

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/319643268>

# Designing Project Stakeholder Management Plan at Coffee Plant Construction Project for Successful Initiating Phase in Ciwidey

Article · July 2017

DOI: 10.25124/ijjes.v1i01.28

CITATION

1

READS

634

3 authors, including:



Devi Pratami

Telkom University

29 PUBLICATIONS 8 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Develop e-learning content for Project Management Class [View project](#)

# Designing Project Stakeholder Management Plan at Coffee Plant Construction Project for Successful Initiating Phase in Ciwidey

Devi Pratami<sup>1</sup>, Nurfitri Ayu Puspitasari<sup>2</sup>, Imam Haryono<sup>3</sup>

<sup>1</sup>Devi Pratami, Departement of Industrial Engineering, Telkom University

<sup>2</sup>Nurfitri Ayu Puspitasari, Departement of Industrial Engineering, Telkom University

<sup>3</sup>Imam Haryono, Departement of Industrial Engineering, Telkom University

[devipratami@telkomuniversity.ac.id](mailto:devipratami@telkomuniversity.ac.id)\*, [ayupuspitasariw@gmail.com](mailto:ayupuspitasariw@gmail.com), [imamharyono@telkomuniversity.ac.id](mailto:imamharyono@telkomuniversity.ac.id)

\*Corresponding author: [devipratami@telkomuniversity.ac.id](mailto:devipratami@telkomuniversity.ac.id)

**Abstract**— CV Trianom Agrotektur is a company engaged in coffee industry. Due to high demand and expanded business process the company owner is going to build a new plant in Ciwidey. The current plant cannot cover the whole business process in processing coffee beans. The extensification towards the plant requires some guidance to lead the successful construction project. However, building plants in rural area is not a simple thing. There should be some investigation towards stakeholders' needs/interests or requirements. The project should also face an issue pertaining to management, i.e. how to manage stakeholders who still keep their local tradition. This study is aimed at designing project stakeholder management plan based on PMBOK 5 edition. The study shows that there are 21 stakeholders classified in 4 quadrants. Those stakeholders will be managed based on their power and interest level.

**Keywords**— Stakeholder, Communication, Project, Coffee Plant

## I. INTRODUCTION

All of human resources involved in the project should be linked under the communication channel because it is essential to support the coordination in the project [1,4]. Communication is one of the critical success factors in an attempt to make the project successful. Communication is the foundation of the project management since 90% of the time spent in the project requires communication [2].

The effective communication does not only support coordination within the team, it must also deal with various situations and conflicts among the project stakeholders [4]. Stakeholder, however, can be defined as entity that can influence or be affected by the result or outcome of the project. Thus, identifying the characteristics and the treatment of each them can resolve the conflict within the project. As a consequence, stakeholder can also be one of the critical success factors for project [1].

CV Trianom Agrotektur is a company specialized in processing coffee beans. Due to the high demand

towards coffee beans, the owner plans to build another plant to meet the demand. The construction of the plant is also triggered by the new business process of the company. The current plant is no longer able to handle the 4 business processes of the company.

The construction of the plant needs some guidance. PMBOK by PMI [2] is the main reference for making this stakeholder management plan. The documented guidance is recommended when doing the project [8]. Since the project has not been started yet it will be better to investigate what kind of stakeholders should be met and what their needs are. Mulcahy [3] states that within the project initiation, there should be some identification towards stakeholders before the project agreement or further project management plan is formulated. Therefore, this study is aimed at designing the stakeholder management plan.

## II. RELATED WORKS

Project stakeholder management comprises process of identifying people, group or organization that may give some positive and negative impacts to the project. Stakeholders cannot be managed but their engagement can be controlled by identifying their actual interest and needs. Stakeholder management is focused on the type of communication needed to be applied by the project team [1,2,3]. This communication is urgently needed for resolving issues among stakeholders, controlling their needs/interest, selecting decision which correlates with their impact/business. In this construction project, the stakeholders can be classified into 3 main groups including those related to economy, environment and social. It is aimed at enhancing collaboration among the stakeholders and decreasing the failure probability.

