Paper 56

Project management implementation and improvement for complex project at PT. Minyak Emas Proses Company

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ICMEM

The 7th International Conference on Management in Emerging Markets

Abstract - **Managing complex projects require professionalism. In the future PT. Minyak Emas Proses (MEP) as oil company will acquisition new block, invest in another energy company, even invest in the renewable sector, or transform into energy company that manage upstream to downstream, but in reality, MEP doesn't have project department, standard and procedures. The challenge is how to find suitable method for complex projects by starting from find factors that influence implementation of project management, then how to improve project management cycle and find solutions to the problems that occurs. This research is used qualitative and quantitative method to explore the gaps in internal, tracking unexpected events, compound interpretation. research involve nine respondents with the result is fifty-one findings, by using code interpretation then collecting ten findings with highest respondents' response as concern to be treated for solution. This research also proposed four recommendations as solutions to be implemented in the future, consist of implementation of five-dimensional project management, stakeholder integration and knowledge, engineering economics knowledge and project tools utilization.**

Keywords - **Project management, 5-Dimensional project management, complex projects, Qualitative research, Project tools.**

I. INTRODUCTION

Many types of industries have been built in the world, they were built to support each country policies and develop economical aspects, one of the types of industry is energy sector that contribute to supply highly dependent and demand on fossil fuels and could be converted into power electricity, mechanical, and others. Particularly energy industries, involve: Traditional energy industries, fossil fuel industries, electrical power industries, renewable industries, nuclear power industries.

Continue with fossil fuel, focus in oil and gas, The oil and gas industry are broken down into three main segments: upstream, midstream, and downstream. Oil and gas development divided into three categories of development, first category is primary development, second is secondary development and third is tertiary development.

Darko, Emily, et.al (2014), There are five phases to the life cycle of upstream oil and gas industry: Exploration, appraisal, development, produce and close.

Project in oil and gas industry basically as continuity of company portfolio goals, and commonly following with program and project goals, but for small company sometimes directly from portfolio to project target goals. typical of the projects that planned and will do by PT. MEP, consist of:

- Drilling campaign, commonly this project is called or part of primary development.
- Exploration area in Sumatra and east Indonesia, this becomes major concern to expand the production interest, and measure short-term and long-term development.
- Preparing some improvements on facility production, according to emission reduction from boilers, engines that utilized for production process aiming to reduce carbon tax according to emission level from this equipment.
- Early production facilities, these facilities must build after drilling already completed.
- Production facility, at this point, company should consider build complex processing facility, the challenges are crude oil content has low API means contain wax or paraffin.
- Acquisition another block also part of PT. MEP project target.
- Invest in other companies, not just energy but open with other business sector, example biofuel development plant, biomass, bio-methane development.
- Secondary development project.
- Tertiary development project.

Refer to current condition, MEP has so many problems that can be used as lessons learn example many projects couldn't close out according to incomplete project deliverables, project delay, cost run over budget, inter department could not work properly to support the project orientation, Project team also confused about

project charter, how to design timeline planning, manpower loading, equipment loading, critical path, determine cost estimation, determine the risk, and lesson learned from previous experiences, Basically, MEP had never implemented project management, nor implemented project organization during executed all projects. MEP also doesn't have portfolio management, that's why all employees feel confused to plan development path properly example like measure priority which project is more priority than other projects and if connected with PT. MEP planning, the challenges are how PT. MEP find proper method to do these projects while at this moment PT. MEP don't have portfolio, program and project management team and procedure, standard. and the second is how to take decision which projects are suitable for PT. MEP condition. From PT. MEP point of view, mapping project complexity is important to do. the research focus with how PT. MEP could solve internal problem as stated above, research questions are limited just for two questions, involve:

1. What are the factors that influence the projects incomplete at PT. MEP?

2. What improvement should do to determine project priority at PT. MEP?

Commonly the objective of the research must be closely to the problem statement, so a study to find the answer why the project couldn't complete, find factors that influence complex projects and find some improvement to determine project priority. Specific objective of this research is:

- To find why the project couldn't completed in MEP organization through qualitative, history or experiences how the organization should change its practices and adopted new solutions.

- To assess and find kind of the factors that influence the projects at MEP.

- To assess and find kind of improvement should do to determine project priority refer to the employee capability in analyze the problems and propose solutions based on their problems faced before.

The research is used qualitative and quantitative methods, primary data through interview as a source to analyze. Research through several department involve: subsurface, drilling, facility engineering, operation, operation engineering, finance, production engineering, they are involved in the projects in PT. MEP.

Limitation of research divided into:

- Formulation of research objective: according to there is a necessary about project management methodology, objective this research is to explore current condition about project process in PT. MEP.

- Implementation of data collection method: Data collection is using interview by personally and consist of groups that did and will do some project

- Sample size: this final project research is including small size only 9 respondents.

Hopefully output of this research is able to represent solution for the problems.

