

IMPROVING VALUE WITH A RISK BASED APPROACH TO STAKEHOLDER MANAGEMENT

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ABSTRACT

Integrating stakeholders and risk management can improve value in development projects. Since stakeholders are source of uncertainty and their actions or behaviours can be modelled as risks/opportunities for the project, a quantitative estimate of their salience using the concept of risk can drive to improve project value.

The impact of the risks deriving from each stakeholder on project performance represents the risk load brought into the project by the source and it can be assumed as an indicator of the stakeholder salience. The project team shall allocate more resources to the stakeholders having major influence in order to avoid/run their risks/opportunities.

The analysis of the triggering dynamics, from stakeholder general interest to specific influence on project performance through a systematic approach, allows the project team to identify appropriate measures to break the chain by which the risks are triggered and satisfy stakeholders needs through appropriate actions.

Thus, a holistic approach integrating stakeholders and risk management consequently leads to an efficient allocation of resources and an effective satisfaction of stakeholder requirements.

The results on a major project case study proof that the proposed approach is justified balancing potential savings on capex contingency deriving from risks avoided and costs of implementing mitigation actions.

INTRODUCTION

This paper will describe how stakeholder management process and risk management process have been integrated by a large international Oil & Gas Company while performing the design and realization of a 550 km oil pipeline. This integration improves project value as a holistic approach of the two processes leads to an efficient allocation of resources and an effective satisfaction of stakeholder requirements.

The Company has developed its own internal system of best practices, processes and tools to manage projects, to keep them under control and to create the conditions to work in the most efficient way.

Both risk management and stakeholder management processes are part of this system and are usually carried out separately during a development project.

During the pipeline design phase, the Project Team realized that the project was complex from different points of view: strategic, contractual, legal, technical, economical, long realization times, and many and different risks to be taken into account.

In particular the stakeholder management was critical, as the number of stakeholders to be involved was very high (about 1500 identified) and it was difficult to establish priorities and level of salience for each one of them. It was clear since the beginning that the project stakeholder behaviour was an important source of uncertainty and risks (threats and opportunities). Thus, defining how much attention to dedicate to the various stakeholders was an important issue for the management.

Since the risk load each stakeholder brings into the project can be assumed as an indicator of its salience, the Project Team needed information about stakeholder risk impact on project in order to perform a correct stakeholder assessment.

This is the main reason why the Project Team decided to investigate the possibility of creating value having an integrated approach to the two processes.

STAKEHOLDER MANAGEMENT

The Company system foresees a Stakeholder Management process in five steps: identify and prioritise stakeholders; analyse stakeholder requirements; analyse stakeholder interests and objectives; define strategy and set up Stakeholder Management Plan to deal with them; implement and maintain Stakeholder Management Plan during the entire project lifecycle.

The pipeline project started its Stakeholder Management process with the identification of possible stakeholders from different sources (e.g. internet research, authority approval manual, interviews to internal experts, similar projects reports, Environmental and Social Assessment Plan, etc.). A high level of uncertainty was due to the fact that it was the first time the Company was working in that country and a database of stakeholders from previous projects was not available.

During the first step more than 1500 singular stakeholder have been identified. Given the large number, a Stakeholder Breakdown Structure has been built up (see Tab. 1). Level 0 divides stakeholders into external and internal ones. Level 1 divides stakeholders in 6 types of external and 5 types of internal ones and starting from there other 4 levels continue to detail them in several groups. While creating the Stakeholder Breakdown Structure, a certain number of stakeholders could be treated in a similar way, thus they were grouped together (e.g. NGOs related to the same issue or Authorities at same level) but every time a stakeholder was identified as particularly salient for the project a first prioritisation was performed and this was treated singularly out from its own group (e.g. General Staff or Ministry of Environment & Forest). This led to the creation of 89 manageable stakeholders as individuals or groups at Level 4 and a further level contains lists of stakeholders with the maximum level of detail (contact or reference of each stakeholder).

