



# PROJECT-RISK!

*Bulletin from the APM Risk SIG*

## FOREWORD

The Risk SIG Summer meeting in Stafford generated much interest, with participants travelling from all around the country to talk about project risk management. This was the SIG's third joint meeting with an APM branch, and it proved to be an excellent model for future such collaborations. Organisation of the day was shared by the Risk SIG, Staffordshire Chapter and an APM Corporate Member - Staffordshire University. The SIG worked with the Chapter to agree the format of the day, and the Chapter liaised with the University to arrange the venue.

The invitation for this meeting came from the Chapter at last year's Midland Branch AGM in Birmingham. The meeting was then over a year in planning. Chairing of the day was shared between the SIG Chairman Jeremy Harrison and the Chapter Chairman Roger Fairhead. The University's campus provided ideal facilities for the demands of the meeting, with seven rooms used for registration, the workshop, lunch, KSN and presentations. Eighty people fully booked the workshop, and a few additional members took the option of only attending the free afternoon session.

The whole day was exceptional value - thanks to the voluntary support of the SIG's speakers and workshop facilitators. For those unable to attend, presentations are now on the Risk SIG's website, and Elmar Kutsch has also written a summary of his talk for this newsletter. A paper of the Workshop results is also being prepared for Project magazine.

With the growing membership of the Association, the APM Headquarters has recently appointed a full-time Branch and SIG Development Officer - Milena Balfe. She attended her first Risk SIG meeting in July, helping with registration and offering support to the Branch and SIG Committees. A questionnaire has also been sent out by her with Project, which invites responses from members on how branches and specific interest groups operate and could be improved. In addition, a second SIGs Forum has been organised for 11 October, where Dave Scarbrough will attend to represent the Risk SIG.

These are busy times for those actively involved with the development of the Project Management profession, and although the Risk SIG is one of the oldest groups, interest in the concept of risk management continues to be high, and the discipline is now becoming established as a requirement for best practice. However, with the growth comes changes, and, even though the Risk SIG has made some significant achievements this year, we have to take time out to question if we are losing our roots? The SIG's AGM is approaching, so this is an ideal opportunity for you to make suggestions, and thus influence the future direction of the group. Immediately after the AGM, the SIG Committee will begin planning for the 2005/6 year. Therefore, please let the Committee know your views on how you would like to see the Risk SIG move forward - our contact details are on the back of this newsletter.

We hope you enjoy reading this second issue of the bulletin. It includes a retirement tribute to Professor Chris Chapman, the SIG's founding Chairman, plus details of meetings, software and publications, an update on the development of the PRAM guide and Risk Certificate - plus a couple of papers from colleagues. If you would like to submit an article for the next issue of Project-Risk!, then please send it to the Editor for consideration.

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## RETIREMENT - CHRIS CHAPMAN

Chris Chapman was the Risk SIG's founding Chairman. Born in Toronto in 1939, now at 65, he is retiring Professor of Management Science at the University of Southampton. But it's certainly not the last we'll see of Chris. He is to continue to pursue his interest in project risk management, and will maintain his involvement with the University and the APM Risk SIG - he was one of the speakers at the SIG meeting in April earlier this year.

Chris was approached to start the SIG by Eric Gabriel in 1986. At the time, Eric was on the APM Council, and was the President of the International Project Management Association. From the beginning, the SIG took an international view, with members travelling from as far away as Norway. The SIG started with a mailing list of just a dozen, with about six members at each meeting. The founding members were mainly working in the energy sector (e.g. oil or nuclear), either as internal or external risk management consultants.



Chris recalls that initial growth was slow, roughly doubling in the early 1990s. However, it was just after this when significant interest took place. The growth was largely due to the Ministry of Defence - who started making all contractors adopt a risk management process as a prerequisite to bidding. Also, a series of project risk management papers and articles began to be published in the International Journal of Project Management. A general upsurge in interest across various different industries followed, and much of the credit for this was (of course) due to the voluntary hard work and efforts of APM Risk SIG participants. Today, there are over 500 names on the SIG mailing list, but without Chris' initial leadership, the Risk SIG might not be here today!

Chris first came to Britain in the early sixties. This followed his first degree in Industrial Engineering at the University of Toronto. He was awarded an Athlone Fellowship - sponsored by the UK Board of Trade for postgraduate study in the UK. During this time, he completed a Master of Science degree in Operational Research at the University of Birmingham. A year later, he was awarded his Professional Engineer status from Ontario. He completed a Doctorate at Southampton in 1975, the focus being on economics and econometrics - supervised by Professor Ivor Pearce.

