. Team manager has a period of 4 years in that particular position before being rotated to different team / different business unit. Each project manager usually lasts for 4 to 5 years on that position, while engineers are usually less than 4 years. Horizon engineer, usually fresh graduate, assigned to this team for a mere 2 years maximum.

The turnover rate in 2013 is 24%. This ratio is high for a team with less than 20 members. Issue raised by this rate is knowledge transfer. It is crucial to have a robust knowledge transfer between employees. Misinformation or document misplacement during handover is still common in various projects. There are some cases where nobody knows a progress or status of a long sleeping project(s). There is an indication that there are gaps in current knowledge transfer practice, especially during handover and phase-gating, and some of crucial documents are not readily available.

Project management is an information-intensive activity, and information or knowledge generated during the project is either archived or destroyed, or at best it becomes difficult to retrieve in form of tacit information (Srikantaiah, Koenig, & Hawamdeh, 2010). In addition to that some of the archived knowledge is also hard to retrieve due to inconsistency of document storage procedure. One of the main issues in CAP team is that knowledge and information are generally not organized and not easily accessible.

Framework Concept

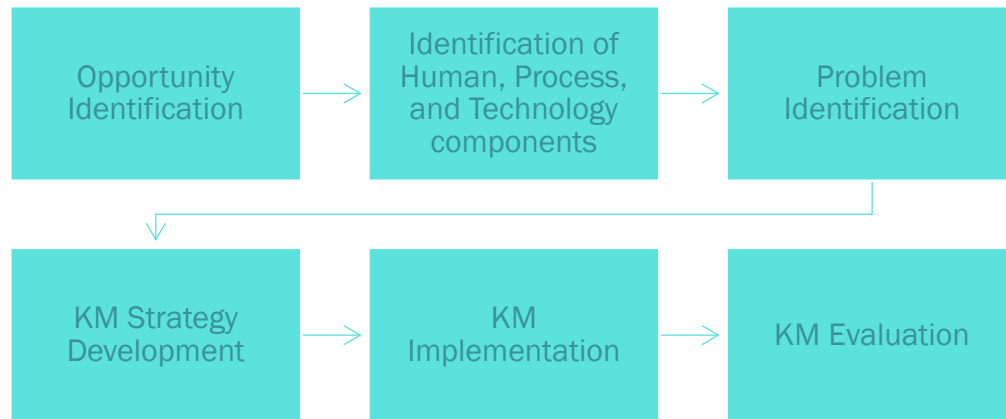


Figure 1 Research Framework

Research Approach and Methodology

Questionnaire was used in tandem with interview to clarify particular parts of the survey. First a survey was developed to test the research questions. Then, the reviewed literature was used during the drafting in a deductive manner to help compile the questionnaire and to compare the findings of the survey with the theoretical assumptions.

In quantitative data collection, questionnaire was divided into 4 sections:

1. Section 1 covers Objectives and Scope of KM
2. Section 2 covers People, Knowledge Dynamics, and Culture
3. Section 3 covers Process, Content, and Technology
4. Section 4 covers implementation and Future Directions

Findings

People

Interview result shown that most interviewees recognize that each member should be responsible for implementing knowledge management, but acknowledge that there should be a better improvement in managing project knowledge. Knowledge management is needed in Central Team with main objective to avoid waste, duplication, and costly mistakes. Usually a member share knowledge in order to help others as primary concern. There's a gap to close, as currently there's no reward or recognition for people who are contributing in knowledge sharing. This should become another source of motivation for member to share knowledge.

Most interviewee acknowledges that knowledge sharing is not part of their job description. This situation becomes a main obstacle in implementing knowledge sharing. While weak knowledge sharing culture seen as the main challenge in implementation.

Process

Of all knowledge sharing media, formal and informal meeting and documentation were widely seen as the most effective way of knowledge sharing. Most information sharing was done through occasional formal meeting and not integrated on daily work basis. Knowledge from other project mostly acquired through ask personally, hence a member must know exactly what to seek and who to call if they need knowledge.

Appreciation and rewards for knowledge sharing is scarce, and most members stated that a proper appreciation would motivate them further to implement knowledge sharing.

