P3 Management Services

Leaders in Portfolio, Program(me) and Project Management

The Risk Radial – refining the prioritisation of risks

Current Situation

Project, programme and portfolio managers alike will be totally familiar with contrasting the likelihood of a risk occurring with the consequence should the risk eventuate to determine a risk rating.

Within the industry the following diagram, known colloquially as a risk matrix, or a slight variation thereof is used my most, if not all project, programme and portfolio managers to assess and prioritise risks.

	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Medium	Medium	High	High	Extreme
Likely	Medium	Medium	Medium	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	High

Project, programme and portfolio managers alike will also be familiar that most organisations only permit a limited number (typically five) risks to be reported in regular progress/status reports. Organisations may also have 'business rules' that specify which risks are to be reported –typically project and programme managers are to report their 'top five' risks.

Now this might not be problematic for many projects and programmes. But what is a project or programme manager to do if they have more than five risks of the highest rating. Which risks are to be reported?

Typical Approach

The majority of project, programme and project managers use MS Excel™ or equivalent as their risk register/log and will accordingly use the sort function to sort active risks by their risk rating. Thereafter they will select the first five to include in their status reports. Unfortunately, this approach does not prioritise between risks of the same risk rating. Consequently, the risk that should have the highest priority may not be presented at the top of the list of risks being experienced by a project.

Another approach, is to assign a number (or priority value) to each cell in the risk register.

	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	14 Medium	12 Medium	5 High	3 High	1 Extreme
Likely	17 Medium	15 Medium	10 Medium	4 High	2 Extreme
Possible	20 Low	18 Medium	13 Medium	7 High	6 High
Unlikely	23 Low	21 Low	19 Medium	11 Medium	8 High
Rare	25 Low	24 Low	22 Low	16 Medium	9 High

This approach will enable project and programme managers to differentiate between some risks that have the same rating. It does not, however differentiate between risks that have the same likelihood and consequence rating combinations.

Furthermore, the assignment of numbers (or priority values) to each cell in the risk matrix is fairly arbitrary and subjective…there is no real science behind it.

Finally, neither of these approaches addresses the granularity of the risk matrix that produces sometimes incongruous distinctions between risk ratings.

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The Risk Radial

The concept of the risk radial is based on the visual presentation of the typical risk matrix. As one can see, the risk rating increases as the likelihood and consequence increases.

	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Medium	Medium	High	High	Extreme
Likely	Medium	Medium	Medium	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	High

Indeed, one could map a set of curves over the top of the risk rating and see that risks of a common rating are approximately the same distance from the nil-nil intersection (bottom-left hand corner of the risk matrix)

	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Medium	Medium	High	High	Extreme
Likely	Medium	Medium	Medium	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	High

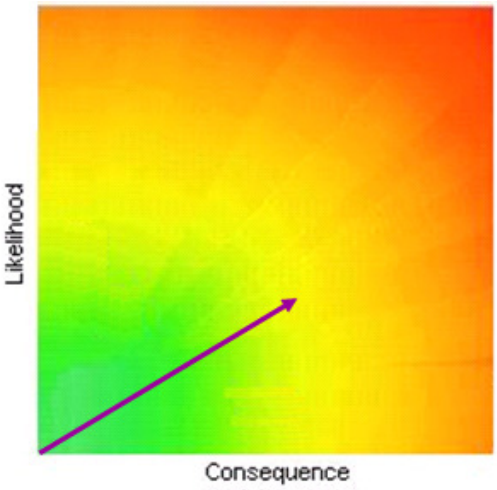
From this realisation, the risk radial was born.

Under the risk radial approach, each risk would be assigned a value according to the following equation

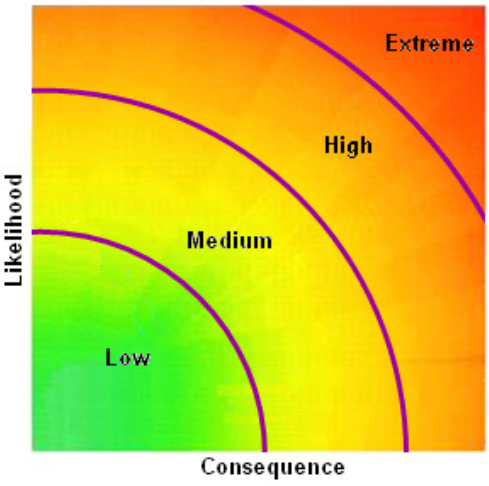
$$\text{Risk Radial} = \sqrt{\text{Likelihood}^2 + \text{Consequence}^2}$$

where *Consequence* is represented as a percentage of total project failure.

As we now see, each risk should be capable of having a different risk radial score. This would enable risks to be separated from one another and ordered according to their risk radial score.



Now, we're not suggesting that the risk radial score should replace the risk rating other than for the purpose of determining the order in which risks should be reported. Stakeholders still need a simple rating of risks. Therefore, using the risk radial score, risks could be graded as either Low, Medium, High or Extreme as shown below.



In addition to assisting to differentiate between risks, the risk radial approach also removes the incongruous distinctions between risk ratings that is a feature of the risk matrix approach.

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