Levels	0	1	2	3	4	5
1	External	Partner	International energy companies	International partners	(single)	
2			Local private companies	Local partners	(single)	
3		Authority	National Authorities & governmental	Top level institutions	(list)	
4				Other Top level institutions	(list)	
5				General Directorates	General Directorate for Petroleum Affairs	(single)
6					General Directorate of Railways, Harbours, and Airport Construction	(single)
7					General Directorates of Electricity Distribution & Transmission Corporat	(single)
8					General Directorate of Cultural Heritage and Museums	(single)
9					General Directorate of Mineral Works	(single)
10					General Directorate of Disaster Affairs	(single)
11					Other General Directorates & Departments	(list)
12					General Staff	(single)
13				Ministries	Ministry of Environment & Forestry	(single)
14					Ministry of Energy & Natural Resources	(single)
15					Ministry of Agriculture and Rural Affairs	(single)
16					Ministry of Health	(single)
17					Other Ministries	(list)
18				Undersecretary	Undersecretariate of Maritime Affairs	(single)
19					Other undersecretaries	(list)
20			Local Authorities & governmental	Authorites	Telecommunication Authority	(single)
21					Energy Market Regulatory	(single)
22					Other authorities and agencies	(list)
23				Institutions	Regional Institutions	(list)
24					Provincial & District Institutions	(list)
25					Muhtars (heads of villages)	(list)
26			Customs authorities	(list)		
27	Agencies & Reviews		International agencies and review	(list)		
28			Trade organization	Governmental Organization	(list)	
29				Trade unions	(list)	
30	ONG		International Pressure group & NGOs	International organizations & NGO	for Environmental/Nature/Ecology	(list)
31					for Sea	(list)
32					for Health/Safety/Labour/Human Rights	(list)
33			Local pressure groups & NGOs	National & Local NGOs	for Environment/Nature/Ecology	(list)
34					for Sea	(list)
35					for Health/Safety/Labour/Human Right	(list)
36					for Politics/Cultural Heritage/Education	(list)
37				Other organizations & NGOs	for Business/Developement/Cooperation	(list)
38				National & Local Political Parties	(list)	
39				Governmental Political Parties	(list)	
40				Opposition Political Parties	(list)	
41				Associations in Province 1	(list)	
42				Local Associations in other	(list)	
43				Other Local Associations	(list)	
44				Implementing Partners (IPs)	(list)	(list)

Table 1- An extract from the Stakeholder Breakdown Structure

At second step the Project Team analysed for each of these stakeholder group their interests, objectives, requirements and expectations, disposition and potential behaviour, resources in their hands, possible actions, and possible consequences for the project. Following this sequence, the Project Team could identify appropriate measures to break the chain of triggering events satisfying stakeholder requirements effectively.

For each identified stakeholder, the analysis focused above all on the stakeholder's interests, highlighting potential conflicts with other stakeholders, as well as any opportunities offered for the project. Tab. 2 gives an example of the analysis carried out.

Stakeholders	Interests	Potential conflicts	Opportunities
Shareholders	Capital remuneration	Shareholders may conflict with management about the financial profile of the investment	New financial resources
Management	High reward Stock option Power, prestige, reputation	Management decisions may conflict with shareholder and with human resources, partners, contractors etc.	Competences, capabilities, reputation, contacts with banks and authorities
Banks	Loan return Interest rate	Banks may conflict with management about passive interest rate	Advantageous credit conditions, financial leverage, financial & economic sustainability
Project Manager	Reward Corporate objectives achievement	PM may conflict with Management about the financial objectives of project and with Project Team and all other stakeholders having interests in project	Expertise and professionalism, project team management, contractor choice
Project Team	Salary, career	PT may conflict with PM due to productivity rate or task suitability and with other stakeholder that has to manage	Professionalism, motivation, empowerment
Trade unions	Salary for worker, quality and health in working place	Trade union may conflict with management about the contractual conditions for workers	Cost of work

Table 2- Examples of Stakeholders requirements and interests analysis

For example, the main interest of a pressure group, such as an NGO in favour of the environment, is that its activity is recognised by the authorities. If some aspect of the project concerns the group's social mission, i.e. impact on the environment, or simply offers an opportunity to enhance its visibility, then the group will fix specific objectives regarding the project, e.g. to change the technology to be used or influence the management. The group might explicitly propose an alternative technology, demand that more stringent environmental controls are guaranteed, or request a meeting with managers in the presence of experts and authorities. As long as these requests remain unsatisfied, the group will threaten to mobilise all its resources, such as awareness campaigns, actions of opposition, demonstrations, blocks, and even alliances with the media, lawyers and researchers that increase its credibility. All these situations can generate events, and thus also risks, which potentially have an impact on the project through delays or unexpected changes in work content. The more credible these actions are in terms of project impact, the greater the attention that management should pay to the NGO.