On the other hand, Project Communication Management is focused on the information needed to be created, shared, distributed, collected, and retrieved for the stakeholders. This process somewhat more requires formal communication than stakeholder

management process. Effective communication bridges different cultural and organizational background, levels of expertise, perspectives and interests as well as their impact or influence towards the project.

Successful communication generally depends on the sender's ability to deliver information. Senders should be competent in speaking, writing and listening. However, the most important thing in communication model is the role of giving feedback while communicating. If there is no feedback within the communication, there will be miscommunication [2]. To prevent this condition, both sender and receiver must constantly monitor and verify the flow of information, communication channel, process and method. The recipient of the message should confirm that the recipient understands the message being sent. It is because without replying the message or giving feedback the communication will not be effective [2]

There are several methods in creating stakeholder management plan. The study of Kumar [5] shows that the identification of stakeholders of construction project can use power and interest matrix. However, his study is still lack of elaborating which information that suit to stakeholder's position based on the matrix. To the present time, the most comprehensive discussion on stakeholder management plant still goes to the study by Pandi-Perumal [6], they apply the stakeholder management plan from PMI for clinical project. Since this project is about constructing a plant to be executed, Discussion below will be mainly focused on the stakeholder management plan

### III. METHODOLOGY

The communication management plan discusses the selection of the method used in communicating the project status and also the desired information that meets the stakeholder expectation. Otherwise, the stakeholder management plan discusses about identifying the expectation and need of stakeholder in the project and how these expectations will be shared and disseminate among project team. The procedures-used in this research are:

1. Identifying stakeholders, classifying their group from the beginning to be internal and external stakeholder. Internal stakeholder refers to the stakeholder that can be controlled by the organization but and it is vice versa for the external one organization
2. Classifying the stakeholders using

power/interest matrix

3. Conducting stakeholder engagement assessment
4. Identifying communication plan

Stakeholder Analysis is a method currently used in this research. This method is a technique for collecting and analyzing quantitative and qualitative information systematically to determine whose interests should be taken into account in the project [2]. This also identifies the stakeholders' interest or expectations and their influences on the project objectives. It also helps the identification of stakeholder relationships possible to be enhanced to potential partnerships which may lead to the improvement towards opportunities for the project to be succeed. Besides, it may also be used to define the stakeholder relationships that require different treatment in each phase of the project

Stakeholder registers and their strategy are created to anticipate the conflict or issues in the project. On the other hand, communication management plan is to a certain extent designed so that the technology, channel and communication methods are appropriate enough to run the overall flow of information projects which also meet the stakeholder's needs.

### IV. RESULT AND DISCUSSION

The study takes place at CV Trianom Agrotektur which is located at on Cimaung Sub-District, Indonesia. In fact, the company has already had a plant in the same location but the whole business process cannot be accomodated optimally due to the limited space and layout. Besides the expansion of business process, the company also faces some high demand towards coffee that urges the company to build a new plant. The construction of a new plant needs some guidance, especially in the planning phase of construction project.

Building a new plant has been decided. It, however, covers four business processes that cannot be performed optimally in the existing plant. The business processes include Roasting, Packaging, Cupping Test and Storage products. The processes illustrate the number of workstations and layout in the factory

Based on the organizational structure it can be identified that there is a project manager involved in the four divisions of the project. The divisions consist of administrative and financial division, field division, human resource division and procurement division. This organizational structure will be input to the stakeholder list and stakeholder management.

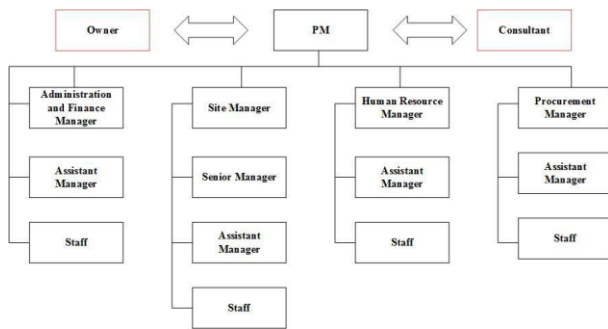


Fig. 1 Organizational Structure for Plant Construction Project

The Stakeholder Register is a list of people who are involved in the project. Thus, the stakeholders are not only limited to the project team but it can also refer to anyone that may influence to the project. Pertaining to the identification of stakeholders, expert judgment is used as a tool for creating the list. The experts are project owner and consultant. Based on expert assessment, company data and statement of work, the stakeholder register can then be identified. After identifying the list of stakeholders, it is known that the number of stakeholders is 21. It consists of 10 internal stakeholders and 11 external stakeholders.

