

What is your biggest risk?

By David Hillson

How would you reply if someone asked you 'What is the biggest risk on your project?' It's quite likely that you would be able to answer without too much difficulty, as most of us know what keeps us awake at night, either worrying about what could go wrong (threats), or getting excited about possible improvements (opportunities). But when you answered the question, what criteria did you use? How do you measure the 'size' of a risk so that you can determine which is the 'biggest'? Is it just an intuitive feeling, or are there measurable parameters we can use?

It is very common to use just two characteristics in order to prioritise the risks identified on our project. Those two are probability and impact, giving an estimate of how likely the uncertain risk is to occur, and how significant its effect on project objectives would be if it actually happened. And, of course, probability and impact are, indeed, key criteria to consider when deciding how big a risk is.

In fact, these two attributes are related to two fundamental characteristics of every risk. Firstly, each risk is uncertain, which means that it may not happen, and 'probability' reflects the degree of uncertainty about whether it will happen or not. Secondly, a risk that occurs matters because it would affect our ability to achieve one or more project objectives, and 'impact' describes our prediction of the extent to which objectives would be affected.

The use of these two risk attributes as the sole means of sizing risks has led to the supremacy of one technique for prioritising risks in projects. The two-dimensional Probability-Impact Matrix (PIM) is frequently used as the only way to rank risks, combining the two dimensions with top priority being given to high-probability – high-impact risks. An example PIM is given in Figure 1, illustrating the typical double 'mirror matrix' format which shows both threats and opportunities, with red/yellow/green zones used to indicate high/medium/low priority risks.



Figure 1: Example double Probability-Impact Matrix

Although the PIM is very common, it is limited by only representing the two dimensions of probability and impact. There are, however, several other important characteristics of risks which we might want to use when we answer the question 'Which is

the biggest risk?' For example:

Manageability – How easy is it to do something about the risk? We may decide that a medium-probability/medium-impact risk that we can do nothing about is more important than a high-probability/high-impact risk which is simple to deal with.

Proximity – If the risk happens, how soon do we expect that to be? A risk that might happen tomorrow should be treated as more important than one which might not occur until next month or next year.

Propinquity – How important is the risk to me personally, or to my team or our project? We are more sensitive to risks that affect us directly, and view risks to others as less important.

Urgency – How much time do we have in order to implement an effective response to the risk? If we must act now to address the risk, we should give it higher priority than one where we have longer to respond.

Relatedness – Is this risk related to other risks? A risk with complex links or dependencies with many other risks should be treated as higher priority than a simple independent risk.

There are other characteristics, in addition to these, which we might wish to consider when we try to decide how big a risk is, and what degree of priority we should give it. But this list indicates that simply assessing the two attributes of probability and impact is insufficient to answer the question of risk size.

The problem is that as soon as we introduce additional criteria into the risk assessment process, the traditional Probability-Impact Matrix is unable to cope. It is a two-dimensional tool that represents just two dimensions of risk. If we want to include three or more risk characteristics, we need other methods. Fortunately, such methods exist, allowing us to prioritise risks in a more intelligent and sophisticated manner.

Two common examples include the risk prioritisation chart and the bubble chart, shown in Figures 2 and 3. The example risk prioritisation chart plots probability, impact and urgency, while the bubble chart shows urgency, manageability and impact, but any combination of three dimensions could be used.

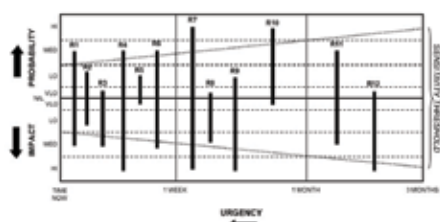


Figure 2: Example risk prioritisation chart

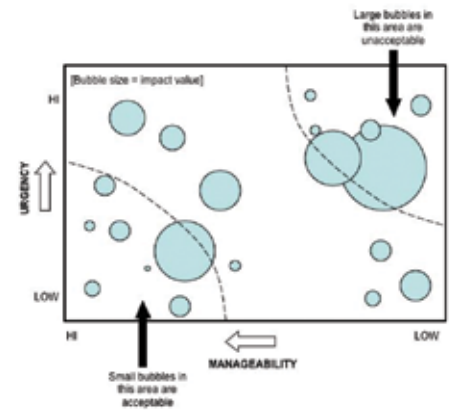


Figure 3: Example bubble chart

Of course, the more dimensions you try to use to size your risks, the harder it becomes, both in developing a suitable ranking algorithm and in presenting the results. But the point is that if we try to answer the question 'What is your biggest risk?' by referring only to probability and impact, we are ignoring other important risk characteristics.

It seems unlikely that projects will stop using the traditional Probability-Impact Matrix any time soon, as it is simple and popular. But if we really want to know which are our worst threats and best opportunities, we might need to use other techniques as well. Fortunately, the APM Risk Management Specific Interest Group (Risk SIG) has recently published a short guide called 'Prioritising Project Risks' which outlines the challenge and presents a wide range of ranking methods which can be used alongside or instead of the PIM. Full details are on the APM website: <http://www.apm.org.uk/PrioritisingProjectRisk.asp>.

The question 'What is your biggest risk?' seems simple enough, but we should avoid the trap of giving an answer which is too simplistic.

About the author

Dr David Hillson, PMP, HonFAPM, FIRM, is an international risk management consultant, and Director of Risk Doctor & Partners (www.risk-doctor.com). He is a popular conference speaker and award-winning author on risk. He is recognised internationally as a leading thinker and practitioner in the risk field, and has made several innovative contributions to improving risk management. David is an active member of the global Project Management Institute (PMI) and received the PMI Distinguished Contribution Award for his work in developing risk management over many years. He is also a Fellow of the UK Association for Project Management (APM) and a Fellow of the UK Institute of Risk Management (IRM).

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