RAVE Methodology:

This methodology is focused on the team's "hot list" of the top seven to nine project risks. On a typical project the method works as follows:

1. During the information phase the Study Team Leader as facilitator, in consultation with the project manager, helps the VE team select their "hot list" of 7 to 9 project risks. These risks should be defined as specifically as possible so all team members will interpret them the same way.

2. For each identified risk, considering the base case design, the facilitator helps the team to arrive at consensus for the probability of occurrence (likelihood) on a 1 to 5 scale based on the team's experience and subjective "gut-feel". A "5" signifies likelihood near certainty and a "1" signifies a remote likelihood.

3. Similar to step 2, the facilitator helps the team arrive at consensus for the cost and time impacts on a severity scale of 1 to 5 for the base case design based on the team's experience and subjective "gut-feel". The idea here is to get the order of magnitude of the impact, experience has shown that the project team and local experts will know this better than they think. For severity a "5" would be a critical impact and a "1" would signify little or no impact. A severity of impact table (see Figure 4) should be agreed to by the team prior to commencing this step.

Level	Severity	Cost Impact	Time Impact
5	Critical impact	>10%	Can't achieve major milestone
4	Significant impact	7-10%	Slip in critical path
3	Marginal impact	5-7%	Can't meet all dates, float consumed
2	Slight impact	<5%	Can meet dates if additional resources are made available
1	Little or no impact	Little or no impact	Little or no impact

Figure 4 - Sample severity of impact table

4. For each identified risk, fill in the maximum cost column based on estimates from the team. This cost is the estimated maximum cost to the project should each risk occur. To do this have the team draw on their past experience and costs incurred on other similar or adjacent projects. The facilitator can help the team by guiding them to frame the cost impact in one of the following four statements:
    a. The cost impact will be X% of the total project cost,
    b. The cost impact will be X% of item cost,
    c. The cost impact will be lump sum of $X, or
    d. If we had to do X it would cost $Y.

    If desired, this step can be repeated to fill in the "Maximum Delay" column in days.

5. Perform a Quality Control (QC) check on the data between the "maximum cost" column and the severity of impact level assigned in step 3. If there are any discrepancies, adjust the cost impact level as necessary before moving on and reconcile with the team.

6. To aid in identifying the risks that should be focused on during the workshop, sort the table based on the "cost criticality" and "time criticality" columns in descending order.

PROBABILITY	5	**L**	**M**	**H**	**H**	**H**
	4	**L**	**M**	**M**	**H**	**H**
	3	**L**	**M**	**M**	**M**	**H**
	2	**L**	**L**	**L**	**M**	**M**
	1	**L**	**L**	**L**	**L**	**M**
		1	2	3	4	5
		IMPACT				

7. During the Creative Phase, use risks with high levels (red) as brainstorming targets.

8. During the Evaluation Phase, evaluate ideas with an eye to reducing the levels of the identified risks. However, the team also needs to keep value at the forefront, if the cost for an idea to eliminate a risk exceeds the maximum cost for that risk, then its advancement should questioned. Also, the evaluators need to be cognisant of any ideas that will increase an identified risk and consider this in their rating of the idea.

9. At the end of the development phase fill in the "Risk Management Strategy" column with any ideas from the recommended scenario that affect the identified risks, plus any additional risk management strategies that the team recommends. The facilitator then helps the team re-asses the cost and time impact severity numbers based on recommended scenario and places these in the appropriate column. Any risks that are avoided should be marked as "1".

10. Have the team review the recommended scenario of ideas to make sure there are no new risk events that need to be added to the risk register. If there are new risks, add them to the risk register and evaluate them as above.

Ideally steps 1 to 4 would be done pre-workshop with the project team and the results would be reviewed by the VE team during the information phase. In some organizations, it is possible to do a risk register with the project team prior to the VE workshop, in many others it isn't, so the methodology has been written for simplicity to take place all within the VE workshop.