



RISK TREATMENT IN PROJECTS

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Abstract Risk treatment process contains developing a variety of options for risk mitigating, assessing and then formulating and implementing action plans. The most evaluated risks must be addressed in a matter of urgency. Therefore, choosing the most appropriate risk treatment means balancing the costs of executing each activity associated to the resulting benefits. Usually, the cost of managing the risks should be equal with the achieved benefits. When making cost versus benefit decisions the broader setting should also be taken into account.

Key words:
Risk management
process, risk strategies,
risk treatment
JEL Codes:
G3

1. Introduction

The economy is a complex game, where the players' expectations influence their future events and probabilities. The issue of risk analysis allows, experience demonstrating this, a better understanding of the socio-economic context, especially reveals challenges that the company must meet if it wants to remain on the market.

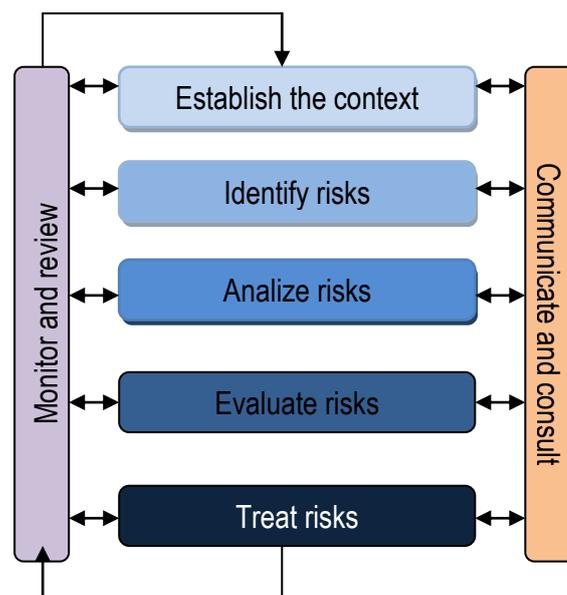
In terms of business, their ability to consider and evolve accurately the environmental trends, and the awareness of their impact on carried out operations depends on the entire process of evaluation and risk management and opportunities to create a long-term competitive advantage (Costea-Dunarintu, 2014).

Risk is unavoidable and present in every human situation. It is present in daily lives, public and private sector organizations. Depending on the context (insurance, stakeholder, technical causes), there are many accepted definitions of risk in use.

PMBOK defines project risk as “an uncertain event or condition that, if it occurs, has a positive or negative effect on at least one project objective, such as time, cost, scope or quality.”

Risk management is a central part of any organization's strategic management. It is the process that companies systematically address the risks attaching to their activities with the aim of reaching constant benefit within each action and across the portfolio of all actions. In international affairs, risk management is a well-defined process involving a number of complementary stages such as the identification, evaluation, analysis and economic control of the risks (Militaru *et al.*, 2016). Risk management must be an endless and evolving process which runs throughout the company's strategy and the implementation of that strategy. It should

address systematically to all the risks that are surrounding the company's activities from the past, present and future.



(Source: ORMIS, Toronto, ISO)

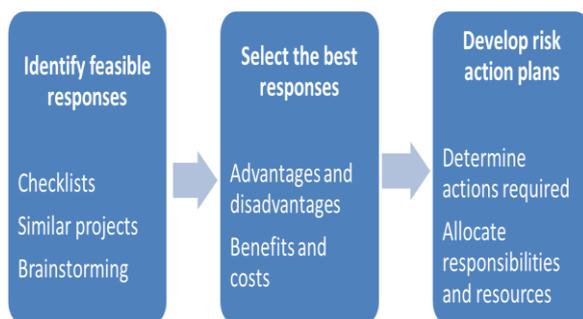
Figure 1. Risk management process

2. Risk treatment

Risk treatment consists of determining what will be done in response to the risks that have been identified, for the purpose of reducing the potential risk exposure. According to its definition, risk treatment represents the process of choosing and executing of actions in order to change risk. Risk treatment methods can include avoiding, optimizing, transferring or retaining risk.

The process of selecting and developing effective risk treatments involves:

- identifying the options for reducing the likelihood or consequences of each extreme or high risk;
- determining the potential benefits and costs of each option, including the possible impact on the project if the risk occurred;
- selecting the best options for the project;
- specifying the symptoms or trigger points at which the option might be implemented for options that have the form of contingency plans;
- identifying links to related processes or activities within or outside the project;
- developing detailed risk action plans.



(source: Project risk management guidelines, Managing Risk in Large Projects and Complex Procurements, 2012)

Figure 2. Overview of risk treatment

Because identified risks may have different impact on the project, not all risks consist in loss or damage. Opportunities can also appear from the risk identification process, as types of risk with positive effect or consequences are identified.

Treatment options for risks may have positive results such as:

- adjusting the probability of the risk occurrence, in order to increase probable beneficial results;
- trying to operate possible consequences, to increase the anticipated gains;
- sharing the risk with other partners that may contribute by providing extra resources which could increase the probability of the chance or the anticipated gains;
- retaining the residual risk.

