Practical Project Risk Management[1]

Pre and Post Risk Mitigation Estimates: A brief guide [2]

Purposes

1. Estimate the effect of risk mitigation plans on individual risks, and potentially,
2. Quantify the overall value added to a project as a consequence of its risk mitigation plans.

Typical Approach to Making Pre and Post Mitigation Estimates

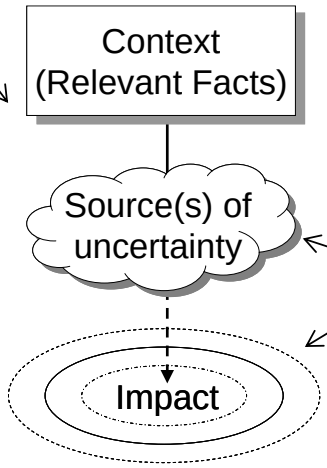
1. Identify and describe risk

2. Pre-mitigation estimates

Make estimates for the risk's probability and impact in the context of the project's current plan and objectives.

3. Mitigation plan

Identify and authorise action plan that reduces the risk's probability and/or risk impact by managing the risk at source or planning fall-backs.



4. Post-mitigation estimates.

Finally, re-estimate the risk on the basis that the authorised mitigation action plan will be implemented as planned.

Authorised action plan that:

1. Manages sources of risk, and/or
2. Plans fall-backs to reduce impact

Notes: actions are often authorised by Risk Owners. Disregard the effect of unauthorised actions when estimating.

Definitions

Although the use of pre- and post-mitigation estimates has become common, there is scant definition of what the terms mean. Serious mistakes can be made if different people and organisations understand them differently. The following definitions are recommended.

Pre-mitigation: estimate for the current level of risk in the context of the project plan, assuming that the risk is accepted with no additional mitigation plan.
Post-mitigation: estimate for the current level of risk assuming that the project plan will be augmented by implementing the authorised risk mitigation plan.

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[1] This series of articles is by Martin Hopkinson, author of the books "*The Project Risk Maturity Model"* and *"Net Present Value and Risk Modelling for Projects"* and contributing author for Association for Project Management (APM) guides such as *Directing Change* and *Sponsoring Change.* These articles are based on a set of short risk management guides previously available on his company website, now retired. See Martin's author profile at the end of this article.

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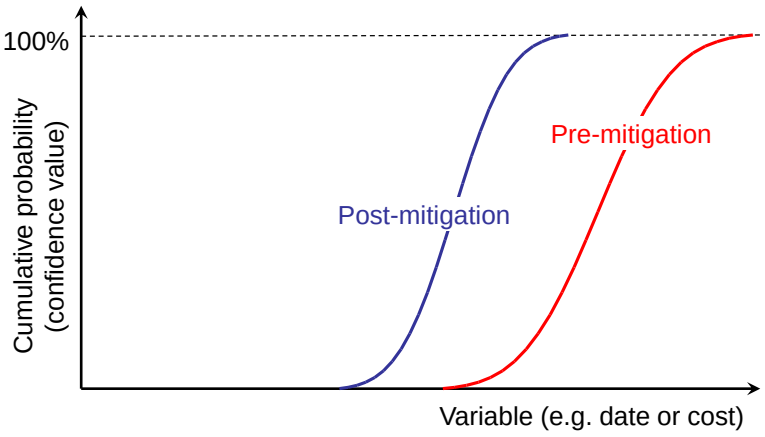
Benefits of the Approach

1. Assessing the value added by risk mitigation actions to individual risks – the cost, time and resource utilisation implications of actions can be weighed against the benefits of reduced risk exposure, thus helping to develop risk-efficient plans.
2. Quantifying the collective value added to a project as a consequence of its risk mitigation plans e.g. as illustrated below



Quantitative risk models can be run with both pre and post mitigation estimates, illustrating the value added by mitigation plans.

Point to note: if post-mitigation estimates are used for such models, the cost and time implications of authorised mitigation actions should also be included in the model.

Potential Problems with the Approach

Before using the pre-and post-mitigation estimating approach as part of the risk management process, its potential benefits should be weighed against problems it may cause.

1. Maintaining pairs of risk estimates increases administrative burden and makes mistakes more likely e.g. unjustified differences between pre and post mitigation estimates.
2. Post-mitigation estimates are often too optimistic. Estimators might assume that all actions will be fully successful. Pressure to reduce estimates may also cause optimism bias.
3. Pre- and post-mitigation estimates may be a poor substitute for alternative risk decision making techniques e.g. choices made after risk modelling of alternative plans.

An alternative approach is to maintain single-scenario risk estimates by taking into account both the project's current plan and the authorised risk mitigation plans. In effect these are post-mitigation estimates, but made in conditions less prone to optimism bias.

Common Faults

1. Use of misguidedly dysfunctional concepts of the terms pre and post mitigation.
2. Use of unauthorised or vague mitigation plans to make low post mitigation estimates.

About the Author

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Martin Hopkinson, recently retired as the Director of Risk Management Capability Limited in the UK, and has 30 years' experience as a project manager and project risk management consultant. His experience has been gained across a wide variety of industries and engineering disciplines and includes multibillion-pound projects and programmes. He was the lead author on Tools and Techniques for the Association for Project Management's (APM) guide to risk management (*The PRAM Guide*) and led the group that produced the APM guide *Prioritising Project Risks.*

Martin's first book, *The Project Risk Maturity Model*, concerns the risk management process. His contributions to Association for Project Management (APM) guides such as *Directing Change* and *Sponsoring Change* reflect his belief in the importance of project governance and business case development.

In his second book *Net Present Value and Risk Modelling for Projects* he brought these subjects together by showing how NPV and risk modelling techniques can be used to optimise projects and support project approval decisions. (To learn more about the book, click here.)