When a complete view from the general interest to the specific impact on the project was clear for each stakeholder identified and analysed, the Project Team was able to assess the stakeholder with more awareness.

On the next step a stakeholder assessment workshop performed with Project Team and experts evaluated the 89 stakeholders (individual or groups) power/influence and their disposition towards the project on a qualitative basis. The results of this assessment have been presented in the matrix below (Fig. 1) and the main recommendations were that priority has to be given to external stakeholders - which are the ones not directly under the project team control - in order to allocate them the right resources in terms of attention, time and costs to deal with them properly, and that these stakeholders represented a sensible risk source for the project and a further assessment of them based on the impact of their risk was required.

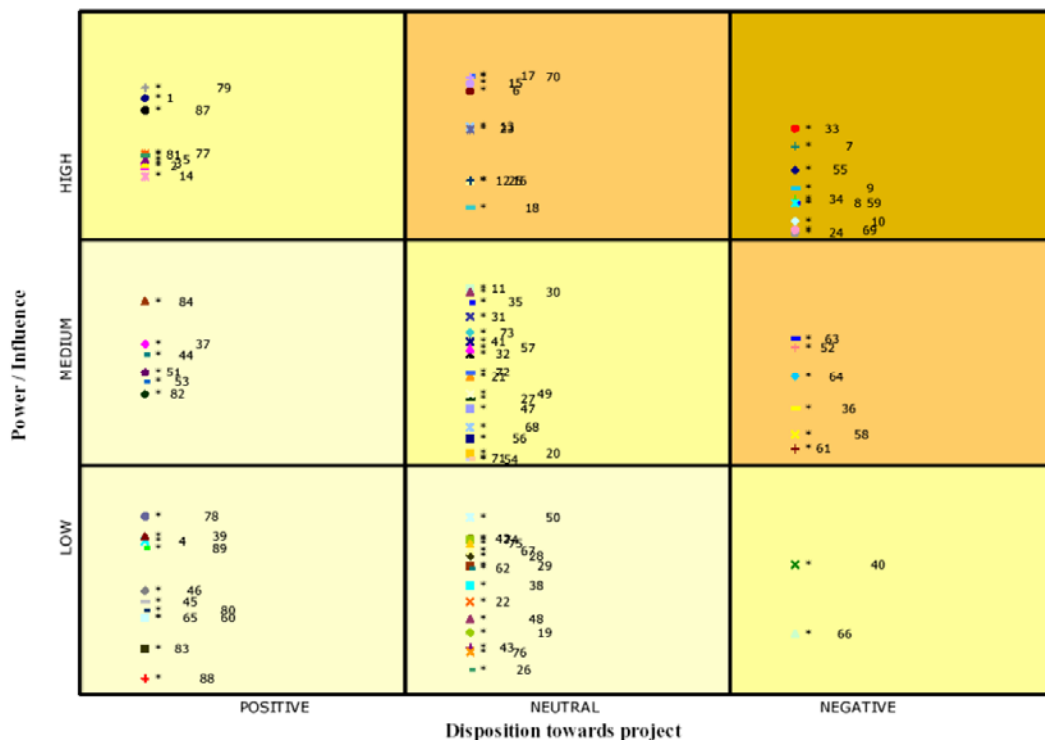


Figure 1 - Project stakeholder – Power/Disposition Matrix

RISK MANAGEMENT

After the stakeholder assessment workshop, 22 new risks arose and thus the risk register needed to be updated since 44 general and technical project risks have been already identified, evaluated and reported in an independent risk workshop.

During the identification of these risks it has been defined first the source of uncertainty and then the risk (see table 3) and the Stakeholder Breakdown Structure and the sequence from stakeholder general interest to the project consequence had an important role in that.