1.1 Literature review.

1.1.1 Project management and 5-DPM.

According to information above, PT. MEP will execute complex projects, knowing project lifecycle, the differences between portfolio, program and project must be understand well as explain on the table 1.1. Figure 1.1 describe project management process refer to PMI standard.

Table 1.1. Overview comparison project, program, and portfolio management.

(Source: PMI, 2017)

PROJECT	PROGRAMS	PORTFOLIOS
Projects have a narrow scope with specific deliverables.	Programs have a wide scope that may have to change to meet the benefit expectations of the organization.	Portfolios have a business scope that changes with the strategic goals of the organization.
The project manager tries to keep change to a minimum.	Program managers have to expect change and even embrace it.	Portfolio managers continually monitor changes in the broad environment.
Success is measured by budget, on time, and products delivered to specification.	Success is measured in terms of Return On Investment (ROI), new capabilities, and benefit delivery.	Success is measured in terms of aggregate performance of portfolio components.
Leadership style focuses on task delivery and directive in order to meet the success criteria.	Leadership style focuses on managing relationships, and conflict resolution. Program manager's need to facilitate and manage the political aspects of the stakeholder management.	Leadership style focuses on adding value to portfolio decision-making.
Project managers manage technicians, specialists, etc.	Program managers manage project managers.	Portfolio managers may manage or coordinate portfolio management staff.
Project managers are team players who motivate using their knowledge and skills.	Program managers are leaders providing vision and leadership.	Portfolio managers are leaders providing insight and synthesis.
Project managers conduct detailed planning to manage the delivery of products of the project.	Program managers create high-level plans providing guidance to projects where detailed plans are created.	Portfolio managers create and maintain necessary process and communication relative to the aggregate portfolio.
Project managers monitor and controls tasks and the work of producing the projects products.	Program managers monitor projects and ongoing work through governance structures.	Portfolio managers monitor aggregate performance and value indicators.

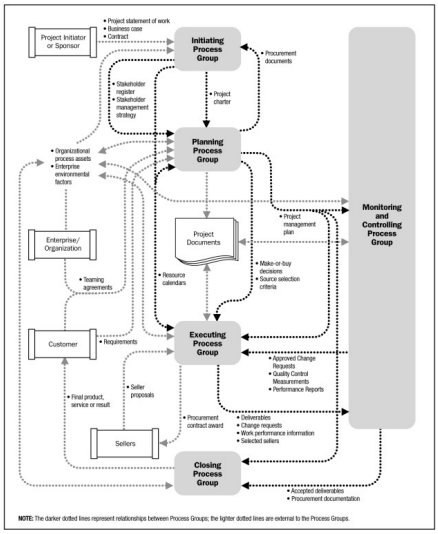


Fig 1.1. Project management process interaction.

(Source: PMI, 2017)

When conduct complex projects without proper way from portfolio, the projects will meet vary problems, portfolio management is needed as a way to bridge the gap between strategy and implementation, later on due to time limited and small organization condition, PT.MEP have to implement the project management, one thing as consideration is using five-dimensional project management, commonly used in mega projects highway road development.

The benefits of the 5DPM approach:

- Implementable to all projects size and types of complex projects, don't necessary as large as mega project genre in application.
- Linear to dynamic in project contextual, by improvement, innovation, and relational partnering, and emphasize critical success factors.
- Could managing fully integrating teams across the whole complex-project life cycle.

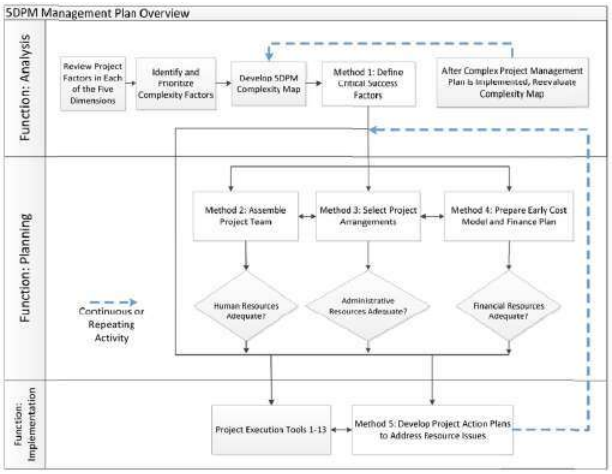


Fig 1.2. 5DPM process flow and overview of complex-project management.

(Source: David, J, 2013)

Dimension	Score (from VII.2)
Technical	70
Cost	90
Financing	50
Context	60
Schedule	80

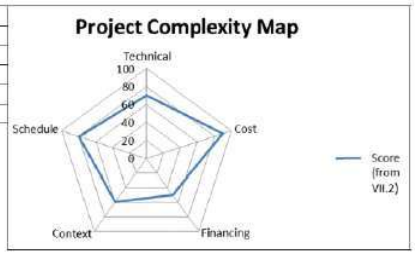


Fig 1.2. 5DPM process flow and overview of complex-project management.

