



# Transforming project risk management into project uncertainty management

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## Abstract

This paper argues that all current project risk management processes induce a restricted focus on the management of project uncertainty. In part this is because the term ‘risk’ encourages a threat perspective. In part this is because the term ‘risk’ has become associated with ‘events’ rather than more general sources of significant uncertainty. The paper discusses the reasons for this view, and argues that a focus on ‘uncertainty’ rather than risk could enhance project risk management, providing an important difference in perspective, including, but not limited to, an enhanced focus on opportunity management. The paper outlines how project risk management processes might be modified to facilitate an uncertainty management perspective.

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## 1. Introduction

This paper suggests that project risk management (PRM) processes as currently operated have a limited focus which restricts the contribution to improving project management practice and hence project performance. The authors argue that a broader perspective concerned with managing uncertainty is needed.

A recent paper by Green [1] makes a related argument, although his characterisation of project risk management as ‘*primarily concerned with quantitative techniques*’ is inappropriately narrow, and we do not agree with his recommendation. Green’s concern is that established techniques of risk management pay too little attention to uncertainty associated with stakeholder interactions, and the uncertainties that ‘*characterise the strategic interface between construction projects and client organisations*’. Green argues for the use of Friend and Hickling’s ‘Strategic Choice’ approach [2] to project uncertainty, which seeks to aid decision making processes by conceptualising three types of uncertainty related to the working environment, guiding values, and related decisions. The present authors are sympathetic

to Green’s concerns. Further, as a generic framework the Strategic Choice approach is certainly capable of useful deployment in a project management context. However, as a generic process Strategic Choice lacks focus on project management issues. Rather than pursue this approach to enhance the management of uncertainty in projects, the present authors argue for transforming existing PRM processes into Project Uncertainty Management. Strategic Choice can be used within this framework as appropriate. This will facilitate and extend the benefits of what is currently PRM. However, it will also help direct attention towards areas of project related uncertainty and associated management issues that are not addressed in current PRM processes.

The authors have been moving towards this position over a number of years, in the light of issues that have arisen in consultancy work, conceptual development of existing techniques, and reactions of project managers to presentations on the subject. Nevertheless, the arguments and proposals presented here have not been widely tested. They are offered here to stimulate debate and to encourage empirical testing.

The arguments presented here begin by considering how use of the term ‘risk’ induces a restricted focus on the management of project uncertainty. The middle part

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of the paper identifies some basic kinds of uncertainty that need to be addressed in projects. The final part outlines how PRM processes could be modified to avoid inducing a restricted focus and to address a wider set of sources of uncertainty.

## 2. Problems with the term ‘risk’

In dictionary definition terms ‘risk’ means: “*hazard, chance of bad consequences, loss, exposure to chance of injury or loss*” (Concise Oxford Dictionary). Such definitions illustrate one problem with the term ‘risk’—its ambiguous use as a synonym of probability or chance in relation to an event or outcome, the nature of an outcome, or its cause. In an entertaining and well referenced paper, entitled “Against risk”, Dowie [3] argues persuasively for abandoning use of the term ‘risk’ altogether. “*It is simply not needed*”. Dowie argues that the term ‘risk’ is

an obstacle to improved decision and policy making. Its multiple and ambiguous usages persistently jeopardize the separation of the tasks of identifying and evaluating relevant evidence on the one hand, and eliciting and processing necessary value judgements on the other.

(The term) ‘risk’ contaminates all discussions of probability because of the implicit value judgement/s that the term always brings with it, just as it contaminates all discussions of value assessment because of the implicit probability judgement/s that it contains [3].

The present authors are inclined to disagree with Dowie about abandoning use of the term ‘risk’ completely, but we are very sympathetic to his concerns.

One of our concerns relates to the association of the term ‘risk’ with adversity, implying that project risks are potential adverse effects on project performance, and that sources of risk are ‘things that might go wrong’, or threats to the project. With this association, PRM would seem to be about identifying and managing threats to project performance. As is widely recognised, this view of PRM is restrictive because it fails to consider the management of opportunities, in the sense of ‘potential welcome effects on project performance’.

In any given decision situation both threats and opportunities are usually involved, and both should be managed. A focus on one should never be allowed to eliminate concern for the other. Moreover, opportunities and threats can sometimes be treated separately, but they are seldom independent, just as two sides of the same coin can be examined at one at a time, but they are not independent when it comes to tossing the coin. Courses of action are often available which reduce or

neutralise potential threats, and simultaneously offer opportunities for positive improvements in performance. It is rarely advisable to concentrate on reducing threats without considering associated opportunities, just as it is inadvisable to pursue opportunities without regard for the associated threats.

Recognising this, guides published by the US Project Management Institute (PMI) and the UK Association for Project Management (APM) have adopted a broad view of risk. Their definitions of risk are very similar, as follows:

*Risk—an uncertain event or condition that, if it occurs, has a positive or negative effect on a project objective* [4, p127].

*Risk—an uncertain event or set of circumstances that, should it occur, will have an effect on the achievement of the project’s objectives* [5], (p 16).

These definitions encompass welcome ‘up-side’ as well as unwelcome ‘down-side’ effects. In spite of this, there is still a tendency for practitioners to think of risk in largely down-side, threat terms (a tendency which the authors are not always able to resist), and PRM as primarily threat management. For example, Table 1 lists references in the PMI guide [4] to risk in down side, threat terms which include: illustrative examples of risks as threats, terminology, descriptions of risk responses, and the use of probability impact matrices. The preponderance of such references suggests at least an emphasis, if not a pre-occupation, with threats rather than opportunities. This emphasis might reflect a difficulty in throwing off the commonly understood meaning of ‘risk’.

Another of our concerns is the focus on ‘events’ or ‘circumstances’ which these definitions suggest. We suggest it is important to take uncertainty about anything that matters as the starting point of uncertainty management, defining uncertainty in the simple ‘lack of certainty’ sense.

## 3. Uncertainty management

To emphasise the desirability of a balanced approach to opportunity and threat management, the term ‘uncertainty management’ is increasingly used in preference to the more established terms ‘risk management’ and ‘opportunity management’. However, uncertainty management involves rather more than the combination of risk management and opportunity management. Uncertainty management is not just about managing perceived threats, opportunities and their implications. It is about identifying and managing all the many sources of uncertainty which give rise to and shape our perceptions of threats and opportunities. It implies exploring and understanding the origins of project uncertainty before seeking to manage it, with no preconceptions

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