Source of uncertainty		Risk
Partners	New partner agreement	Delay in joint venture agreement definition
	Existing facility usage agreement	Capex/Opex savings due to agreement
Authorities and institutions	ESIA approval	Delay due to HSQE requirements
	Onshore/Offshore permitting	Delay due to critical permits
	Special procedures	Delay due to archaeological and mineral findings
	Tax policy	Increasing in tax, royalty e fee
	Government transport tariff	Increases in government tariffs
	Environmental regulation	Increasing in environmental restriction
	Change in sovereignty	Re-definition of agreements with institutions
Pressure groups, NGO , Medias	Strict traffic regulation	Increasing of number of hours allowed for transit
	Strikes and demonstrations	Delay/Costs due to strikes and demonstrations
	Contrast actions	Interferences/block in project progress
	Medias influence	Leak information and image damage
Residents and others	Collaboration in biodiversity monitoring activities	Project acceptance and image benefit
	Expropriation	Error in cost estimates for land acquisition
	Compensation	Extra costs for compensation
Competitors	Local community claims	Delay/Costs due to local community claims
	New project building next to area	Competitive pressure increasing
	Commercial tariff	Decrease in transport tariff
	Customers committing agreement	Decrease in committed production capacity

Table 3- Examples of Stakeholder Risks

During the risk assessment, the Project Team estimated an initial expected impact on the project performance in function of the impact severity and the probability of occurrence. The Probability/Impact matrix (Fig. 2) shows all the risks affecting the project and deriving from both internal and external uncertainty sources (the risks generated by stakeholders are circled).

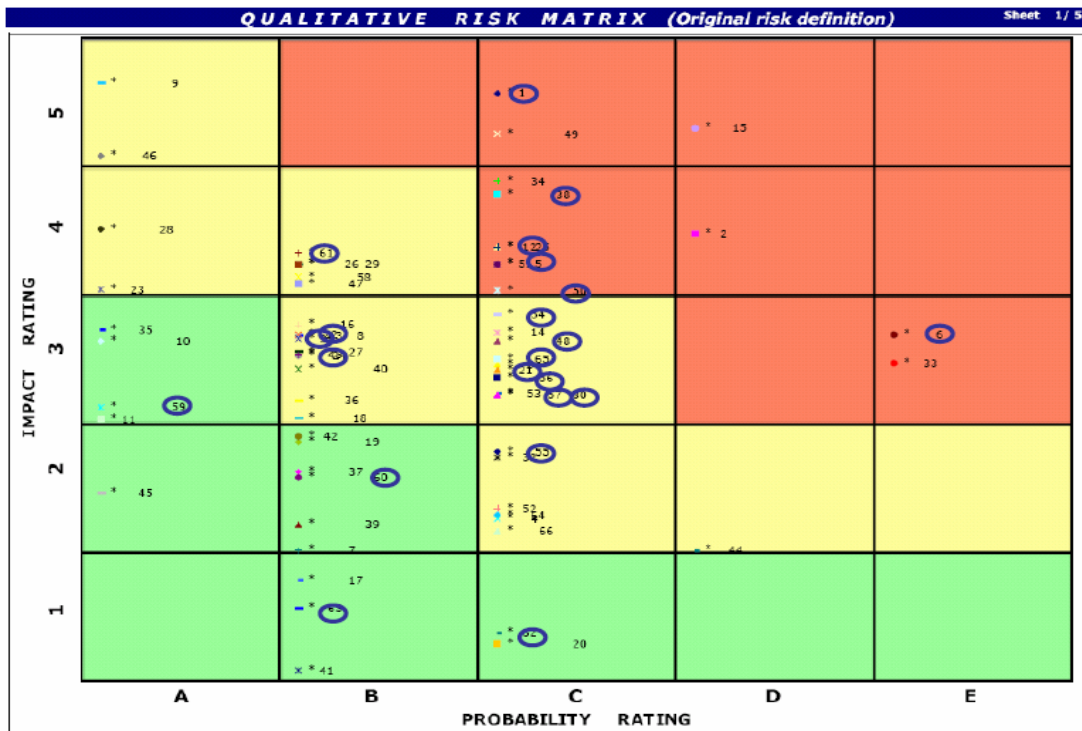


Figure 2 - Project risks – Probability/Impact Matrix

In this way, it has been obtained a preliminary assessment of the salience of each stakeholder based on the corresponding “risk load” for the project, expressed as the sum of the expected impacts associated to the risks generated by the stakeholder.