(Source: David, J, 2013)

Figures 1.2 and 1.3 explain about how 5-DPM process and the output result of project complexity measurement.

1.1.2 Qualitative method.

There are six qualitative designs are described in this literature review, involve: ethnographic, phenomenological, grounded theory, historical, case study, and action research.

- Begin with ethnographic, Ethnographic studies involve the collection and analysis of data about cultural groups, ethnography can be defined as the process that arranged systematically to observe, to detail, to describe, to document, and to analyze the lifeways or patterns of a culture particularly to grasp the lifeways or patterns of the people in environment.
- Phenomenological studies basically examine human behavior and experience through the illustrations that provided by the people involved. The goal of phenomenological method is to define the meaning that behavior and experiences hold for each subject. This type of research is used to study areas in which there is little knowledge (Donalek, 2004).
- Grounded theory, Grounded theory studies are learned about the data which collected and analyzed and then a theory is developed that is grounded in the data. Some of the terms used by Glaser and Strauss are really difficult for nurses to understand. Leininger (1985) wrote that in 1980 she began to translate their terms into what she called "standard English.".
- Historical studies, concern about how to identification, to locate, to evaluate, and to synthesis of data from the past. Historical research may be more difficult than others to conduct, the data for historical research are usually found in documents or in several relics and several artifacts.
- Case studies are further examinations of people, groups, or institutions.
- Action research is a type of qualitative research that seeks action to improve practice and study the effects of the action that was taken (Streubert & Carpenter, 2002). There is no attention to goal of trying to generalize the findings of the study, as is the case in quantitative studies.

1.1.3 Root cause analysis

Root cause analysis (RCA) is the process of locating and excavating the root causes of problems to identify suitable solutions, Root cause analysis can be performed with an implementation of principles, techniques, and methodologies that can all be influenced to identify the root causes of an event or trend, The first goal of root

cause analysis is to evaluate and the root cause of a problem or event.

1.1.4 Analytical hierarchy process.

Choirat (2010), The analytic hierarchy process (AHP) is a decision-making procedure originally developed by Saaty (1977, 1980, 1986). The analytic hierarchy process (AHP) is a decision-making procedure originally developed by Saaty (1977, 1980, 1986). Centralize to the AHP is the measurement process, specific measurement on a ratio scale, Separable representations are important because they make it clear that individual ratio valuation could be subject to various cognitive interference.

II. METHODOLOGY

Based on information from point 1, this research is used qualitative and quantitative research, by in-person interviews conducted to know respondent comment or feedback regarding to oil company condition presently, it is conducted in various department involves drilling, operation, facility engineering, production engineering, sub surface and finance, with several position. Figure 2.1 explain step of research flow from problem discovery to conclusion and recommendation.

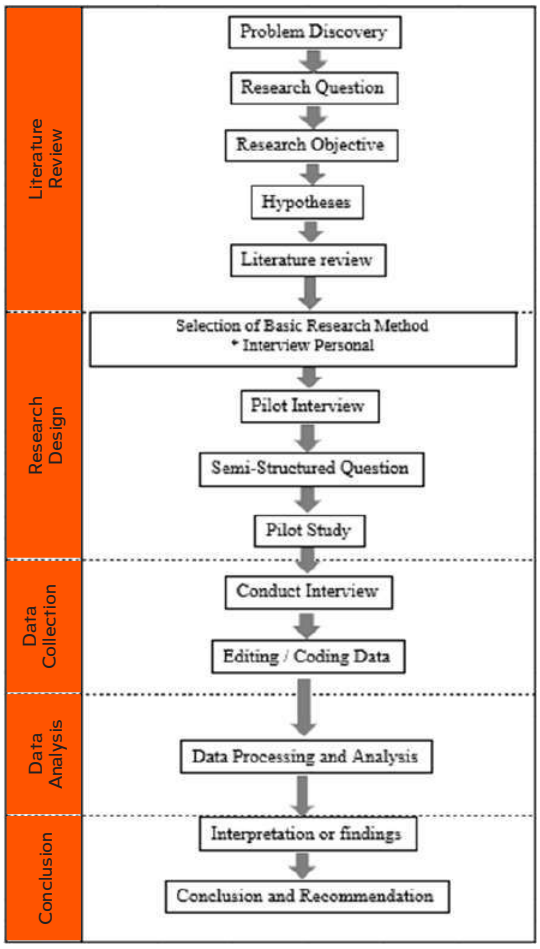


Fig 2.1 Research flow

2.1 Qualitative method

For someone who does more qualitative work, there can be another huge layer of work involved interviewing subjects will be a part of the study.