Treatment options for risks having negative results look alike to those for risks with positive ones, even if their analysis and consequences are entirely different. Such options or choices can be:

- avoiding the risk by deciding to stop, delay, cancel, divert or continue with an action that may be the cause for that risk;

- changing the probability of the risk trying to decrease or eliminate the probability of the negative results;
- trying to change the consequences in a way that will decrease losses;
- sharing the risk with other partners that are facing the same risk;
- retaining the risk or its residual risks;

3. Risk treatment strategies

Risk treatment is a phase in the risk management process that comes after the risk assessment phase which consists in the risk assessment of all the risks that need to be identified. The core task in the risk treatment phase is to select one or more options for handling each unacceptable risk, and to decide how to mitigate all these risks. Risk treatment is the process of choosing and implementing the methods to change risk. Before is decided which risks to treat, is needed to collect information about the:

- method of treatment;
- people responsible for treatment;
- costs involved;
- benefits of treatment;
- likelihood of success;
- ways to measure and assess treatments.

There are two main kinds of strategies:

Avoidance strategies: this kind of strategy seeks to find how to reduce the probability of a risk's occurrence. For this purpose, there are 4 main options:

- *Transfer:* this option represents the set of procedures whose objective is to exclude the risk by transferring it from one place to another.
- *Reduction:* this strategy consists either in reducing the probability of occurrence of a risk either in reducing its consequences, or to achieve both objectives at the same time. The probability of appearance of a risk can be reduced through management controls, managerial procedures and arrangements planned to decrease the rate of an error or the chance for an error to arise. The consequences can be reduced by guaranteeing or ensuring that all of the controls are in their proper place in order to decrease any adverse consequences.
- *Evading:* there are two options with the aim of trying to evade a risk: not to continue with the project or the activity that might include the risk, or to select alternatives for the activity that will attain the same outcome and not to bring with them the detected risk. The problem in evading risks is that it can lose business chances and, furthermore, other risks that are not identified initially could become more important.
- *Diversification:* this option involves the attempting to spread the risk from a precise area to different sectors, in order to avoid the loss of the entire project. Examples of variation contain placing the business towards new

markets and suppliers, diversifying the list of products and services, etc.

Minimization strategies: this kind of strategy intends to decrease the impact of the risk on the product or project. Minimization approaches are implemented when the avoidance strategies have failed and, therefore, the risk is now a fact. In these circumstances, a contingency plan must be designed, with the intention of mitigating the adverse effects of the risk, once it has already materialized.

Table 2. Risk strategies

Negative Risk Strategies (Threats)	Positive Risk Strategies (Opportunities)
Avoid – Eliminate the threat normally by removing the cause of the threat all together (e.g., remove activities).	Exploit – Ensure that opportunity is realized (e.g., purchase a higher quantity of materials in order to get additional price discount).
Transfer – Shift the impact of the threat to a third party (e.g., insurance, agreements).	Share – Assign all or part of the opportunity to a third party (e.g., team agreement between internal and external parties).
Mitigate – Reduce the probability or impact of a threat (e.g., requirements review, testing).	Enhance – Increase the probability or impact of an opportunity (e.g., add more resources to a task).
Accept – Acknowledge the risk but take no action unless the risk occurs.	

(Source: PMBOK)

A contingency plan describes the alternative processes and procedures that must be accepted in a company when a risk is no longer a risk but somehow a reality, as well as determining the people involved in such procedures. Therefore, it is anticipated that the avoidance and risk monitoring strategies have failed and the effects are now inevitable. In such an event, the contingency plan must be activated and should cover three core activities: manage the handling of the crisis, guarantee the use of alternative processes that will allow the stability of the business and solve the problem in order to bring the processes and operations back to normal.

4. Risk response planning

Risk response planning certainly is an essential aspect of risk treatment. The planning covers discusses and evaluates efforts like risk register, risk profiles and cause control matrix. Strategies are formulated and documented in this stage. The following four different strategies are discussed upon.

- *avoiding the risk* - risk avoidance consists in the identification of the risks first and foremost. This can be attained through former project experiences and histories. A study is then made upon those that tend to arise upfront at project beginning. Then lastly a course of action is taken upon after evaluating the relative effect of the risks.
- *transferring the risk* - risk transfer is one of the better means to weakened the effect of the risk. In project management as in finance a risk is frequently transferred to a third party. It only means the effect of risk is weakened to an extent that activity or event or project for that matter does not suffer a setback. It also means that there is a different team outside the project that accepts the impact of the risk.
- *mitigating the risk* - risk mitigation is a control procedure that basically stops a risk before it starts making an effect and bringing it to an adequate level. Frequently a contingency plan is designed to prevent the risk.
- *accepting the risk* - lastly, there are some risks that are inevitable. This strategy is the best when the risk is low. But there has to be a plan such as determining when the project will be exposed to the risk and making small changes accordingly. A risk that is acceptable can be considered passive since no action at all is taken. At the end of risk response planning several risks and the matching strategies are documented. A risk register is prepared to cover all details about the time of appearance, priority and the persons involved in managing the risk. The risks have already been classified as either internal or external. Significant risks are assigned to significant participants accordingly.

5. Conclusions

Risk treatment is the process of selecting and implementing measures with the scope to reduce risk. Methods to risk treatment include risk evasion, risk modification and risk transfer. A firm's decisions on which levels of risk are acceptable, and how to allocate investments between risk reduction and risk transfer, rest on the company's risk attitude.

Risk treatment procedures can include avoiding, optimizing, transferring or retaining the risk. The measures, such as security measurements, can be selected out of sets of security measurements.

If the available resources, like the budget, for risk treatment are not sufficient, the risk management action plans should set the necessary priorities and clearly identify the order in which individual risk treatment actions should be implemented.

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