Then the two structures (risk breakdown structure and stakeholder breakdown structure) have been crossed to better assess the stakeholder salience. Tab. 4 shows risks on the rows and stakeholders on columns. The risk level ID (e.g. H-1 identifies risk 1 High level) has been crossed with related stakeholders (in red the most powerful). Certain stakeholders originally evaluated as important once crossed with risk matrix appear to have a different assessment. For example stakeholders n. 55 and 59 evaluated salient from the stakeholder assessment, once crossed with the risk matrix they are related to a low risk.

Risk Categories		SBS up to level 1									
		External						Internal			
		Partner	Authorities	Agency and Review Body	ONG	Media	Others	Project Team	Company	Customers	Contract & Suppliers
Risks Level-ID											
Environmental Conditions	M-24		3, 13								
External Factors	H-1		3-6, 7-10, 11-23, 24				72				
	H-5				30-32, 33-34, 35-43						
	H-12		3								
	M-13		3								
	M-30						63-68, 76				
	M-48						54-62				
	M-54						18, 63, 64, 66				
	M-55						7-10				
	M-56		10, 13, 14								
	M-57	1, 2									
	M-61					45-53, 52					
	L-59		3-19								
	L-60		20-24								
	L-62		26				54-61, 63-68, 55, 59				
	L-63										
Legal/Contractual	M-43		10, 13, 14								
Local Community	H-6						63-65, 68, 73-76				
Marketplace	H-50						69				
	M-65	1, 2									
Resource/organization	M-21	1, 2					72				
Technical	H-38		6, 24				70, 72				

Tab. 4 – RBS and SBS crossing

This exercise proves that the stakeholder assessment as a stand alone process is not sufficient to evaluate the actual salience of each stakeholder. Therefore the need of integrating the two processes appeared clear.

As next step, a further quantitative risk analysis including all risks identified has been performed with Montecarlo simulation applied to the total investment cost model (Capex).

At each iteration of the simulation process a risk event occurs and the corresponding variation in the affected cost items has been extracted from a distribution. In this way, it has been obtained a value of the total investment cost at each iteration and, at the end of the simulation, the distribution of the total investment cost.

Regarding to stakeholders risks, for example, the land acquisition cost item can be accurately estimated in the capex model with reference to the expropriation laws, but it is also subject to variations resulting from individual negotiations with landowners or compensation costs for residents or local communities that may require greater expenditure then originally estimated. The distribution of expropriation costs will give a quantitative estimate of the ability of the stakeholders (in this case landowners and local communities etc.) to influence

project results in terms of the total investment cost requested for the project. At the same time, the attention to be paid to these stakeholders can be also measured.

INTEGRATION BETWEEN STAKEHOLDER MANAGEMENT AND RISK MANAGEMENT PROCESSES

The bridge between the two processes is that a stakeholder can be rendered as source of uncertainty and when it is allowed to link the risk impact with the source an assessment of the stakeholder salience based on risk is possible.

The impact of its own risks on project performance represents the risk load each stakeholder brings into the project and it can be assumed as an indicator of its salience in order to makes the Project Team aware during stakeholders assessment about how allocate resources efficiently.

Using the Stakeholder Breakdown Structure it was granted the traceability of risks to the generating source with the aim to assess the influence of each stakeholder to the overall investment cost. The sequence which analysed from interest to project consequence has been used to know the triggering dynamics and to plan more effective mitigation actions.

Thus it was possible to measure the “risk load” deriving from a singular stakeholder on the project, by isolating the variation of the investment cost which represents the contribution of an individual stakeholder to the overall risk exposure. The result of this represents a quantitative estimate of stakeholder salience in the project.

It is now possible to establish priorities, as the project team shall allocate more resources to the stakeholders having major influence in order to avoid/run their threats/opportunities. The Project Team shall effectively satisfy their expectations as well in order to avoid risks or run opportunities they are source.