The difficulties during gathering data by conduct interviews are the respondents are don't understand or deep understanding about the management, in this case project, the more interesting things that may become boundaries are diplomatic aspect during answer the question, there is a lot of things must close, the respondents do not want to open their mistakes in the last time, need communication skill and art to know the respondents' character. Donalek (2004) wrote that conducting qualitative research is "a challenging, exciting, and at times, exhaustive process" (p. 517).

qualitative theory usually also considering several types of studies, involve:

- phenomenological studies.
- case studies.
- Historical studies.
- participatory action research.

This research is combining types as explain above, using case studies, historical and participatory action, but all comprehensive data related to quantitative is not insert and part of this method. After collecting interviews result, continue with data processing, determining words in interpretation data, respondent also asked to get fair meaning as mentioned as their thought not based on researcher conclusion or decision, so the result will giving accurate and precise "word" opinion, called coding interpretation, after determining and analyze interview result into six themes, twenty-three categories and fifty-one subcategories.

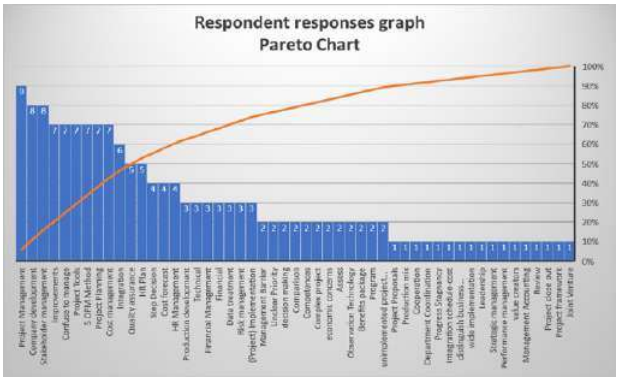


Fig 2.2 Respondent responses pareto

Figure 2.2 represent respondent responses from the highest to the lower quantities of response. Pareto chart is used to classified sub-category arrangement and able to analyze what factors are important from respondents' point of view. Figure 2.3 support the pareto chart result showing level interest from respondents.

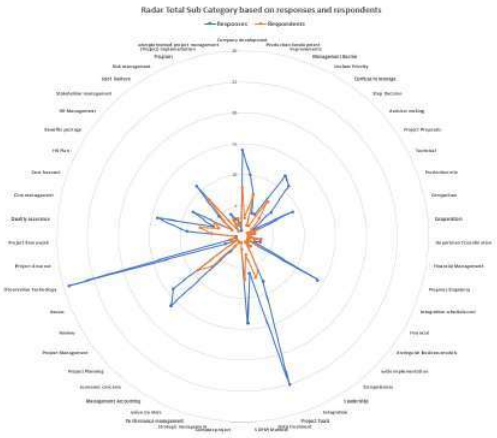


Fig 2.3 Radar Graph of Sub-Categories

Theme	Category	Sub Category	Qty	Rpd
5 DPM	Project Management	Lack of Project Management	14	9
		Lack of Stakeholder management	11	8
	5 DPM Method	Unclear Project Planning	16	7
		Unimplemented 5 DPM Method	14	7
	Project Management	Lack of Cost management	14	7
Development	Company development	Lack of Company development information	14	8
Integration Tools	Integration	Lack of Project Tools	25	7
		Lack of Integration	9	7
Management Responsibilities	Management Barrier	Confuse to manage	12	7
Improvements	Improvements	Unaware with Improvements	7	7

Table 2.1 Qualitative keywords grouping

Ten (10) higher factors from qualitative are grouped in table 2.1.

2.2 Root cause analysis.

the analysis is used Ishikawa diagram to represent problem and root cause that happen in MEP. Define the problem, data collection and identify possible causal factors also get from interviews and mind mapping then continue with identify the root cause. Seven (7) factors from ten (10) factors found in qualitative result are root caused in the problems that happen in MEP

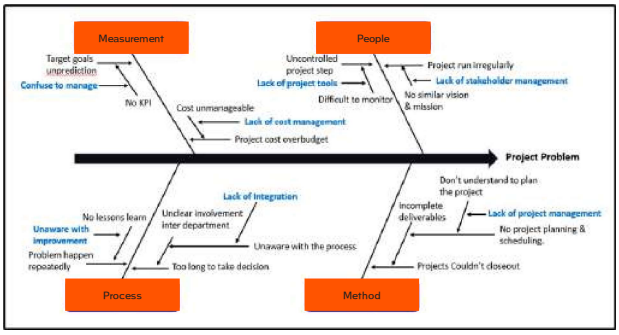


Fig 2.4 Root cause analysis

1.2 Analytical hierarchy process

Analytical hierarchy process is used during this research to ensure choose correct methodology that suitable for the organization and useful in the future without wasting time during align the adoption process and easily in line with company project target goals.

Principally to choose factors that suitable based on working environment by interviewing the respondents, to get data and factors that influence the project at MEP based on respondents' experiences. Refer to table 2.2, survey result from nine (9) respondents shown that project execution is poorly maintained at MEP and need further improvement, this condition also showing awareness from respondent related to unmanageable the project, basically respondents want to increase project performance.

