

# A Study on Stakeholder Management of an Engineering Project

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**Abstract** – Projects include people that may impact or be impacted by the project. If these people are not involved in the development of the project, then the project is unlikely to be successful. For the management of any Engineering project, stakeholder management is necessary for effective project relationships. Different stakeholders have different views and expectations, which calls for change and without a proper management system it can disrupt the flow of the project. The project manager needs to identify the various stakeholders and prepare a plan for their involvement in the project. This includes understanding their interest, power, and influence on the project. It is far easier to hand over deliverables to informed stakeholders when compared to someone who is unaware, which therefore leads to easier closure. The stakeholders can also help identify new risks and help understand existing ones. This study aims at formalizing the process of stakeholder management for optimum project delivery.

**Key words:** Stakeholder, management, project, engagement

## I. INTRODUCTION

The project stakeholder management process organizes the functions necessary to identify, classify, and manage the stakeholders in a methodical and logical way which helps in creating a plan that can be executed effectively.

What is a stakeholder?

A stakeholder is a person, group, or entity that may affect or be affected by the project. That means they have a vested interest in the project. Ultimately, this is anyone that may be impacted by the project.

There are mainly two types of stakeholders:

Internal stakeholders- They are people within the organization undertaking the project (such as manager, employees, board of directors, etc.).

External stakeholders- They are people or groups that don't work inside the business but are affected by the project. (such as customers, local government, suppliers, etc.).

One of the key problems with stakeholder management are the sheer number of people involved and the fact that their levels of power and interest differ markedly. Management of the stakeholder environment is a highly complex management task.

It is often during the early stages of a project that the stakeholder influence is felt and the need for effective communication is required for planning and smooth execution.

## II. OBJECTIVE OF STUDY

- To identify project stakeholders, their roles, and interests.
- To develop a plan to manage the stakeholders and keep them informed.

## III. STAKEHOLDER MANAGEMENT PLAN

There are four major components of the stakeholder management plan:

- Identifying stakeholders
- Planning stakeholder engagement
- Managing stakeholder engagement
- Monitoring stakeholder engagement

## IV. IDENTIFYING STAKEHOLDERS

The first step is to identify the stakeholders. This stakeholder identification process is carried out both at the program level as well as at the project level with the program manager developing an initial identification of individual project level stakeholders. Some emerging practices in this area that have proven to be effective are to include everyone on the team in the process, to review the stakeholders continuously and to consult with them regularly. Some help can be taken from management professionals, project managers who have undertaken such projects before, or archived files for lessons learned.

Following is an example of a list of stakeholders identified for an engineering project.

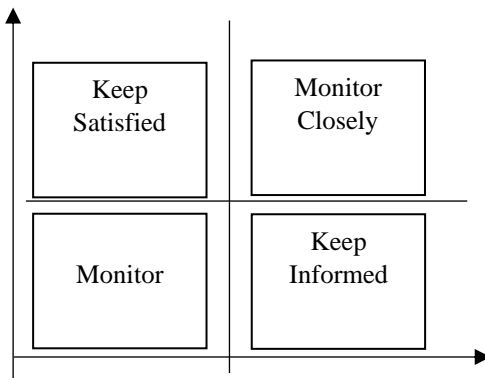
Table I. Identified Stakeholders

Project	Chief Operating Officer Project Manager Project Leads Functional Manager s Project staff Project Advisors
Clients	Client-side Project Manager Client Staff Client Legal Team Client Business Operations
Contractors	Key Suppliers Operations Management
Financial Equity	Investors Debt Providers
Government and Local External	Government Agencies Special Interest Groups Labour Organizations and Trade Unions
Customers	Customers or facility Users