TABLE 1  
LIST OF STAKEHOLDERS AND THEIR SCORE BASED ON POWER AND INTEREST

no	Stakeholder	Power	Interest	Stakeholder classification
1	CEO	10	10	external
2	CFO	8	7	internal
3	Division of Bussines Operation	4	7	internal
4	QA and Facility manager	4	6	internal
5	QA and Facilities	3	5	internal
6	Elders of village	8	4	external
7	DPMPTSP	9	3	external
8	Urban village head	9	3	external
9	Neighborhood leader	9	3	external
10	Hamlet chief	9	2	external
11	Sub-district head	9	2	external
12	Coffee farmer association	4	4	external
13	Consultant	4	8	external
14	Vendor	4	9	external
15	Field surpervisor	3	8	internal
16	Administration and Financial Manager	3	6	internal
17	Site Assistant Manager	3	6	internal
18	HR manager	4	7	internal
19	Procurement Manager	8	8	internal
20	Procurement Assistant Manager	3	7	internal
21	Local people	2	2	external

## Power Interests Grid

After the list of stakeholders has been made, the upcoming process is dividing the level of stakeholders based on their power and interest. Power interest Grid is suggested as a tool for dividing stakeholders' level. The data consisting of expert judgment is collected by using ~~used~~ questionnaire as one of alternative data collection methods. The assessment is based on experts' judgement. The score obtained from the questionnaire given to the experts uses Numerical rating scale, within the range between 1 and 10. The higher score the questionnaire shows the higher power and interest the stakeholder has and vice versa.

However, the experts who examine the power and interest level of the stakeholders running this project are strictly selected. There are 2 experts including project owner, project manager and project consultant who have many experiences in construction project. The experts should be the ones who are very unders tand and familiar about the project. The result of the scoring can be seen in Table 1.

Based on the quistionnaire on stakeholder power interest and engagement, the data are then collected and calculated, especially for power interest quistionnaire. The scores of power level and interest level are then categorized or grouped by 4 quadrants where the first quadrant is managing closely, the second quadrant is keep satisfied, the third quadrant is monitor and the last quadrant is keep informed. Those stakeholders are then classified using that power interest level plotting. Excel is used as the software/tool for calculating and displaying the result of power interest matrix as seen in Figure 4.

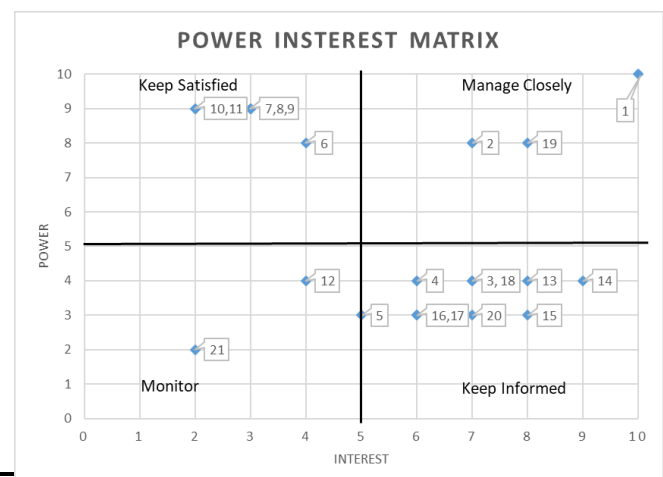


Fig. 2 Power Interest Grid

It can be seen from figure 2 that from 21 stakeholders involved in development of construction project, the stakeholders are divided into 4 quadrants. Hence, the treatment is determined in reference to the quadrant. The details of stakeholder treatment can be seen in Table 2. The description of the stakeholder quadrant will be elaborated further as follow:

1. *Manage Closely*

There are 3 stakeholders who are classified in this quadrant including CEO (the owner of the project), procurement manager, and CFO. They are the most powerful stakeholders who can terminate, delay and cancel the project. They have a big influence to the project. Therefore, their interest should necessarily be fulfilled. Procurement manager has a slightly equal position to the project manager since he is expert in the contract clause. The project manager shares the power with procurement manager. Consequently, he must be noticed in the initial kick off meeting

2. *Keep Satisfied*

There are 6 stakeholders who are classified in this quadrant including DPMPTSP, urban village head, Neighborhood leader, hamlet chief, district head, and elders of the village. DPMPTSP stands for Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (One Gate Investment and integrated Service Agency). This Indonesian government agency manages the permit for business in Indonesia. It is an integrated agency for all permits in Indonesia focused on running any business. In every province and district has their representative so the people can be met them easily or accessible. This stakeholder issues the permit beneficial for ongoing project and after project. If we skip this step, there may be some problems in the future and will cause legal problem. However, since there is generally a hierarchy in the bureaucracy within Indonesian government agencies, we have to stick to the rule and carefully prepare all of the requirements

Urban village head, Neighborhood leader, hamlet chief, sub- district head are the stakeholders who should be met as one of the requirements for the permit proposed to DPMPTSP. The permit here refers to the permit to build coffee plant in Ciwidey. The process in getting some approval from the stakeholders is

apparently simple but complicated. We have to make an appointment especially for Neighborhood leader and hamlet chief. Some of them are coffee farmers that commonly work in the early morning.

The main point, however, is having their acceptance since the plant will be in their community. Telling the brief description of the project such as the milestone, period and product and giving the impact of building the coffee plant after the project ends are essential to do. It will be a good idea if they are invited to the kick off meeting which discusses the high level of the project where they can also share their interest to the project.

Ciwidey still keeps the tradition that the community should give their respect to the elders—so called “sesepuh” or “tokoh” in Indonesian language. The elders are those who have many experiences and more knowledge about the location. The elders have some power in the community that makes his opinion and thought respected by the people. Inviting him to the kick off meeting and after-release project party would be a great idea.

However, people in Ciwidey are friendly, very welcome to any business that will give some benefit to the community because it can increase their welfare and the prosperity. There is in fact a good opportunity that the farmers will be more organized in the coffee processing, including the farming and selling process. Although their interest to the project is very little but they have strong voice that can disrupt the project. Therefore, investigating their needs and fulfilling them will be a good strategy.

3. *Keep Informed*

There are 6 stakeholders who are classified in this quadrant which are mainly occupied by the team of the project. The stakeholders are consultant, vendor, field supervisor, Administration and Financial Manager, Site Assistant Manager, HR manager, and Procurement Assistant Manager. This stakeholder produces the deliverable the project. Some of the people are from local place and the rest rests are under the management of contractors

#### 4. Monitor

There are 2 stakeholders classified in this quadrant including local and coffee farmer association. Because the project is located in Ciwidey, the project should have great acceptance from the local people. Although their voice can be represented by the hamlet chief and neighborhood leader, they must be informed that the construction project generates some inconvenience situation such as noise and loading process as well as big vehicles moving back and forth.

matrix as written in Table 1. The expected level should be around Leading or Supportive category for both current and desired level. Leading or supportive category will contribute to successful project. Thus, if the current stakeholders are unaware/resistant/neutral category; they must be dragged into leading position with such a treatment. The treatment itself depicts the communication channel, action and information being delivered to them. This treatment should be managed and controlled in order to lead to the expected level of engagement

### Engagement Assessment Matrix

Engagement Assessment Matrix is a tool used to identify the gap between current level of stakeholder engagement and desired or expected level of stakeholder engagement to the project [2]. Based on the 5th edition of PMBOK, there are 5 classifications of stakeholders in the engagement assessment matrix including unaware, resistant, neutral, support and leading. At this process, the project owner fills in the

