Context

Client organisations are often presented with quantified risk assessments by their programme managers to help them set budgets which include appropriate contingencies. For a multi-billion pound programme the transparency and credibility of such models is very important. This sheet provides an indication of the typical approach The Risk Agenda would employ to validate such models on behalf of the client.

Purpose

The purpose of such a study is to establish (or not) that the risk model does not suffer from significant shortcomings. We do this by:

- establishing that good practice risk management methods have been used
- establishing that the issues considered are comprehensive (given the scope of the model)
- establishing that these issues have been incorporated in a coherent manner and that assumptions are clear and recorded
- establishing that there are no errors in calculating the model.

Note that we do not seek to show the model is "correct". Because risk analysis is fundamentally subjective there are bound to be different models which satisfy the "no shortcomings" criteria. Decisions makers need to be comfortable with the model they use and a review by The Risk Agenda is intended to promote this.

Benefits

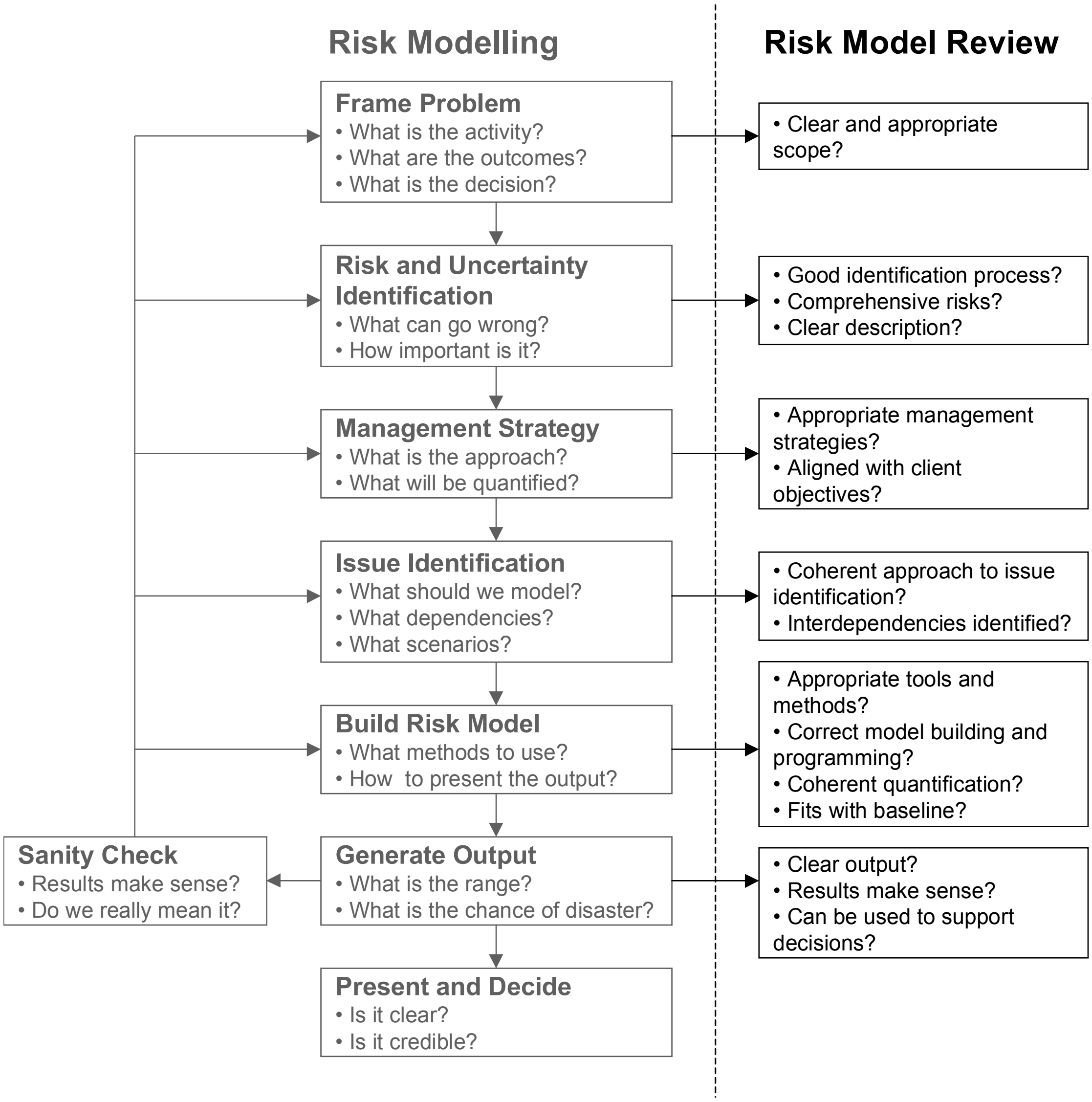
Decision makers are supported by a quantitative risk model which they can rely on, knowing what has gone into it, knowing it incorporates good practice and knowing it is correctly calculated.