Table 2.2 Respondent survey response quantities

No	Description	Answer	Respondent									Total
			DK	OI	AD	GD	SS	AP	SYT	AG	SP	
1	Project implementation quality	Excellent										
		Good										
		Poor	1	1	1	1	1	1	1	1	1	9
2	Project performance	No need Improvement										
		Need Improvement	1	1	1	1	1	1	1	1	1	9
3	Three factors that influenced project based on experience	Bureaucracy	1	1	1	1	1	1	1	1		8
		Complexity	1	1	1	1	1	1	1	1	1	9
		Process timing	1	1		1		1	1			5
		Cost attention			1					1	1	3
		Technical					1				1	2
		Report										0
		Attention to skills										0

there are three (3 factors) as major factors to determine what project methodologies are suitable from seven factors considered previously by respondent, seven factors involve: Bureaucracy, complexity, process timing, cost attention, technical, report and attention to skills while top three factors based on survey are bureaucracy, complexity and process timing, these factors decided to refer to number of respondents that given responses.

Then three factors become points foundation to measure the methodologies, survey conducted two times, the first survey has purpose to find factors and the second survey has purpose to measure correlation between factors and these methods. Nine respondents also involved in the second survey, principally respondents can ask or phone their friend that have expertise in project methodology or they can give their opinion. There are three methodologies

that proposed to execute the project, involve: conventional portfolio-program-project management, project portfolio management (PPfM) and five-dimensional project management (5-DPM). Table 2.3 below is shown about three methodologies compare with factors; blue highlight means number of responses from respondents.

Table 2.3 Respondent response according to project methodologies

No	Description	Answer	Respondent									Total
			DK	OI	AD	GD	SS	AP	SYT	AG	SP	
	Bureaucracy											0
1	Conventional >< 5-DPM	Faster than										0
		Slightly faster										0
		Slower than	1	1	1	1	1	1	1	1	1	9
2	Conventional >< PPfM	Faster than										0
		Slightly faster										0
		Slower than	1	1	1	1	1	1	1	1	1	9
3	PPfm >< 5-DPM	Faster than							1			1
		Slightly faster		1		1						2
		Slower than	1		1		1	1		1	1	6
	Complexity											0
1	Conventional >< 5-DPM	More complex										0
		Slightly complex										0
		Less complex	1	1	1	1	1	1	1	1	1	9
2	Conventional >< PPfM	More complex										0
		Slightly complex										0
		Less complex	1	1	1	1	1	1	1	1	1	9
3	PPfm >< 5-DPM	More complex										0
		Slightly complex										0
		Less complex	1	1	1	1	1	1	1	1	1	9
	Process timing											0
1	Conventional >< 5-DPM	Faster than										0
		Slightly faster										0
		Slower than	1	1	1	1	1	1	1	1	1	9
2	Conventional >< PPfM	Faster than										0
		Slightly faster										0
		Slower than	1	1	1	1	1	1	1	1	1	9
3	PPfm >< 5-DPM	Faster than										0
		Slightly faster	1		1	1		1		1	1	6
		Slower than		1			1		1			3

After carefully analyze the data, ranging of sub-category could utilized as the important point as solution fundamental to explore and find the solutions.

Refer to table 3.1 below, there are ten highest sub-categories from respondent responses.

Table 3.1 Ten highest Respondent responses.

Sub-Category	QTY	Respondents
Project Management	**14**	**9**
Stakeholder management	**11**	**8**
Company development	**14**	**8**
5 DPM Method	**14**	**7**
Project Planning	**16**	**7**
Cost management	**14**	**7**
Improvements	**7**	**7**
Confuse to manage	**12**	**7**
Project Tools	**25**	**7**
Integration	**8**	**6**

The respondents are aware that based on their experience, the projects were not run smoothly and were not well prepared not just technical but also financing and external policy, that's why project management is placed as the first rating, Commonly the project teams mostly focus on project phases along the project life cycle, they pay less attention from the beginning of pre-project phases and tend to ignore the post project phases. Unequal perception, knowledge also different way and time during distribute some information to the stakeholder will impact to the project these condition that felt by respondent, According to findings and solutions proposed as shown on table 3.2, no.1 and no.4 are related to project management and need further analysis, while project management cannot represent portfolio, how to adjust project management refer to company organization size, shareholder characters and business orientation become homework. These things should consider various factors and will be explore on the next point using analytical hierarchy process.