Technology

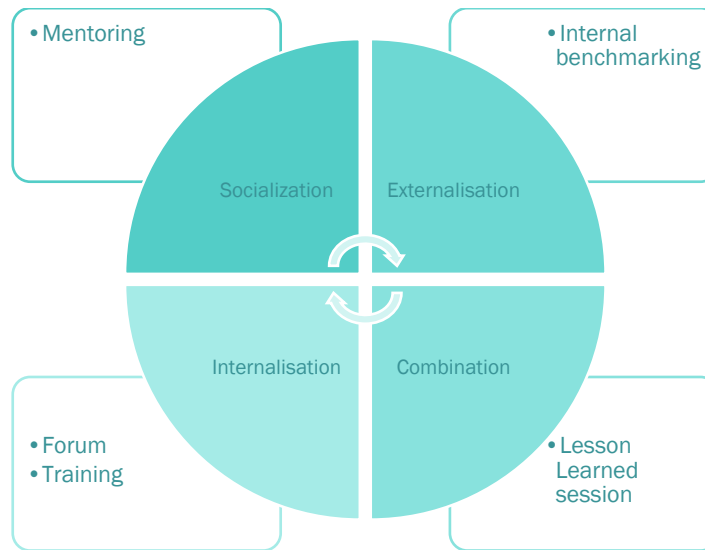
Interview result shown that a standardized online document management would help driving knowledge sharing habit on organizational. Currently members spend at least 1 – 2 hours looking for relevant document, especially if it's from another project. Success measure of this aspect is to reduce the average time needed by members to find relevant information/knowledge.

Some members don't know where to store and to retrieve knowledge sharing documentation. On the other hand some still use SharePoint while others shared folder.

Results

There are some different preferences stated by interviewees regarding the method of knowledge transfer. While majority prefers personification (knowledge transfer by personal interaction / tacit knowledge), also codification (knowledge transfer by documents / explicit knowledge) as well as combination of both. A higher number of employees need a higher number of codification of knowledge. The key to unlocking the full value of tacit knowledge is to transfer tacit knowledge into explicit knowledge (Wooliscroft, Relich, Caganova, Cambal, Sujanova, & Makraiova, 2012). It is imperative to determine for Central Team which consist of 19 people, which method would be the most optimal method in knowledge management. In order to achieve this, there is a need to promote and encourage knowledge creation activities within Central team.

Table 2 Knowledge Creation Cycle



Eternal currently has several tools in knowledge sharing, albeit employees are not obliged to participate. Mentoring is a session where a mentor meets a mentee, and both will make a 1 year agreement, covering subjects to be discussed and implemented over the year.

To get the most out of mentoring session, there should be a standardized methods and measurement for each pair. Internal benchmarking is one of a powerful tool that Eternal has. With global extensive network of employees, internal benchmarking should be regarded as the core strength of Eternal. However this is not a common practice in Indonesia Business Unit. Internal benchmarking process should be improved and applied as a part of project’s preliminary step.

Explicit knowledge sharing covered by several events such as one lesson learned session that being conducted quarterly, annual forum, and individual training. These events are scarce throughout the year, and it is a bit more difficult to find relevant knowledge in such big event. It is desirable to utilize Central Team bi-weekly meeting as an additional way of internalization knowledge sharing method.

Data collection suggested that there’s a need for a systematic approach towards knowledge management implementation in Central team. In regards to integration of knowledge management in existing project management methods, lesson learned meeting was seen as the most effective way of knowledge sharing. However lesson learned has not been incorporated systematically yet in Central Team bi-weekly discussion. This is shown by questionnaire results; whereas the biggest challenge faced by member in applying knowledge sharing is that there is no mechanism of knowledge sharing yet in Central team.

Significant gaps also found in the availability of the accomplished lesson learned and debriefing documents. In some projects, the corresponding documents are distributed only within project teams; other projects store these documentation electronically and accessible for the whole team member. Another recommendation is to utilize Wiki-technology currently available at Central Team Website to enable all members of the company to paste and modify articles on virtually any project-related subject.

Critical Factors of Successful KM Implementation

People

During the interviews, it became obvious that cultural factors are of fundamental importance for the success of Knowledge Management implementation.

Team manager and project managers should be communicating the use of project knowledge management in the team. Knowledge management implementation naturally will not become the first priority compared with daily business for resources. Here, a prioritization in favor of project knowledge management can be reached by supporting the the implementation and documentation of knowledge management on the individual and on the team level.

Another way to secure the knowledge gained during projects is the establishment of reward systems. The value for the individual is not immediately realized with the results of knowledge management implementation (time saving, avoiding of mistakes, etc.) but with additional rewards. One way is by incorporating knowledge management implementation with employees target agreements. Here, the exchange of knowledge becomes a success factor for the member.

Thus, communication across all levels of hierarchy is of importance. Another approach is the systematic support of sharing knowledge on an informal basis. This ranges from regular project rehearsals, performing of trainings and workshops on current topics, to company-wide events with the introduction of best practices.

