Three Approaches to Risk Management

Background

The most common approach to project risk management is to manage individual risks recorded and assessed in a project risk register. Although this approach is relatively simple and likely to add value if implemented competently, it should not be assumed to be best practice. There are alternative approaches that have the potential to add more value. A project with high risk management capability will recognise this and select tools and techniques appropriate to circumstances and purposes of the project.

Approach 1: Top-down multi-pass process

This approach can be used from the outset of a project. It is based on the principles that:

1. One needs to start with a high level understanding of the project to be confident that overall project risk is understood, quantified and managed in an appropriate and rational manner.

2. The risk management process should address the key questions that require risk-based decisions.

3. Key risk questions may change from one pass of the risk management process to the next dependent upon insights gained from the previous pass and other events that have occurred in the meantime.

4. Risk management techniques should be selected to address the key questions – different techniques may be required during successive passes of the process.

5. These techniques can be used to optimise decisions that shape the project solution.

Advantages
Can be used from project commencement
Supports fundamental project decisions
Underpins a rational approach to the process
Efficient identification of key insights

Example techniques	
Simple first pass risk models	NPV risk modelling
Parametric cost forecasting	Project strategy risks
Uncertainty-Importance Matrix	Decision trees
Stakeholder analysis	Influence diagrams

Approach 2: Quantitative risk-based forecasting

This approach involves modelling the implications of a project plans to obtain a risk-based forecast for the project cost and/or the completion dates for key milestones. This may be particularly valuable information at key project authorisation points when governance requirements include confidence forecasts. In some cases, it may also be possible to apply similar modelling techniques to the project's products.

Advantages
Combines the implications of all risks to forecast overall risk
Produces confidence forecasts (e.g. P90 and P50 points)
Analysis statistics identify key aspects of risk
Models can be used for "what-if" scenario modelling

Example techniques
Monte Carlo cost risk analysis
Monte Carlo schedule risk analysis
Product or benefits risk modelling
Tornado diagrams

Approach 3: Risk register

This is the common-practice approach of using a single-pass approach to identifying a list of risks and entering them into a risk register for assessment and risk response planning. Risks are then reviewed on a regular basis to update the risk information and verify that risk responses are implemented.

Advantages
Relatively unsophisticated – less experience required
When implemented well, fosters a good team culture

Example techniques
Risk register
Probability – Impact Matrix

Points to note

Best practice involves using a top-down multi-pass approach to managing risk in the initial project phases. It is the only one of the three above approaches that both addresses overall project risk and can be used from the outset – the point at which uncertainty is greatest and that risk management can add the most value.

Adopting a multi-pass approach will also help get better performance from the other two approaches. For example it should help to ensure that a rational quantitative cost model is produced. It will also help to create a coherent risk register with the implications of high level risk insights included.

Each approach has particular strengths at different stages of project. The best results may sometimes be obtained by combining all three.