Table 3.2 Solutions for qualitative analysis result

No	Sub-Category	Solution	Treatment
1	Lack of Project Management	Project management implementation is necessary	Many project methodology could applied, need more assessment to inline with company necessary and adjusted with company organization
2	Lack of Stakeholder management	Implementation of stakeholder management	Stakeholder management take a broader view of the role of the board (and management), consistent way of identifying, analyzing, and responding to these critical interdependencies. It represents an active, integrated approach to achieving corporate purpose
3	Unclear Project Planning	Project management implementation is necessary	Shall Clearly defined project requirements, map out a chain of communication, establish clear deadlines and roles, taking time to establish project objectives, goals and team members' roles
4	Unimplemented 5 DPM Method	Project management introduction	In the early stage, project management introduction is mandatory, then step by step continue analyse the condition and the nature of working environment
5	Lack of Cost management	Cost management familiarization	Introduction and exercise to familiarize project team with cost management are important to build proper culture
6	Lack of Company development information	Management awareness and proactive within working environment	Transparency and open mind from management are necessary then continue build leadership capability
7	Lack of Project Tools	Project tools introduction and familiarization	Need training to introduce the tools, exercise and routine workshop
8	Lack of Integration	Team work building and inter department engengement are	Management shall build employee awareness related to integration
9	Confuse to manage	Improve personal management ability	Self awareness from management and build self leadership capability
10	Unaware with Improvements	Commitment and awareness from top management to mid level management	this is foundation to rise activity performance, begin with awareness and start to documentation of lessons learn.

Table 3.3 Project problem, RCA, Risk and Solutions table

No.	Issue		Root Cause		Risk		Solutions	
	Description	Level criticality	Description	Likelihood	Description	Likelihood	Description	Likelihood
1	Project couldn't close out	High	Lack of project management	High	Project couldn't close out will be repeated again	High	Project management implementation	Medium
2	Project run irregularly	High	Lack of stakeholder management	Medium	Business process will be disturb / interference	Medium	Stakeholder analisys and treatment	Medium
3	Uncontrolled project step	High	Lack of project tools	High	Project still unmanageable	High	Project tools utilization	Medium
4	Project cost overbudget	High	Lack of cost management	High	Project will be postpone	High	Cost management implementation and familiarization	Medium
5	Too long to take decision	High	Lack of integration	High	Project still delay and cost run ineffective	High	Integration inter department	Medium
6	Target goal unpredictable	Medium	Confuse to manage	Medium	Activity decided without assessment	Medium	Leadership skills and project knowledge should rise	Medium
7	Problems repeatedly happened	High	Unaware with improvement	High	Cost, activity, timeline uncontrolled and will rise project cost	High	Implement improvement champion and continuous improvement	Medium

RCA can determine and describe the problems that happened at MEP during executed the projects. principally solutions proposed using RCA are typical with qualitative analysis, but there is a concern with project management, which there are many methodologies of project management, this method should analyze and perform to get proper result and suitable for MTPN organization as shown on table 3.3.

To support analysis using qualitative and RCA, below is analytical hierarchy process that state three factors have chosen by respondents, involve bureaucracy, complexity, and process time, as shown on table 3.4.

While considering complexity as the most important to choose the methodology, 5-Dimensional project management is suitable to implement with score 0,64, which is the highest score compared with others. Both 5-DPM and PPfM offered complex management, mean user can compile both portfolio and project together, analyze all component following process flow of each methodology as shown table 3.5.

While user considering process time to choose the methodology, 5-Dimensional project management is suitable to implement with score 0,67, in fact 5-DPM giving simple direction using five methods inside the framework with thirteen tools, and giving shorter time during implement each phase, but again those are dependent on the project team capability, unusual implementation still affects uncertainty workflow during execute as shown on table 3.6.

Then while user is considering bureaucracy as the most important factor, PPfM (Project portfolio Management) provide shorter bureaucracy with score 0,64, PPfM provide framework to make user easily choose the right project as shown on table 3.7.

Table 3.4 AHP calculation to compare three factors

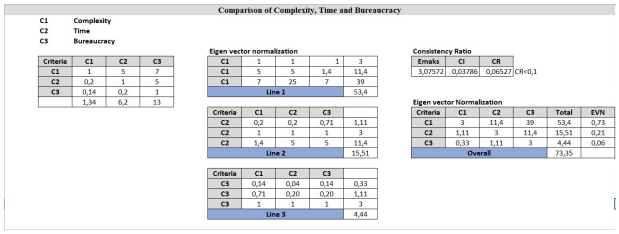


Table 3.5 AHP calculation by comparing 5-DPM, PPfM, Conventional with bureaucracy aspect

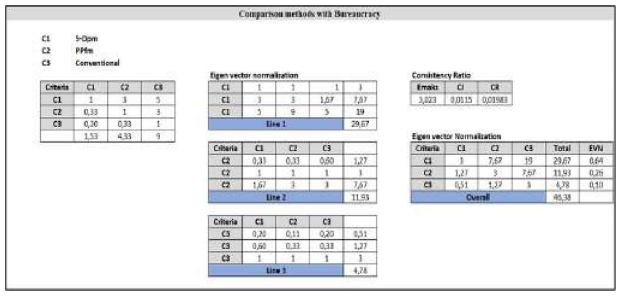


Table 3.6 AHP calculation by comparing 5-DPM, PPfM, Conventional with complexity aspect