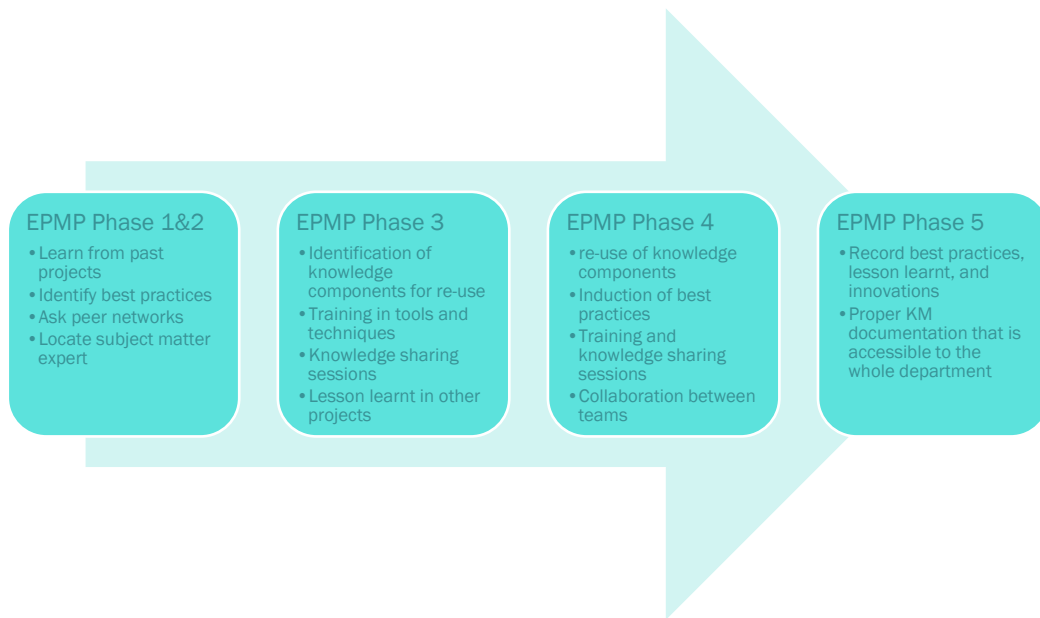
Process

The use of a standardized project knowledge management method offers easy to implement environment for the members so that each member can concentrate more on the content. Easy-to-use standards and processes should be chosen on purpose, since the aim is an easy usage with as little as possible additional effort. EPMP has a lot of tools and procedures, while corporate direction is not to use it all, it is easy to be overwhelmed on the process and miss the knowledge sharing opportunity.

In this research, there is some critical knowledge that identified in each phase of the project. In Project Initiation, it is vital to learn from past

projects, identify best practices, ask peer networks, and locate subject matter expert. Project Planning phase requires identification of knowledge components for re-use, training in tools and techniques, knowledge sharing sessions, and lesson learnt in other projects. Project Execution phase requires re-use of knowledge components, induction of best practices, training and knowledge sharing sessions, and collaboration between teams. In Project Close-out, it is recommended for team member to prepare and submit reports consist of best practices, lesson learnt, and innovations, and submit it to KM system that is accessible to the whole department.

Table 2 Identification of Crucial Knowledge



In the ideal case, a process of quality assurance exists for the stored knowledge. This implies that a different person to the one who is feeding knowledge into the system analyzes the documents and evaluates them if applicable.

Technology

Information and communication technology merely serve as supporting factors to successful knowledge management implementation. However, the main focus has to be on the members and their willingness to use the tools. It is crucial to gain feedback on current SharePoint issue, tagging metadata for an example. Additional effort must be kept minimum in order to gain high level of use. Wiki model in the SharePoint need to achieve a critical mass of participants and information in order to be enforced and used in the team. Additional effort for filling these systems with knowledge should simultaneously be as small as possible in order to gain a high level of use and enforcement. In general, a self-explaining filing structure and tools should be feasible. This facilitates reusing deposited knowledge by providing efficient possibilities of search.

Internal Central Team knowledge sharing must be protected from unwanted outflow information. This could be prevented by limiting people who has access to the SharePoint.

Recommendation

This paper shows findings of an explorative study of knowledge management implementation in Central Team. The observations are based on questionnaire on team members and interviews. The findings of this study support the assumption that Knowledge management implementation in Central Team could further benefit project management activities. Further significance arises from the observation that the implementation of knowledge management in Central Team still appears to be insufficiently used.

Organizational culture seems to be a critical factor for successful knowledge management implementation. In this context, several interviewees stated the importance of having proper reward and recognition to push the concept of knowledge management implementation. Tools like SharePoint and Wiki pages are inefficient if the employees resist using them.

The results are based on a small sample of 15 questionnaire and several interviews and could be considered as a starting point for further research only.

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