Considering first the risks identified for all the sources of uncertainty and then subtracting the contribution to the variability in investment costs of just the risks deriving from the external stakeholders, an incidence of 2.6% of a several B\$ budget is obtained. From this difference, we can estimate in the same way the incidence on investment cost variability due to the main groups of external stakeholders and consequently the corresponding salience (see Tab. 5 and Fig. 3). In Tab. 5 the comparison between different distributions has been approximated by the difference between the respective 50th percentiles. The analysis can be taken as far as the individual stakeholder, should the latter be particularly salient.

	Capex@P50	Difference	Relative %
without Authority risks	98,42	1,58	62
without Partner risks	99,74	0,26	10
without Competitor risks	99,67	0,33	13
without Pressure group risks	99,85	0,15	6
without Resident risks	99,77	0,23	9
considering All risks	100,00		

Table 5 - Stakeholders influence on total investment cost

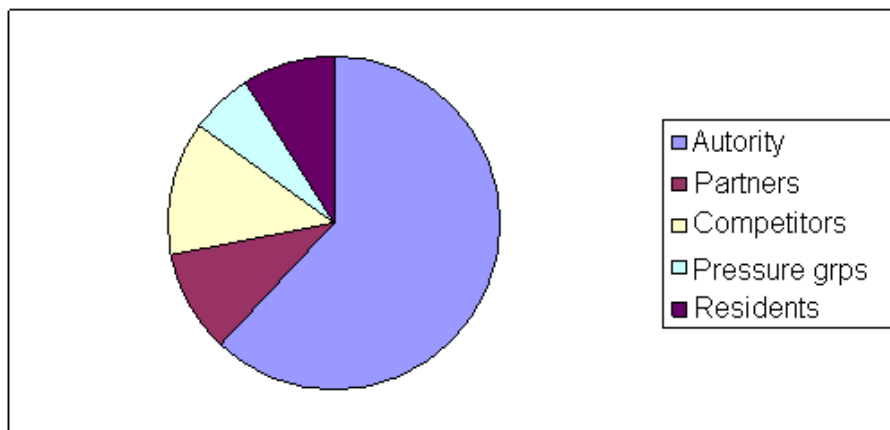


Figure 3 - Salience of different groups of external stakeholders

The analysis undertaken during the project early phase gave the project team a more accurate indication of the stakeholders to which greater attention should be paid. Indeed, it is reasonable to presume that the salience of an individual stakeholder is strictly linked to the risk exposure generated for the project and, consequently, the credibility of the stakeholder's ability to influence project investment costs to a more or less significant extent. Obviously, the analysis is further refined over the course of the project life-cycle, as the project circumstances are subject to continual development.

CONCLUSIONS

The study proposes the integration of the Risk Management process within the Stakeholder Management process, taking the various project stakeholders as sources of uncertainty for the project.

Firstly, the impact of the risks generated by each stakeholder on the project performance can be assumed as a quantitative measure of the stakeholder's salience and, consequently, of the level of attention the management should dedicate to the stakeholder. Salience estimate supports efficient project resources allocation.

Secondly, the analysis of the dynamics of the risks generated by each stakeholder represents a systematic approach to identify risk mitigation actions and, consequently, appropriate strategies to influence the stakeholder in order to guarantee the project success. Correct responses identification allows to effectively meet stakeholders needs.

A case study has been proposed in which a simulation model of the total investment cost requested by the project has been used to estimate the contribution of the main stakeholders to the overall risk exposure of the project and, consequently, their salience in order to guarantee project success.

The project is still ongoing and therefore the actual results will be verified when the project closing. However the effort of integrating processes allow balancing potential savings on cap-ex due to stakeholders threats that will be avoided and opportunities to be run from

one side and costs for implementing mitigation actions from the other side. In this view, the risk based approach to stakeholder management can be considered a value improvement practice and a decision making supporting tool.

The proposal of an integrated approach of stakeholder and risk management leads to improve value, provides a tool for estimating the stakeholder salience that helps in efficient resource allocation and proposes a practical paradigm to satisfy stakeholder and identify effective mitigation actions.

NOTE: All Sensible data and information have been “normalized” without any detriment to the methodology described.