TABLE 2  
STAKEHOLDER ENGAGEMENT ASSESSMENT

No	Stakeholder Engagement Assessment Matrix						Power/Interest Quadrant	Treatment	Project Impact
	Stakeholder	U	R	N	S	L			
1	CEO	-	-	-	C	D	Manage Closely	CEO in this case is the owner of the project. Report any progress in the project as the project S curve uses earn value management Hold intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging. Invite to validate scope at the end of project phase using formal meeting	Time, budget and resource
2	CFO	-	-	-	C	D	Manage closely	Report any progress in the project as the project S curve uses earn value management Hold intensive weekly or monthly meeting using face to face interaction. They should be noticed that the project needs them although they are not directly involved in the project Assign them to create budgeting plan, and monitoring report, collaborate them with another functional who makes performance report using EVM. Make sure they have had adequately data to control the budget and make the forecast toward the actual budget	Budget
3	Division of Bussines Operation	-	-	-	C	D	keep informed	Report any progress in the project as the project S curve uses earn value management Invite them to intensive weekly or monthly meeting using face to face interaction or informal meeting. They should be noticed that the project needs them although they are not directly involved in the project Give them an authority to make the feasibility of the study regarding environment, and community aspect	Scope of project
4	QA and Facilities manager	-	-	-	C	D	keep informed	Give them an authority to make quality metric, and keep them informed of internal and external audit in every phase of project. Report any progress in the project as the project S curve uses earn value management Invite them to intensive weekly or monthly meeting using face to face interaction, sms, whatsapp, or informal meeting. They should be noticed that the	Scope, quality, risk

No	Stakeholder Engagement Assessment Matrix						Power/Interest Quadrant	Treatment	Project Impact
	Stakeholder	U	R	N	S	L			
								project needs them although they are not directly involed in the project	
5	QA and Facilities	-	-	-	C	D	keep informed	Invite them to intensive weekly or monthly meeting using face to face interaction, sms, or informal meeting. They should be noticed that the project needs them although they are not directly involed <del>to</del> in the project	Scope, quality, risk
								Consider their interest, and keep their job satisfaction up by giving enough wage since the teams stay quite far from the downtown	
6	Elders of village	-	-	C	-	D	Keep satisfied	Invite them to the kick <del>of</del> off meeting at the very beginning of the project and at the end of project to celebrate the successful <del>fo</del> of the project. Since the coffee plant is located in the village where the people still keep the local tradition to elders so this acknowledgement is a must. This maybe cumbersome but if their interest is not fully fulfilled, their influence is very big to the succesful of the project. Find out their interest to the project and monitor their interest while the project is started	Scope, risk, communication
7	DPMPTSP	-	-	C	-	D	keep satisfied	Since the project is setting the factory including manufacture and operational routine so the owner must proceed all the requirements such as IMB (permit to create a building). All the requirements must be fulfilled as a form sheet and carefully prepared. Fortunately, this form is now registered <del>in</del> online and the owner must login first. Those requirements can be seen in their DPMPTSP homepage and the permit will be released around 10 days.	Scope, time, risk
8	Urban village head	-	-	C	-	D	keep satisfied	Invite them to the kick off meeting at the very beginning of the project and at the end of project to celebrate the success of the project. Identify their needs in the project.	Time, scope, risk, communication
								There are some requirements on releasing the permit issued by DPMPTSP that must be signed on behalf of these stakeholders.	
9	Neighborhoods leader	-	-	C	-	D	keep satisfied	Invite them to the kick <del>of</del> off meeting at the very beginning of the project and at the end of project to celebrate the success of the project. Identify their needs in the project.	Time, scope, risk, communication
								There are some requirements on releasing the permit issued by DPMPTSP that must be signed on behalf of these stakeholders.	
10	Hamlet chief	-	-	C	-	D	keep satisfied	Invite them to the kick <del>of</del> off meeting at the very beginning of the project and at the end of project to celebrate the success of the project. Identify their needs in the project.	Time, scope, risk, communication
								There are some requirements on releasing the permit issued by DPMPTSP that must be signed on behalf of these stakeholders.	
11	Sub-district head	-	-	C	-	D	Keep satisfied	Invite them to the kick <del>of</del> off meeting at the very beginning of the project and at the end of project to celebrate the success of the project. Identify their needs in the project.	Time, scope, risk, communication
								There are some requirements on releasing the permit <del>that</del> issued by DPMPTSP that must be signed on behalf of these stakeholders.	
12	Coffee farmer association	-	-	C	-	D	monitor	Invite them to the kick <del>of</del> off meeting at the very beginning of the project and at the end of project to celebrate the success of the project. Identify their needs in the project. This group is very important for the ongoing business after the project ends.	Risk, scope, communication
13	Consultant	-	-	C	D	-	keep informed	Makes sure the project has clear SOW. This consultant supports the construction project, drawing the architectural deisgn. and estimating the material.	Scope, time, cost, risk, quality, procurement