He first began lecturing at Southampton in 1965, and earned his personal chair as Professor in 1986. He is a prolific writer, having published six books, twenty chapters in edited volumes, and forty-four refereed academic papers. His 1997 book with Stephen Ward, entitled "*Project risk management: Processes, techniques and insights*", was a best seller for publisher John Wiley & Sons, and the Second Edition has recently been published (see the 'Recent Publications' section of this Bulletin). The original book's process is based on the APM's first PRAM Guide (Chris wrote Chapter 3 and has also worked on the recent update). In 2002, Chris published another quite different book with Stephen Ward, called '*Managing project risk and uncertainty: A constructively simple approach to decision making*'. This uses cases to explore a range of issues in detail, e.g. such as bidding, and the links between projects and corporate strategy.

He has also been kept busy with academic management activities. From 1983 to 1986 he was Chairman of the University's Committee for Advanced Studies, from 1984 to 1991 he was Head of the Department of Accounting and Management Science, from 1995 to 1998 he served as Director of the School of Management ... the list goes on! Yet he still made time to supervise sixteen students to successful PhD completion - and is married with two sons.

Chris has also undertaken many consultancy assignments. He says that his involvement in 'real' problem situations was key to his research motivation. He prefers to pursue consulting assignments when they offer the chance to develop new paradigms, processes, models and insights, using the practical involvement as his research laboratory. When possible this was further developed via University research projects. Chris has an international reputation as a consultant in various industry sectors, and he is a former Non Executive Director of Southern Water.

He has also pursued activities with other professional bodies, becoming President of the Operational Research Society between 1992 and 1993, panel member of Business and Management Studies HEFCE Research Assessment Exercise between 1992 and 1996, founding Chairman of the Association of Management Sciences from 1993 to 94, and became Honorary Fellow of the Institute of Actuaries in 1999.

One sentence from Chris: "*Keep risk management simple, but not simplistic - do your best to understand what simplifying assumptions imply and how to add complexity when it pays to do so*".

Chris Chapman is a Professor at the University of Southampton  
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## MEETINGS

### 2004

14 October      **Launch of the second edition of the 'PRAM' guide - London**  
*Plus the SIG's 2<sup>nd</sup> Annual General Meeting*

### 2005

06 January      **Integration of risk and value management - Canterbury**  
*With the Institute of Risk Management and APM South East Branch*

24 March        **Risk management and defence - Bristol**  
*With the Defence Procurement Agency and APM South Wales & West of England Branch*

Risk SIG meetings are held quarterly, with Calling Notices circulated about a month before each date. If you are interested in sharing your work and knowledge by presenting at a SIG meeting, or have a seminar facility to host an event in your organisation, please email the Secretary with details.

Note that the main quarterly meetings are normally planned a year in advance, although additional events can be considered by the SIG Committee. However, all external collaborations need approval from APM Headquarters, so please let us know well in advance about any potential initiatives.

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## SOFTWARE

The Risk SIG Software Directory on 'Project Risk Management' packages has recently been updated by Dave Scarbrough - the SIG's Techniques and Tools Officer. The list can be viewed or downloaded free from the Risk SIG website. If you are aware of any new software which could be added to the list, then please let us know at: [dave.scarbrough@services.fujitsu.com](mailto:dave.scarbrough@services.fujitsu.com)

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## RECENT PUBLICATIONS

***Management of risk (M\_o\_R): Guidance for practitioners (Second impression)***. Office of Government Commerce (2003). The Stationery Office. ISBN 0-11-330909-0

***Project risk management: Processes, techniques and insights (Second edition)***. Chris Chapman and Stephen Ward (2003). John Wiley & Sons. ISBN 0-470-85355-7

***Managing project risk and uncertainty: A constructively simple approach to decision making***. Chris Chapman and Stephen Ward (2002). John Wiley & Sons. ISBN 0-470-84790-5

### **New Reading List**

The SIG's Training & Seminars Officer, Simon Robertson, is presently working on the update of the "Recommended Reading List". The content of the list is based on member suggestions, and will soon be published on the SIG website.

