

Risk management

Introducing to risk management, methods

Identification of potential risks in business

Risk assessment

Risk management plan

Risk management is the identification, assessment and prioritization of risks.

Methods:

Methods of risk management consist of the following elements, performed, more or less, in the following order.

- identify, characterize threats
- assess the vulnerability of critical assets to specific threats
- determine the risk (*i.e. the expected chance and consequences of specific types of attacks on specific assets*)
- identify ways to reduce those risks
- prioritize risk reduction measures based on a strategy.

Identification of potential risks in business

In every company risk management, a risk is defined as a possible event or circumstance that can have negative influences on the company. Its impact can be on the very existence, the resources (human and capital), the products and services, or the customers, as well as external impacts on society, markets, or the environment.

In the more general case, every probable risk can have a pre-formulated plan to deal with its possible consequences (to ensure *contingency* if the risk becomes a *liability*).



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Risk assessment

Once risks have been identified, they must then be assessed as to their potential severity of impact (generally a negative impact, such as damage or loss) and to the probability of occurrence. Therefore, in the assessment process it is critical to make the best educated decisions in order to properly prioritize the implementation of the risk management plan.

Even a short-term positive improvement can have long-term negative impacts.

The fundamental difficulty in risk assessment is determining the rate of occurrence since statistical information is not available on all kinds of past incidents. Furthermore, evaluating the severity of the consequences (impact) is often quite difficult for intangible assets. Asset valuation is another question that needs to be addressed. Thus, best educated opinions and available statistics are the primary sources of information.

Risk options

Risk mitigation measures are usually formulated according to one or more of the following major risk options, which are:

- Design a new business process with adequate built-in risk control and containment measures from the start.
- Periodically re-assess risks that are accepted in ongoing processes as a normal feature of business operations and modify mitigation measures.
- Transfer risks to an external body (e.g. an insurance company/agency)
- Avoid risks altogether (e.g. by closing down a particular high-risk business area)

Risk management plan

A risk management plan is a document that prepares to foresee future risks, estimate impacts, and define responses to issues.



Team work

Develop risk management plan

Understand how Risk Management works. Risk is the effect (positive or negative) of an event or series of events that take place in one or several locations. It is computed from the probability of the event becoming an issue and the impact it would have (See Risk = Probability X Impact).

- Event: What could happen?
- Probability: How likely is it to happen?
- Impact: How bad will it be if it happens?
- Mitigation: How can you reduce the Probability (and by how much)?
- Contingency: How can you reduce the Impact (and by how much)?
- Reduction = Mitigation X Contingency
- Exposure = Risk – Reduction
 - After you identify the above, the result will be what's called Exposure. This is the amount of risk you simply can't avoid. Exposure may also be referred to as Threat, Liability or Severity, but they pretty much mean the same thing. It will be used to help determine if the planned activity should take place.
- Assumed Risk. If you decide to proceed (sometimes there is no choice, e.g. federally mandated changes) then your Exposure becomes what is known as Assumed Risk. In some environments, Assumed Risk is reduced to a value in money which is then used to calculate the profitability of the end product.

Define your project.

Get input from others. Brainstorm on risks. Get several people together that are familiar with the project and ask for input on what could happen, how to help prevent it, and what to do if it does happen. Take a *lot* of notes!

Identify the consequences of each risk.

Eliminate irrelevant issues.

List all identified risk elements. You don't need to put them in any order just yet. Just list them one-by-one.



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Assign probability. For each risk element on your list, determine if the likelihood of it actually materializing is Critical, Serious, Moderate or Minor. If you absolutely have to use numbers, then figure Probability on a scale from 0.00 to 1.00.:

0.01 to 0.10 = Minor, 0.11- 0.33 = Moderate, 0.34 to 0.66 = Serious, 0.67 to 1.00 = Critical.

Assign impact. In general, assign Impact as Critical, High, Medium or Low based on some pre-established guidelines. If you absolutely have to use numbers, then figure Impact on a scale from 0.00 to 1.00 as follows:

0.01 to 0.10 = Low, 0.11 to 0.33 = Medium, 0.34 – 0.66 = High, 0.67 – 1.00 = Critical.

Determine risk for the element. Use next table for this.

Probability	Impact			
	Low	Medium	High	Critical
Critical				
Serious				
Moderate				
Minor				

Rank the risks. List all the elements you have identified from the highest risk to the lowest risk.

Develop mitigation strategies. Mitigation is designed to reduce the probability that a risk will materialize. Normally you will only do this for High and Medium elements

Develop contingency plans. Contingency is designed to reduce the impact if a risk does materialize. Again, you will usually only develop contingencies for High and Medium elements.

Analyze the effectiveness of strategies. How much have you reduced the Probability and Impact? Evaluate your Contingency and Mitigation strategies and reassign Effective Ratings to your risks.





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Monitor your risks. Now that you know what your risks are, you need to determine how you'll know if they materialize so you'll know when and if you should put your contingencies in place.