No	Stakeholder Engagement Assessment Matrix						Power/Interest Quadrant	Treatment	Project Impact
	Stakeholder	U	R	N	S	L			
								machine and money that will be incurred. Invite them to kick off meeting as an input to create more detail project management plan	
14	Vendor	-	-	C	D	-	Manage Closely	This stakeholder supplies the materials for project construction. Give the detail amount of materials used in this project. Give periodic evaluation such as monthly audit to monitor the materials been used up.	Time, cost, procurement
15	Filed supervisor	-	-	C	-	D	Manage Closely	Hold intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging. Give the day to day audit checklist to monitor project progress report and give the authority to report the progress to project manager everyday	Time, scope, cost
16	Administration and Financial Manager	-	-	C	D	-	keep informed	invite them to intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging.	Time, cost
17	Site Assistant Manager	-	-	C	D	-	keep informed	invite them to intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging.	Time, cost
18	HR manager	-	-	C	D	-	keep informed	invite them to intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging.  Give them authority to create job deskcription, staffing management plan, resource histogram and tell them to work cooperatively with procurement manager and consultant to estimate how much resource used in this project	Human resource
19	Procurement Manager	-	-	C	D	-	Manage closely	Give them authority to describe the materials that will be used in the project, select vendor proposal, hold bidder conference, and monitor the vendor every day Hold intensive weekly or monthly meeting using face to face interaction, whatsapp, short messaging. Invite them to the kick off meeting at the very beginning of the project to create the procurement statement that will be written in the contract In this project, procurement manager is very important to the project although they must report to the project manager, they actually have slightly same position <del>to</del> with PM. Make sure they are invited to every project meeting and acknowledgeable	Scope, time, cost, risk, quality, procurement
20	Procurement Assistant Manager	-	-	C	D	-	keep informed	Invite them to regular meeting, give the access to report vendor daily performance to the procurement manager	Scope, time, cost, risk, quality, procurement
21	Local People	-	-	C	D	-	monitor	Although they have small interest and small power, they must be informed that the project would take place in their site. Most project construction use communication board indicating the high level information of the project during project construction. That would be better if the representatives of the villagers are invited to the meeting or ceremonial meeting when the project is started	communication

\* C is the current level of engagement, D is the desired level of engagement

The Levels of stakeholder involvement can be classified as follows [2]:

1. Unaware (U): it means the stakeholders are unaware to the project and its potential impact to them
2. Resistant (R): it means the stakeholders are aware of the project and its potential impact

3. Neutral (N): it means they-know the project but they do not yet support or resistant to the project.
4. Supportive (S): it means they are aware about the project and its potential impact and supports any kind of change (s) if needed
5. Leading (L): it means they are aware about the project and its potential impact however but they are resistant; if there are some changes in the project and need some attention, this stakeholders refuse to change



this kind of stakeholder is very actively involved in making successful project.

#### V. ANALYSIS

The stakeholder management design consists of classification of stakeholders into the power interest grid and identification of gaps between current level and expected level towards project. The power interest grid method generates various treatment within stakeholders, as a consequence, an analysis of towards any treatment is needed to determine the specific treatment that will be given to each stakeholder [2,4,6]. The treatment is in accordance with the position of stakeholder's quadrant in power interest grid. The impact of stakeholder management will charge the amount of money in the cost baseline.