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## PRAM

Thanks to the heroic voluntary efforts of the SIG Revision Team, the update of the APM guide "Project Risk Analysis & Management" (PRAM) is now finished, and has been handed-over to the publisher. The Second Edition will be on bookshelves this Autumn; that's six years after the first version was completed by Peter Simon's team in 1998. Note that there are still a few prints of the original publication available, which can be purchased from [www.apmpublishing.com](http://www.apmpublishing.com)

Work is presently on-going with the finer details of the new guide, which is generating much interest from the Association's senior officials. Like the first edition, the text promises to be a landmark piece of literature - so make sure you're on the SIG mailing list to receive notification of the guide's launch. Unfortunately, we cannot take advanced bookings, but keep your eyes peeled for details on how to register for the event and purchase your guide.

**Paul Close is the PRAM Project Manager**  
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## CERTIFICATE

In 2002, the SIG produced a syllabus enabling members to obtain a specific APM qualification in project risk management. This single-subject Certificate was developed by Andrew Chalklen, Peter Simon and David Hillson. Andrew Chalklen has continued to assist and oversee the development and maintenance of the Certificate - in association with APM Headquarters.

At February's Risk SIG meeting, Andrew Chalklen and Peter Simon both gave their time to explain how the Certificate became the first ever single-subject APM qualification. It comprises two levels. The first paper is a one-hour knowledge-testing exam, with 100 multiple-choice questions. Level 2 is a three-hour written exam, with a mandatory 90 minute question based on a case study, plus two from three other questions. This second level exam tests both knowledge and application skills for project risk management.

In preparation for the exams, candidates are required to be familiar with the APM's Body of Knowledge, the British Standard BS6079 and, of course, the PRAM guide. The revised PRAM guide will mean that changes are required to the syllabi of the Certificate in order to align the documentation. The SIG is to begin working on this as soon as possible, together with the drafting of new exam papers and marking guidelines for examiners.

The Institute of Risk Management (IRM) has shown much interest in our Certificate, to the extent that they now offer it as an optional specialist subject with their professional qualification! Earlier this year, the Risk SIG held a joint meeting with the IRM at the Institute of Directors in Manchester. The meeting proved to be such a success that it was agreed that the IRM would collaborate with the APM Risk SIG to make this an annual event. So, each New Year, the two professional groups will be able to formally review progress in the field, and look at areas where we can complement each other better in the future.

At the February meeting, the IRM's Kate Boothroyd explained that the IRM examinations are now held in thirty countries. Although there are some differences between the APM and IRM procedures (e.g. in formats and the support each organisation provides for students), these issues can now be addressed at our annual meet-up ... where there will be opportunity to discuss things openly.

An additional initiative has recently materialised from this relationship, as our SIG Chairman, Jeremy Harrison, has been invited to represent the APM Risk SIG at the IRM's 2004 Risk Forum. This is being held at Keele University on the 20th and 21st September, and Jeremy will be leading a Workshop entitled "*Risk management - delivering benefits to projects*". For more information, email [riskforum@theirm.org](mailto:riskforum@theirm.org)

If you would like to take the APM Risk Management exams, several Accredited Providers have been approved to offer courses leading to the Certificates. Details are available from APM Head Office by phoning 0845 458 1944 or by email [info@apm.org.uk](mailto:info@apm.org.uk)

**Andrew Chalklen is the Certificate Project Manager**  
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## CONSEQUENCE OF RISK CONDITIONS - BY ELMAR KUTSCH

The findings of this research, which include 25 interviews and a questionnaire survey of 102 respondents, reveals that four specific risk related conditions prevail in IT project risk management: ‘*Denial of uncertainty*’ by risk actors relates to risk related information that risk actors find troubling because of its discomforting character; ‘*avoidance of uncertainty*’ applies to risk estimates that are conflicting; ‘*delay of uncertainty*’ emphasises the preference of risk actors on reactive risk management and to wait until uncertainty resolves itself; and ‘*ignorance of uncertainty*’ includes the lack of knowledge by risk actors - see Table 1.

