

## Addressing the bias in probability and impact assessments

Most Project Managers will use a probability and impact grid (or matrix) in some form as a means to assess the relative importance of identified risks and hence decide which risks need urgent treatment or in some rare cases no treatment at all. For many, either subconscious or conscious bias will mean that they are wasting their time because of the way people tend to think about threats and opportunities. We believe that there are two major factors that contribute to bias. Our work in risk management has led us to observe that if we think something is highly likely to happen then we are prone to thinking that 'it can't hurt us' i.e. the impact must be low. On the other hand if we think that 'it'll never happen' then it can have the most catastrophic impact as it 'won't happen to me' i.e. the impact can be high.

The second factor relates to the fact that the majority of those that use a probability and impact grid use the 'simple' 3 x 3 grid with axis scales of high, medium and low. Unfortunately there is very often no concept of what is meant by high, medium or low probability or what is meant by impact. Is it impact on the whole project or impact against the schedule, the budget, the scope, the quality or what? Does high probability mean 'it's almost certain' and does high impact mean 'oh dear! - what do we do now'. Does low probability mean 'it'll never happen' and low impact mean 'I don't care if it does'. The truth is nobody knows or in some cases even cares. It is our opinion that the very **use of a 3 x 3 grid, assessing risks in a haphazard manner and then only managing the risks that end up in the top right hand corner (H/H) is a pointless exercise because inherent bias downplays the risks away from the top right hand corner and therefore away from any management of the uncertainty.**

In reality the assessment of probability and impact is absolutely worthless unless the following things are done:

- Always use a 5 x 5 grid (never larger) in order to give more granularity when trying to establish the relative priority of each risk.
- Use a linear scale for probability and a logarithmic scale for impact in order to accentuate impact over probability i.e. I should be more worried about something that will 'kill' me but is very unlikely to happen than something that is almost certain that might break my little finger.
- Use a 'value' in each cell of the grid to create a more valid split (threshold) between red - amber - green areas or urgent - medium - low risk sectors of the grid.
- Create project specific impact scales to make sure that the assessment is far less subjective. Ideally we should look at the impact on ALL objectives but we rarely consider scope and quality. Is this because they are 'protected' from the impact of risk?! - we'll let you ponder on that.

		0.05	0.10	0.20	0.40	0.80	
		VLO	LO	MED	HI	VHI	
		IMPACT					
	VHI 0.90	0.045	0.09	0.18	0.36	0.72	<b>Thresholds</b> > 0.20 <b>HIGH RISK</b> urgent attention 0.08 - 0.20 <b>MEDIUM RISK</b> regular review < 0.08 <b>LOW RISK</b> monitor
	HI 0.70	0.035	0.07	0.14	0.28	0.56	
	MED 0.50	0.025	0.05	0.10	0.20	0.40	
	LO 0.30	0.015	0.03	0.06	0.12	0.24	
	VLO 0.10	0.005	0.01	0.02	0.04	0.08	

Descriptor	Schedule	Budget	Quality
<b>VERY HIGH</b>	<b>&gt; 8 weeks</b>	<b>&gt; £500k</b>	Does not function or work
<b>HIGH</b>	<b>4 - 8 weeks</b>	<b>£250k - £500k</b>	Does not meet all customer requirements
<b>MEDIUM</b>	<b>2 - 4 weeks</b>	<b>£100k - £200k</b>	Fails to meet 4 - 8 customer requirements
<b>LOW</b>	<b>1 - 2 weeks</b>	<b>£50k - £100k</b>	Fails to meet 2 - 4 customer requirements
<b>VERY LOW</b>	<b>&lt; 1 week</b>	<b>&lt; £50k</b>	Fails to meet one customer requirements
<b>NIL</b>	<b>No impact</b>	<b>No impact</b>	<b>No impact</b>

- *Systematically separate the assessment of impact on different project objectives. No longer consider the 'whole' project but what is the impact on schedule, budget, scope, quality - and perhaps other impacts related to specific business benefits.*
- *Disassociate the assessment of probability from impact. This can be done by either splitting a group into two and asking one half to assess probability and the other to assess impact or if this is not appropriate carrying out two passes through the list of identified risks, firstly looking at probability then hiding these results and looking at impact. Only when both dimensions have been looked at should the two be combined. This will remove any subconscious bias relating to the probability and impact.*

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