The study shows that stakeholders are scattered in 4 quadrants which are mostly located in the "keep satisfied" and "Keep Informed" quadrant. According to Table 3, the evaluation of whole stakeholders will give some impact to some knowledge areas. The stakeholders who remain in "Managed Closely" quadrant will impact on triple constraints of scope, resource and quality. If there is no attention towards their requirements for the project as well as miscommunication and they are not invited to important meetings, the project will be in trouble.

The stakeholders who remain in "Keep Satisfied" quadrant and mostly come from external stakeholder that influence the scope, time, communication and risk. As mentioned earlier, these stakeholders do not put high interest but they have a big power. If we do not build some communication with them pertaining to the project they might have a power to terminate it. On the otherhand there is no routine communication with them since these typical stakeholders are commonly met in the initiating project. We can go to the next phase if we skip these stakeholders' acknowledgment.

Stakeholders in "keep informed" quadrant should be consistently informed related to the current status of the project daily since they are from internal stakeholder. On the other hand, the stakeholders get more treatments such as routine meeting, periodic report related to the status of the current project conditions, informal activity such as having lunch together, vacation or any kind informal meeting in

favor of building strong bonding to the project. Why is this quadrant so special for the project? Because they run the project and ensure deliverability. Their commitment and motivation should be maintained and watched. To keep them motivated, the project manager can learn from organizational theories such as maslow theory, herberg theory and so on.

#### Communication

Stakeholder cannot be separated from proper information, communication channel, method and so on. Below is communication table created for this study that comprises information about the routine communication, the purpose of the routine, the media used along with the frequency routines, type of information in the meeting, the recipients and senders of information and the time when the routine will be performed. The method or technology used to deliver the information includes three types of communication channel including email, meeting, social-media and phone call.

TABLE 3  
COMMUNICATION MANAGEMENT PLAN

No	Communcation routine	Objective	Type of communication	Medium	Requirement	Audience	Routine owner	Time line	Deliverable
1	Daily progress report	Daily status report regarding triple constraints and Implementing the earn value management concept for measuring project performance	Informal verbal Formal written	whatsapp, email, sms	handphone, laptop	site team	site manager	After daily activity end	Daily report and performance report
2	Weekly Meetings	Discussing weekly achievement and progress report to the CEO and monitor the quality of deliverability and also the risk controlling	Informal verbal Formal written	Meeting	Meeting room	CEO, Site Team	site manager	Friday, after weekly akivity ends	Meeting memo
3	Monthly Meetings	Discussing monthly progress report, checking the deliverability, and holding valid scope	Formal verbal Formal written	Meeting	Meeting room	Project owner and project manager	Project manager	At the end of the month	monthly report and performance report
4	Monthly Progress Report	Discussing monthly progress report, estimating project completion by applying EVM formula, holding project assurance	Informal verbal Formal written	Meeting	Meeting room	Internal project	Site Manager	At the end of the month	Monthly progress report
5	Limited Meetings	Discussing change request regarding contract addendum or amendment, confronting issue about violation, managing stakeholder	Formal verbal Formal written	Meeting	Meeting room	Project Manager and one who preoccupied with the problem issue	Project Manager	Every needed	Confidential Report, document update

The main purpose of periodic communication is to convey information about the project that must be given to each party interested in the project. One of the information provided through the communication routine is the project status which is already known as S curve. S curve is graphical tool for communicating project completion between project manager and the team as well as other stakeholders. Since the project has not been started yet so the S curve only illustrates planned value or budgeted cost day by day [2,7]

S curve is created to describe the planned value of the project construction which consists of two axes [7]. The x-axis shows the project duration. In this case the project will take 6 months. The Y-axis indicates the total budget that will be incurred. In the first month, the total budget will spend Rp. 45,000,000.00. In the second month, the total budget is Rp. 141.000.000,00. In the third month, the estimated total budget is Rp. 265.000.000,00 then in the fourth month, the total budget is increased up to Rp. 370.000.000,00. Finally, the project will end by August 2018 so the total budget is Rp. 589.000.000,00.