Intervening condition	Definition	Description
Denial of uncertainty	The refusal by risk actors to believe or to make other risk actors believe in negative or discomforting risk related information.	<p><b>Discomforting risks</b></p> <p>Denial of uncertainty in order not to expose stakeholders to something perceived as negative.</p> <p>Denial of uncertainty in order not to jeopardise long-term relationship with stakeholders.</p> <p>Denial of uncertainty in order not to be perceived as a "doomsayer".</p> <p>Denial of uncertainty in order to present the project as being "certain" and "certainly" successful for stakeholders.</p>
Avoidance of uncertainty	The refrain from conflicting risk related information by risk actors.	<p><b>Distrust in risk estimates</b></p> <p>Avoidance of uncertainty because of mistrust between risk actors.</p> <p>Avoidance of uncertainty because of colliding confidence levels about risk estimates between risk actors.</p> <p>Avoidance of uncertainty because of colliding perceptions of risk actors about the legitimacy to manage certain risks.</p>
Delay of uncertainty	The suspense of risk related information by risk actors.	<p><b>Different risk management preference</b></p> <p>Delay of uncertainty because of different expectations of risk actors about how to manage risk (proactive or reactive).</p>
Ignorance of uncertainty	Incomplete knowledge of risk.	<p><b>Incomplete knowledge</b></p> <p>Ignorance of uncertainty because of limited scanning of the environment.</p> <p>Ignorance of uncertainty because of the inability to scan and interpret the environment because of factors such as complexity and dynamism.</p>

**Table 1: Overview of intervening conditions**

Risk conditions might include environment related and decision-maker related sub conditions. Ignorance of uncertainty by risk actors, for example, might contain the environment related condition of complexity and dynamism. However, ignorance of uncertainty may also be caused by the risk actor related condition to deliberately exclude some areas of project uncertainties to be identified, assessed and managed because some uncertainties may be considered as out of the scope of the project.

The dominant paradigm underlying project risk processes is Expected Utility Theory, defined as: “*a weighted average of the utilities of all the possible outcomes that could flow from a particular decision, where higher-probability outcomes count more than lower-probability outcomes in calculating the average*” (Borge, 2001). The utility of decision-making choices are weighted by their probabilities and outcomes (Arrow, 1983; Borge, 2001; Kahneman et al., 1979). Consider the following simplified example, as presented in Figure 1.

A project manager facing risk in a project has the choice to apply Project Risk Management (PRM) to mitigate risk or may choose not to manage it. The probability of avoiding disruptions in a project through applying risk management is P and without risk management Q, with P larger than Q and  $1 - Q$  larger than  $1 - P$ . The utility if avoiding disruptions (relative to the cost of materialised risk) is A and the utility of no PRM (relative to the cost of PRM) is G while A is assumed to be greater than G. The utility of scenario 1 is presumably the worst, therefore set at 0.

Under the optimal conditions of expected utility theory as described, one can assume that risk actor always choose to mitigate risk and minimise the influence of uncertainties on the project outcome because A (the utility of no disruption) is assumed greater than G (the utility of no PRM) and P greater than Q. However, Pitz (1992) argued that the expected utility of G or the choice of a risk actor not to

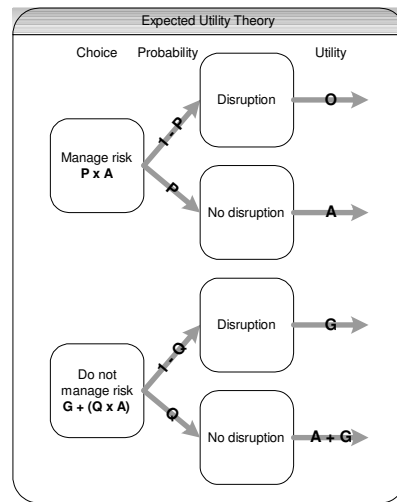


Figure 1: Expected Utility Theory

The expected utility of managing risk is  $((1 - P) + 0) + (P \times A) = P \times A$ .

The expected utility of not managing risk is  $((1 - Q) \times G) + (A + G) = G + (Q \times A)$

Pitz, 1992

manage risk although being faced with uncertainties with possible adverse consequences in a project may be greater than A if either A is reduced or G increased; as demonstrated in Figure 2.