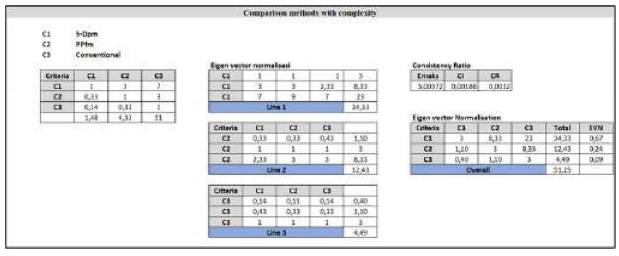
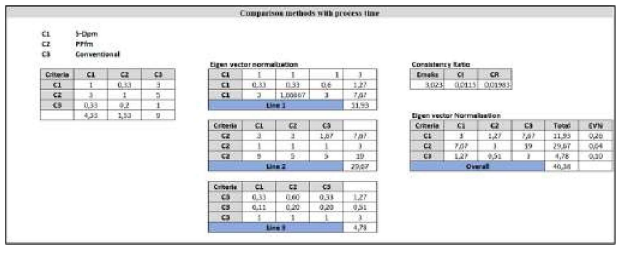


Table 3.7 AHP calculation by comparing 5-DPM, PPfM, Conventional with process time aspect



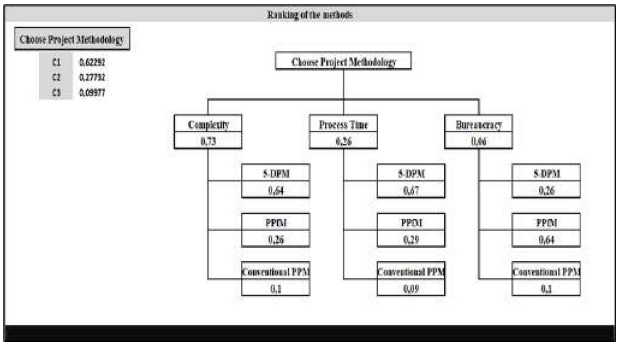


Figure 3.1 Project method comparison using AHP

Refer to calculation as shown on figure 3.1, 5-DPM is more suitable than other methods by considering complexity and process time

IV. DISCUSSION

Several analyses already done to find potential solutions to solve the problem that appear in department and gap inter-department, mostly all findings directing the solution to implement project management but according to small organization in small company, the organization must be agile, effective, and efficiently in determine the project path, target goals, financial aspects, etc. from ten highest respondents' response, discussion continue as explain below:

- project management issue is stated based on respondents' experiences and what action should take, they also think behind their statement that resources are often not under management direct control in order to conduct project deliverables required within the limited constraints, they also think still lack of project arrangements.

- company development comprise a set of strategies centered on people, other key resources, activities, economic model, and management systems. Small oil company usually tend to build primary development and ignore to analyze potential secondary and tertiary development, example by analyses hydrocarbons properties from the reservoir, develop R&D (Research and Development) for injection, tune the data with computer simulation then continue with improvement on the field, not just operation but well service and enhance oil recovery (EOR).

- Stakeholders have power in projects, but sometimes both engagement and management are arguably as the most important ingredients for successful project delivery, at small oil company, stakeholders engagement is very important, it can eliminate the gaps, by build culture to communicate to engage and influence stakeholders, it's crucial to seek and

understanding the people who will be working with and throughout the project lifecycle, always conduct consultation in the early stages to get same purpose, scope, risks and approach, find delivery solution by negotiation.

- In small oil company with small organization, proper tools are really necessary to maintain effective and efficient of project and meet optimum cost budget, when decided to plan several complex small projects, company could use cloud based for project software, database, and framework

- Skills and experiences necessary in project planning, not all employees understanding how to better plan, begin from level 1 task continue to detail task (Level 5-7), and not all employees have capabilities to do good discussion. HR should give training related to project planning and task planning, managerial skills, and some trainings to support the projects, evaluate and mitigate the gaps, it can come from bottom to up.

- 5-DPM proposed or spoke by respondents based on knowledge that they get during improvement meeting, and sharing knowledge, but respondents can analyze which one is suitable for small oil company, respondents also spoke about project management, basically 5-DPM is adopt all PMBOK knowledge but all component could improve based on company necessary and complexity of the project, so users can implement portfolio-program and project in direct way using 5-DPM.

- Projects end with how much money spend for the deliverables and cost are important and always highlighted by management and BOD, before project begin, looking for financing is difficult and must convincing many shareholders and stakeholder, that's why project conventional has three dimensional, i.e.: Scope, Time, and budget.

- Confusing to choose proper methods for doing projects usually happen in company, not just small but large company also and getting complex due to accumulation of the gap inter-department relations, it depends on many backgrounds, and almost coming from different education background, type of business, management style, communication style or coming from many aspects, example social condition, local culture, local government policy, that's why leadership and management capability needed during planning portfolio, program and project, according to the company condition that don't have much team to do specifically task involve portfolio and program, management and the team together evaluate and analyze which methodologies, tools are proper to implement for small oil company.