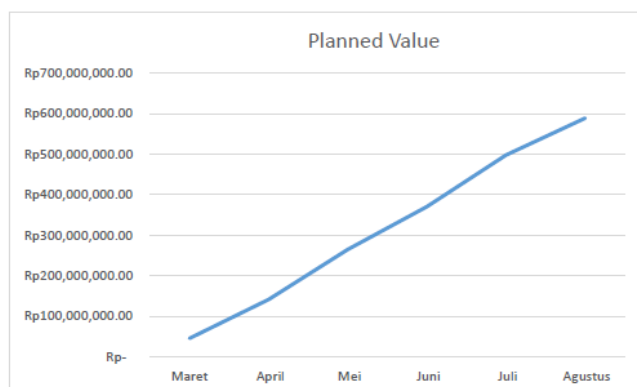


Fig. 3 S curve of Planned Value

The current planned value is the main reference to do the project. As the time goes by, there will be additional curve completing the previous curve (PV). The later following curves are Earn Value (EV) curve and Actual Cost (AC) curve. Those curves are required when the project is started. Earn value indicates project status completion towards planned value in economic terms. Nevertheless, the actual cost is the real incurred cost in the project [2,7]

if the gap exists between 2 curves leading to variance then it indicates some information that needs attention. The result will lead to 2 kinds of

information whether the project is delayed or not and whether the project is on budget or not. The unfortunate result must be the first consideration to the project team and owner.

## VI. CONCLUSION

At the beginning, it is very important to get more familiar with the types of stakeholders that will be involved or be influenced by the project. Stakeholder management plan has been created and is resulted in 21 stakeholders that must be managed. The power interest matrix helps decide which stakeholders that should be in priority pertaining to their needs. There are 2 kinds of stakeholders should be carefully examined including "managed closely" group. Furthermore, since the location of the project is in rural area, the owner and project manager must be familiar with the culture and aware of the stakeholders who still keep local tradition.

The information provided is different for one type of stakeholder to the other types such as for stakeholders in "Managed Closely", "Keep informed" quadrant, they should be informed with day-to day project performance. The information derived from "S curve" can be used to get the daily report of the value management of the project. This curve will also be used to control the risks of the project.

However, this study is primarily focused on the position of the stakeholders that then leads to the needs for a deeper analysis about the psychological affect of every stakeholder, in order to maintain their positive result to the project.

## ACKNOWLEDGMENT

Authors thank to Direktorat Penelitian dan Pengabdian Masyarakat (Directorate of Research and Community Service) of Telkom University for financial support for this-study

## REFERENCES

- [1] P. Ihuah, W. Kakulu, I. I., & D. Eaton. "A review of Critical Project Management Success Factors (CPMSF) for sustainable social housing in Nigeria", Vol 3, PP 62-71, 2014
- [2] Project Management Institute. "A Guide to the Project Management Body of Knowledge (PMBOK® Guide). 5thed" Newtown Square, PA: USA: Project Management Institute, 2013.
- [3] R. Mulcahy. "PMP Exam Prep", RMC Publisher, June 2013
- [4] B. Zulch. Communication: The foundation of project management., 16, pp 1000-1009. Bloemfontein, South Africa, 2014

- [5] S.S Kumar, “Modeling and Managing Stakeholder’s Power and Influence for Quality Improvement in Construction Projects - A Case Study at “Jaipur Metro” in SSRG International Journal of Civil Engineering (SSRG-IJCE), vol 2, 4, pp 18-22, April 2015
- [6] S.R. Pandi-Perumal, S. Akhter, F. Zizil, G. Jean-Louis, C. Ramasubramanian<sup>3</sup>, R. E Freeman, M. Narasimhan. “Project stakeholder management in the clinical research environment: how to do it right”, in *Frontiers Psychiatry*, vol 6, article 71, pp 1-18, May 2015.
- [7] J.M. Nicholas, H. Steyn, H., & J.M Nicholas. *Project management for engineering, business and technology* (4th ed). Abingdon, Oxon: Routledge, 2012
- [8] D. Pratami, L. Octaviana, I. Haryono. “Document audit design using 10 knowledge area PMBOK Edisi 5”, *Prosiding Seminar Sistem Poduksi XI dan Seminar Nasional VI Manajemen Rekayasa Kualitas*, in Indonesian language, pp.33–44, 2015