## V. PLANNING STAKEHOLDER ENGAGEMENT

A Stakeholder Engagement Plan is a formal strategy to communicate with project stakeholders to achieve their support for the project. It specifies the frequency and type of communications, media, contact persons, and locations of communication events. It is created at the beginning of the project and updated frequently as stakeholder communication needs change. There are many models which can be helpful in identifying the type of communication required for different type of stakeholders. Each model has its benefits, and one has to decide what is most important to them as they do their analysis. One such model often used is the power and influence grid. Using this tool, the stakeholder's power is assessed against their interest in the project. It's fairly simple but effective. If a stakeholder has little interest in the project and little power, one should monitor that person throughout the project, give them the information they need, but they don't need to be engaged in a very large way. If the stakeholder has high interest and low power, that person should be kept informed. They may not have the power to influence the project much, but people's interest and impact can change over time. Hence it is wise to keep them informed as to what is going on. If a stakeholder has little interest but lots of power, say a senior-level manager, it's wise to keep that person satisfied providing the information that shows that the project is progressing. They may not need daily updates but must be kept updated to the level appropriate. And finally, a stakeholder that has high interest and high power is someone that is needed to be monitored very closely. This person has the power to impact the project and it is necessary that this person is kept informed, and up-to-date on the project.

Figure I. Power vs Interest Grid



In fig. I. the x-axis represents stakeholder's interest in the project and the y-axis represents power over the project. Another tool that helps organize the stakeholder is a stakeholder register. A stakeholder register helps record the stakeholders and their impact on the project through previously discussed prioritization. At a minimum, the stakeholder register should contain the person's name, role, type, and how they want to be communicated with, and how often. Given below is an example of stakeholder register entry for Shivang Bhardwaj, IT project lead working for an engineering firm.

Table II. Stakeholder Register Entry

Name of Stakeholder	Shivang Bhardwaj
Designation	Primary
Department	Information Technology
Role in project	IT Project Lead
Type of stakeholder	Internal
Type of communication	In-person
Interest	Leading
Influence on project outcome	High

## VII. MANAGEMENT OF STAKEHOLDER ENGAGEMENT

Management of Stakeholder Engagement is the process of communicating and working with stakeholders to meet their needs/expectations, address issues as they occur, and foster appropriate stakeholder engagement in project activities throughout the project life cycle. The key components of this section are the project management plan, project documents, enterprise environmental factors, and any organizational requirements. The project manager needs to rely on interpersonal skills to effectively engage in meaningful communication with stakeholders. This may involve long conversations, listening to their needs, and resolving any concerns they may have. It will take management skills to facilitate negotiations and cooperation with everyone involved. It will take strong communication skills and methods to keep stakeholders informed using the appropriate modes and techniques. Management plan becomes very important at this point and should clearly articulate the who, what, how, and when people are communicating to the stakeholders.

Table III. Stakeholder Inputs, Tools and Techniques and Outputs

Inputs	-Stakeholder management plan -Communications management plan -Change log -Organizational process assets
Tools and Techniques	-Communication methods -Interpersonal skills -Management skills
Outputs	-Issue log -Change requests -Project management plan updates -Project documents updates -Organizational process updates

## VIII. MONITORING STAKEHOLDER ENGAGEMENT

It is the responsibility of the project manager to monitor stakeholder relationships throughout the project with the use of best judgment and plan to assist him/her. Some additional things that can be used to help with this process are; issue logs, performance data, such as completion dates, changes in costs and any documentation compiled up to this point as earlier. While monitoring these engagements, with the use of all information available is possible. This information can be gathered from various areas, but the bottom line is, keeping stakeholders informed using the tools implemented by creating the plan. Talking to the people on the team can help

a lot. Gathered information should be dispersed to stakeholders as required. These engagements may result in updates to the project management plan or documentation, from any feedback received from stakeholders. The key is to control the level of information put out, since too much may become cumbersome, but not enough may be detrimental. Monitoring involves data analysis, data representation, communication skills, and decision making. This can be represented in a tabular form with the help of table III.

Table IV. Effective Monitoring Requirements

Data analysis	-Alternatives analysis -Root cause analysis -Stakeholder analysis
Decision making	-Multicriteria decision analysis -Voting
Data representation	Stakeholder engagement assessment matrix
Communication skills	-Feedback -Presentations
Impersonal and team skills	-Active listening -Cultural awareness -Leadership -Networking -Political awareness

## CONCLUSIONS

Stakeholder's management has developed into an essential task of the project management process over recent years. The key benefit of stakeholder analysis is that it helps bring understanding to a complex situation and therefore helps project managers and teams to manage and communicate with stakeholders in the most effective way, enabling them to concentrate the resources where the maximum benefit will be derived and informing communications planning for the project.

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