- In each company always appear problem, and people who work for the company should contributing to solve the problem, and parameter of management capability measure by how they can solve the problem. From several respondent said that improvements necessary, even though some of them are disappointed with so many reasons, one of them is declined their critical thinking, although sometimes information or ideas coming from low or mid-level couldn't be heard by the upper management, this is commonly happened in each company, it depends on the management characters, that's why improvements always have barriers. Improvements must do continuously, if could, it can conduct transparently.

- For small organization easier to align day-to-day activities than large organization, bureaucracy also simpler, to integrate inter-department also easier. To integrate, management should have strategy to provides the business an option to have control over various processes.

V. CONCLUSION

Refer to the research using qualitative framework, and analysis of the respondents' responses using radar graph and pareto chart, there are ten subcategories that have highest respondent as the gaps that contributing to the project in MEP company and become the most important parts to solve the problem, also as "flexible way" to combine step for portfolio, program and project management, the responses answer the foundation question:

- What are the factors that influence the projects incomplete at MEP?

- What improvement should do to determine project priority at MEP?

By answer question no.1, there are ten factors that influence project failure, analyzed using qualitative research, involve:

- Lack of project management

- Lack of company development information

- Lack of stakeholder management

- Lack of project tools

- Unclear project planning

- Unimplemented 5-Dimensional project management

- Lack of cost management
- Lack of integration
- Confuse to manage
- Unaware with improvements.

Factors that become root cause from the problems that happened, involve:

- Lack of project management
- Lack of project tools.
- Lack of stakeholder management
- Lack of cost management
- Lack of integration
- Confuse to manage
- Unaware with improvement.

Both qualitative and root cause state almost similar although qualitative more comprehensive define all factors, but both are able to answer the research questions comprehensively. Several factors are similar, example lack of project management, lack of project tools, lack of stakeholder management, cost management, integration, confuse to manage and unaware with improvement. Seven root causes are part of ten findings.

Based on project management framework that consist of:

- Scope management
- Time management
- Cost management
- Quality management
- Human resources management
- Communication management
- Risk management
- Procurement management
- Stakeholder management
- Project integration management.

Several findings could grouped become part of project management, involve:

- Lack of project management
- Lack of stakeholder management
- Lack of cost management
- Lack of integration

Then to implement project management within the organization should consider carefully, adjustment and in line with the goals are mandatory, that's why further analysis using quantitative like analytical hierarchy process is important. Data source to analyze came from interview the respondents, mean still using qualitative method. There are three factors in considering three methodologies consist of bureaucracy, complexity, and process time. Refer to AHP analysis, complexity is the most important thing to consider what method is suitable for conduct the project.

Three methodologies had proposed to adopt in execution process, those were analyzed using AHP method, from AHP result, each criteria have different methodology, for criteria bureaucracy, 5-DPM is suitable than other methods, criteria complexity also shown that 5-DPM relevant and suitable than others, for criteria process time, project portfolio management more relevant and suitable than others.

There are four recommendations from analysis result and from respondents' advice, From the conclusion and the respondents' advice in chapter 3, the author collected and find four solutions as recommendation:

- Implementation of five (5) dimensional project management.
- Stakeholder integration and knowledge to create complex projects.
- Engineering economics knowledge.
- Project tools utilization.

ACKNOWLEDGEMENT

First, I would like to express my sincere gratitude to The Almighty GOD for his marvelous and amazing bless and warm love, so the writer has finally completed this thesis. This thesis is aimed to fulfil one of requirements for the degree of Master of Business Administration Degree, Energy Management concentration program at the School of Business and Management, Institut Teknologi Bandung. The author realizes that this research is still far from immaculate according to boundary limit of the author, feedback and constructive advice is appreciated

to explore more in the future research, Throughout the writing of this dissertation I have received a great deal of support and assistance.

The author also would like to express from the deepest love and gratitude to:

1. Dr. Ir. Aries F. Firman, M. Sc, MBA, my amazing counsellor, whose expertise was invaluable in formulating the research methodology and questions. Your insightful advice pushed me to sharpen my thinking and brought my research to a higher level.

2. Team drilling, sub surface, facility engineering, operation, production engineering PT.MEP, which is giving the author a moment to collect interview data, and attractive discussion.

3. Ir. Kardius Simanjuntak, amazing gift is dedicated for my father that always support the author, your departure leaves a deep sorrow at the end of study, may you always smile from heaven. Also, to Lertina, S.A.A., Pasaut Harry, S.T., Monita Sitepu, S.T., Lolita Lovianna, Levya Annabelia, Loucius Karl, Rita Sagala, who always support and inspiring the author.

4. All classmates of ENEMBA 6 who always do interactive discussion and support to complete all the tasks during our study at MBA ITB.

5. All parties who have given contribution for this research.

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