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Key points of contention in framing assumptions for risk and uncertainty management

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Abstract

This paper explores the relationship between 'common practice' as defined by a simple reading of PMBOK Chapter 11 and 'best practice' as approached (but not quite achieved) by two alternative guides (PRAM and RAMP) in terms of key points of contention in framing assumptions which everyone interested in project management as a whole ought to understand. An immediate purpose is helping readers to avoid some of the current confusion about the difference between 'common practice' and 'best practice'. A longer term goal is influencing the shape of future project risk management guides, to enhance them individually, and to make them easier to use collectively. 'Best practice' definition is itself contentious. Other authors are encouraged to debate the definition of 'best practice' and explore the position of other guides. The framing assumptions are considered in terms of basic concepts: 'probability', 'uncertainty', 'risk', 'optimisation' and 'opportunity'. A practical example of the implications is provided via analysis of the use of probability–impact (PI) matrices and associated PI indices (risk indices or scores). The use of PI indices is 'common practice', but it is a clear indication that 'best practice' is not being followed, for reasons clarified in this paper. A follow-on companion paper considers related generic process definition issues.

Keywords: Project risk management; Uncertainty management; Guides; Probability–impact matrices and indices or scores; Risk indices or risk scores

1. Introduction

The need for effective and efficient management of risk and uncertainty in projects is not contentious. How best to satisfy this need is highly contentious amongst those involved in contributing to the project risk management literature, especially amongst those involved in producing guides under the auspices of professional bodies and government agencies. However, direct debate about points of contention has been limited, and for the most part it has been confined to discussions within groups producing guides.

Consequences of this lack of public debate include a significant gap between 'best practice' and 'common practice', and considerable confusion about what 'best practice' involves. This paper attempts to stimulate debate involving the project management community as a whole about the differences between 'best practice' and 'common practice' framing assumptions. To clarify the implications in immediate practical terms an example is employed – the use of PI (probability–impact) matrices and associated PI indices (risk indices or scores), a 'common practice' tool.

PI indices are a clear symptom of 'common practice' which is not 'best practice', a statement some readers may see as contentious. They are used in this paper to illustrate the practical implications of framing assumptions while avoiding the details of generic processes which require a separate paper. PI indices are central to the risk management chapter in the third edition of the Project Management Body of Knowledge (PMBOK) guide [1, chapter 11], produced by the Project Management Institute (PMI), referred to as PMBOK 2004 in this paper. They are accommodated and provide a significant source of

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confusion in the second edition of the Project Risk Analysis and Management (PRAM) Guide [2], produced by the Association for Project Management (APM), referred to as PRAM 2004 in this paper. They are also accommodated and provide a minor source of confusion in the second edition of the Risk Analysis and Management for Projects (RAMP) guide [3], produced by the Institution of Civil Engineers and the Actuarial Profession, referred to as RAMP 2005 in this paper. In all three cases the date is dropped when the meaning is clear.

This paper restricts itself to three guides, which requires explanation. PMBOK 2004 was included because it closely reflects 'common practice' as understood by the author. Guidelines produced by professional bodies necessarily seek consensus. This can lead to a 'lowest common denominator' syndrome. All guides are practice led to some extent, although their intentions are to lead practice. PMBOK 2004 reflects common practice more strongly than PRAM 2004 or RAMP 2005. This may be attributable to stronger pressure within the group which produced it to accommodate common practice. However, the author believes that PMI global reach and the straightforward nature of the PMBOK guide are important reasons why a simple reading of PMBOK defines common practice. PRAM 2004 and RAMP 2005 were included because they are effective alternatives which approach 'best practice', the remaining gap is of interest, and the author was directly involved in discussing key points of contention during their drafting. The issues raised are relevant to other guides and the literature more generally. Other guides were beyond the scope of a single paper, but other authors are encouraged to contribute to the debate by extending the discussion to other guides and other approaches in the broader literature. The author's view of 'best practice' is clearly a legitimate target as part of this debate. Some readers may wish to debate 'common practice', but this would be less productive.

The author was responsible for drafting the process chapter in PRAM 1997 [4], and a co-author of the substantially revised process chapter in PRAM 2004, as well as making more general contributions to both editions, like all members of both working parties. This paper was stimulated in part by the extensive discussions of unresolved differences in opinion which took place during the second working party's deliberations. The management of the working parties on both occasions was very effective, and all contributors were collaborative and constructive in their responses to differences in opinion. Contributors provided expertise based on experience across a wide range of industry, from consultant, contractor and client perspectives. PRAM 2004 takes a bold step forward relative to PRAM 1997 and PMBOK 2004, while accommodating sustained and unresolved arguments about what is 'best practice' as distinct from 'common practice', and what should be recommended, tolerated, or excluded. Accommodating deeply held conflicting views to the extent achieved by the PRAM 2004 working party was collaboration in the best possible spirit. In my view this was not a mistake. It was an important step in a process to reach agreement which will certainly take time and may never produce complete convergence. The views on key points of contention expressed in this paper were not shared by all members of the PRAM 2004 working party, but the process of producing a consensus was very illuminating, and all members of the working party deserve credit for the illumination this paper tries to pass on. This paper is concerned with explaining what is involved in the areas where consensus was difficult because a working understanding of all current guides and the literature more generally requires clarity on these points of contention, as does enhancing all future guides and common practice.

The author contributed to the development of the process structure in the 1998 first edition of RAMP 2005, which has not changed, to the editorial processes of both editions, and to the general discussions of the working party. Points of contention were not a significant concern, so this paper does not draw on RAMP to the same extent, but the RAMP discussion complements and extends the PRAM discussion in a useful manner. The RAMP working party brought together a comparable range of interests and skills, but it was different, diversity in professional backgrounds being one key difference (actuaries, economists and engineers), more senior management and board level experience being another. Management of the RAMP working party was comparable to the PRAM working parties in terms of its high quality, but different, more direct control by the chair/chief editor and the originator of the process definition leading to greater internal consistency being the key differences. The less contentious nature of the discussions meant that collaboration was not tested to the same degree, but it was comparable in quality.

The author has not contributed to PMBOK guides, but part of the stimulation for this paper and a related earlier paper [5] was provided by an invitation to give the earlier paper at a PMI Risk SIG conference in California, and part of the purpose of this paper is a basis for ongoing dialogue with PMI Risk SIG members.

Several PMBOK contributing authors provided very useful feedback on an earlier draft of this paper, and feedback from contributing authors of all three guides shaped the final draft of this paper significantly.

Key points of contention are addressed in this paper in terms of framing assumptions. This is not the basis on which most discussions about them took place. Such discussions usually focused on process implications. Hindsight suggests direct discussion of framing assumptions might have been a more productive starting place.

In each case the 'span' of the framing assumption is defined on a 5 point scale, from 0 to 4. 'Span' reflects generality, range or scope. Point '0' signifies zero span, point '1' signifies a minimal level of consideration, and point '4' signifies a 'best practice' level of consideration, as 'best practice' is currently understood by the author. Intermediate points were chosen to facilitate discussion. A 5 point scale provides a good framework for discussion at a useful