

How2guide: Risk Analysis

Introduction	When do you use this guide
Risks can make or break a project or a programme. Your organisation may outline its approach to risk management in a strategic level Risk Management Policy and Guidance Document. The failure to take a broad or detailed view of risk is often the root cause of failure in programmes or projects, large or small. The M_o_R guidance for Risk Management Practitioners defines risk as: An uncertain event or set of events that, should it occur, will have an effect on the achievement of objectives. Risk Analysis is part of the detailed understanding of the level of threats to the initiative and also systematic identification of opportunities that may arise before, during or after delivery. Don't forget, an assumption is a badly worded risk!	The Risk Management cycle has 4 steps in it, the first of which is "Identify", which is undertaken at the very start of the programme or project. The second step is Analyse which takes place once the risks have been identified, so prior to using this guide, the "Risk Identification" guide should be reviewed to ensure that thorough identification has taken place. The cycle itself continues throughout the life of the programme or project, so identification and re-assessment should be taking place regularly. The environment within the programme or project and around it will be volatile so the levels of risk will be continually changing. Good programmes and projects make their own luck – by good risk management. Medium and high risk projects and programmes should have a Risk Management Strategy that sets out how risks will be managed.
What should be analysed? The first step is to ensure that the obstacle that has been identified is actually a risk. There is always a danger that lots of stuff is identified that could go wrong and this tends to overwhelm the programme and project. It is therefore important that there is a systematic analysis of whether the risk is actually a risk that can be managed rather than a side effect or consequence that is beyond your control. It is very difficult to remove a threat (or opportunity), the main focus should be on reducing or increasing the likelihood of certain events occurring and managing the effects. The first step is to understand the threat and what may trigger it, and the effect this will have. This is covered in Risk Identification so this must be undertaken before the Analysis can be done. 	

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Areas of analysis

The analysis of the risk should be contained in the risk register, where these fields are expected to be completed. When analysing risks the main areas to be considered are as follows:

Likelihood	Severity	Impact	Proximity
This is level of confidence there is that that the risk could occur. The likelihood of each event occurring should be assessed, so if there are a number events that could trigger a threat, then the assessment of likelihood of each event needs to be assessed. This is normally exhibited on a 5 point scale, ranging from 1 to 5 or very low to very high.	The severity is normally a numeric that illustrates the effect that the risk will have on the department, benefits as well as programme or project delivery As with Likelihood the rating is normally exhibited on a 5 point scale, ranging from 1 to 5 or very low to very high. The severity of each event should be assessed as different events will have different levels of severity, ranging from a minor manageable delay to a show stopping problem. The use of the numeric enables calculation of the overall risk level.	The impact is a verbose explanation of what the consequences of the event happening will be. There will always be a severity rating to show how serious it is expected to be. The impact will describe exactly what is likely to happen. This information is then used to develop the plan to mitigate all or part of the effect of the event on the programme or project.	This is normally a date or period of dates when the risk will materialise. It is not always relevant, as the risk could be continual throughout the lifecycle. However, there will be risks where the likelihood or severity (or both) will increase so there will be a need for greater focus on preparing to react. The period when the risk increases is often called the “proximity window”.

1 = Very Low	2 = Low	3 = Medium	4 = High	5 = Very High
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Some organisations use an alternative 4 scale model to avoid the use of “medium” likelihood so as to avoid “sitting on the fence” assessments.

Risk Analysis Context

The management of risk within a programme or project will often be in the wider context of the organisations, so a number of other areas will need to be considered to avoid analysis being undertaken in isolation.

Risk Appetite	Tolerance Thresholds	Early Warning Indicators
Risk appetite is the amount of risk that the organisation, or subset of it, is willing to accept. Understanding corporate risk appetite is essential for a programme to devise a successful risk management strategy, steer project risk activities and define aggregation and escalation rules. Properly defined and communicated risk appetite helps to insulate a programme from unwelcome surprises and provides it, and its projects, with clear tolerances in which to operate.	Thresholds translate risk appetite into a guideline that steers programme and project behaviour. Thresholds define the exposure to risks on one level that, if exceeded, requires escalation and reaction from the level above. This applies to projects and their programme (as well as the programme and the organisation to which it reports).	Individual threats can have an aggregated impact, where the net effect of threats (and opportunities) changes when they are combined. At project level, a small risk can have limited impact, but if the risk is combined with other risks in adjacent projects it can produce a significant impact at programme level. An identified risk can be of concern for a project, but there might be an opportunity in another project that cancels or compensates for the effect. This aggregation is particularly important when evaluating risks across the programme. Dependencies between risks need to be taken into account as well as the distinction between threats and opportunities.

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The Technique – Risk Heat Mapping

Technique Overview

Risk Heat Mapping is a useful technique for illustrating a summary of the level of risk being faced.

It uses 5 x 5 matrix to illustrate the likelihood and severity ratings. The cells can be used to colour code the risk appetite of a project, programme or the organisation.

The use of the grid can provide an easy reference to see how the level of risk is developing and can be used as an effective communications tool, particularly for project or programme boards.

Very High					
High					
Medium					
Low					
Very Low					
Severity/ Likelihood	Very low	Low	Medium	Likely	Highly Likely

In this example the areas that are illustrated as Red indicate areas where the level of risk is becoming unacceptable and the project or programme could be stopped.

Concept

The Risk Heat Map can be used to illustrate not just the position of the individual risks but also their direction of travel, as likelihood and severity of impact changes.

In more complex environments it can also be used to show the relationship between individual risks where there may be a cocktail or domino effect, so if one risk becomes active there is a change in the level of other risks and the combining effect.

Very High	Risk D				
High			Risk B		
Medium	Risk A				
Low					
Very Low		Risk f		Risk C	
Severity/ Likelihood	Very low	Low	Medium	Likely	Highly Likely

By plotting the various risks on to the table it is possible to see at a glance the likelihood and impact of risks and whether there is a concentration or a general spread.

In this example, there is a wide spread of risks and non in the Red area which is where it would exceed the appetite for risk