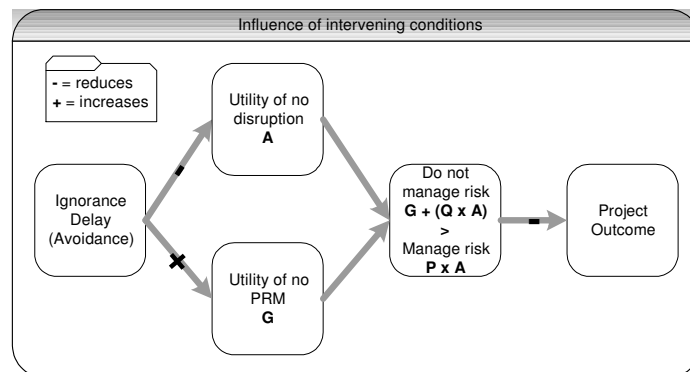


Figure 2: Influence of intervening conditions on the expected utility

By reducing A the relative expected utility for avoiding disruptions in the project will be reduced; vice versa, by increasing G the relative expected utility for not applying risk management in the project will be greater. Hence, considering that G is relatively large enough, a risk actor in a project may decide not to manage uncertainties although they actually have an effect on the project outcome. In particular ignorance and delay of uncertainty strongly appear to lead to the relative reduction in A or the increase in G and therefore lead to a severe underestimation of risk with considerable adverse influences on the project objectives of time, cost and scope. Delay of uncertainty by risk actors, for example, increases G and/or reduces A. A risk actor's benefit not to expose one or more stakeholders to negative perceived information may be so great that he trade offs the benefit of avoiding disruptions with the benefit of not applying risk management.

To conclude, the implications of those conditions established in this study have to be taken into account in order to understand the limitations of PRM and, if possible, to manage those conditions.

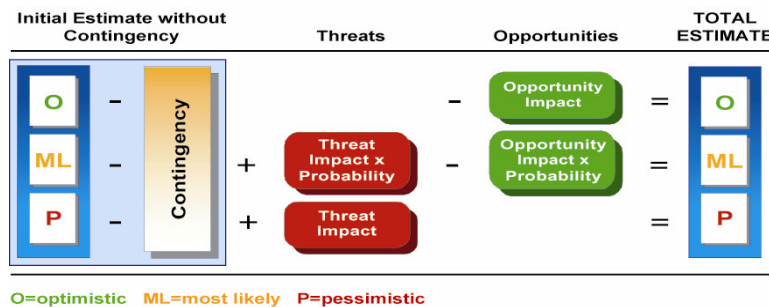
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**APPLYING SCIENCE TO AN ART - BY DAN PATTERSON**

Project management can be defined as both an art and a science. This philosophy can also be applied to project risk management (itself a sub-set of project management). Estimating both the chance of a project risk event together with its impact on the project is highly subjective in nature and prone to error and discrepancy among project managers. What is needed is a formalised, uniformly adopted means of identifying, tracking and responding to project risks. Such formalised approaches and methodologies have become generally agreed upon by recognised project management publications. While these do not necessarily advocate full or complete implementation of their content, they do provide a well-structured framework and basis for a project Risk Management Plan (RMP). The RMP should be your “risk management bible” and the key to a successful risk management culture within your project. The Risk Management Plan should determine how risks are identified, into which classifications they should fall, how tolerant you are to their occurrence, and how you should respond to them.

Historically, the focus of risk management has been based upon negative impacts on a project’s success. More recently, a growing trend has emerged that also recognises the benefit of potential positive risk in the form of opportunities within a project. Thus, risks can be viewed as either threats or opportunities and, as such, both should be fully accounted for when planning and controlling a project. Additionally, care should be taken to not confuse uncertainty about schedule and cost estimates with that of potential increases or decreases in these estimates as a result of project risk. The best project estimates are generated by adopting a two-stage approach.

Firstly, either deterministic or stochastic (e.g. three point) estimates for project tasks are generated using standard estimating techniques. Stochastic estimates can be then evaluated using risk analysis simulation techniques such as Monte Carlo (“*Quantitative Risk Management*”). The second stage is then to determine an expected increase or decrease in estimates based upon the expected amount of threat or opportunity that will arise from risk events (Figure 1). This second process is highly subjective in nature and best managed using a Risk Register (this process is known as “*Qualitative Risk Management*”). The Risk Register provides a structured means of identifying risks within sections of a project and accurately modelling the risk probability and severity. It also provides the basis for mapping out a risk response plan. Once the expected amount of risk impact has been determined, a suitable amount of contingency can then be added to the task in question to generate a planned estimate (for both task cost and duration).



**Figure 1 - Calculating estimates for uncertainty and risk**

Risk response is typically in the form of risk mitigation - that is the pro-active reduction of risk scores by planning risk reduction steps. Mitigation steps often result in additional work being required and, as such, can actually increase the scope of work within the project - additional worthwhile work that is, however, without which the project would invariably suffer.

Formalised risk management alone is not the silver bullet of project management. However, adoption of a true risk management process from project start to end does bring additional structure and process to your overall project management plan thus adding even more science to the "art" of project management.

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## VOLUNTEERS WANTED

If you want to volunteer to become more actively involved in the work of the Risk SIG, then please email the SIG's Treasurer at: [ian.isaac@o2.com](mailto:ian.isaac@o2.com)

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