Approach and Features

The general approach is expected to reflect the stages that the programme managers would have used to generate the model. The process flow diagram overleaf is based on our own generic approach to risk modelling (see our *Risk Modelling* product sheet). In broad terms we assume that the exercise will generate a risk register which lists the risks identified, the management approach proposed for them, and their quantification as appropriate. In the later stages the risk register leads on to a quantified risk model which supports decisions about contingencies and risk allocations.

It is essential that any risk model is viewed alongside an associated baseline cost model which provides the underlying cost estimates. It is meaningless to review a risk model without knowing what is being risked and the basis on which it has been compiled.

Generic Process Flow Chart



Problem Framing and Risk Identification

The overall aim here is to check the comprehensiveness and coherence of the risk register. We will do this by:

- ensuring the scope of the modelling exercise is well-defined and appropriate
- auditing the process which was used to generate the resister - for example the scope, objectives, attendance and output of risk workshops
- benchmarking against risks which have been identified on other comparable projects and risks which have materialised on such projects
- checking that the risks are clearly described in terms of cause, consequence and potential effect, and identifying any possible areas of double count.

Proposed Risk Management Strategy

We assume that each identified risk - to the extent that it is judged not to be trivial - will have a proposed management strategy which will bear on its modelling. Typically this might be one or a mixture of:

- risk accounted for in routine cost estimates - no need for quantification
- risk to be taken by a contractor within the price included in the baseline cost model - again no need for additional quantification
- risk expected to be shared through a commercial arrangement with a contractor - this will need to be modelled in a suitable way within the risk model
- risk to be insured - in which case the baseline cost model and the risk model will have to cover premiums, deductibles and limits of indemnity in an appropriate way
- risk to be taken by the client - to be modelled fully.

In each case we will consider whether the treatment is appropriate in the light of the client's objectives and note any quantification and modelling issues.

Risk Model Specification and Construction

This covers the way the raw risk register is analysed and converted into a risk model. We will examine the coherence of the selection of key issues into which the basic risks feed. Sometimes the risk model is simply the aggregation of the basic risks, in which case we will ensure this is appropriate.

We will:

- ensure the quantification - often implicit - is suitable for the problem at hand
- ensure that appropriate tools and methods are used to calculate the model - that they are not too complicated or time consuming so that the results are unnecessarily obscured
- ensure that they have been used correctly as intended by the model specification.

The review of the quantification of each issue will include:

- probability - is the proposed probability estimate validated by experience on other projects, viewed in the client context
- consequence - similarly, whether the impact on programme cost is credible, and especially whether the potential for particularly adverse impacts has been considered
- modelling issues - whether interdependencies have been identified which could significantly affect the output of the risk model; whether the model combines the individual risks in the most appropriate way.

A key concern at this stage is to ensure that the risk model and underlying baseline cost model work together in the correct way, with no omissions and no overlaps.

For Government clients the risk quantification will also be reviewed in the light of HM Treasury's approach to optimism bias as a way of providing credible cost estimates prior to detailed risk analysis. We will check that a coherent approach has been taken to the balance between the detail of the analysis and the need for residual unallocated contingencies.

Review Output

At the final stage we will check:

- that the results are clear, as is their relationship to the inputs
- that they make sense - the all-important sanity check - where we might well use our own risk modelling tools such as *Natural Monte Carlo* to replicate the main features
- that they can be used in support of decision making by presenting the appropriate parameters in the correct context.

Contact

For more information call Andy Garlick on 07803 594310, email us at enquiries@riskagenda.com or see our website at www.riskagenda.com.