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Using A Risk Model To Build Development Team Consensus

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A major reason why product development teams fail to deal well with their project's risks is that they have not established consensus about these risks: how significant they are, what causes them, and how they might be overcome. Without such consensus, the team is unlikely to take the proactive stance against its risks needed to resolve them.

A model of a project risk is an exceedingly useful framework for the team in communicating about the risks facing them, thus building understanding and commitment to action. Figure 1 illustrates what we call the Standard Risk Model. Its starting place is the *risk event*, which is a statement describing the happening that potentially triggers a loss. The *impact* describes the loss that might result if the risk event occurs. For example, a risk event could be that the first batch of printed circuit board assemblies might not function. The corresponding impact could be that the project might be delayed (due to the time needed to identify and correct the flaw and build another batch). The *total loss* is the magnitude of the impact, say, ten work-days in this case. Some people call this the consequence of the risk.

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Figure 1

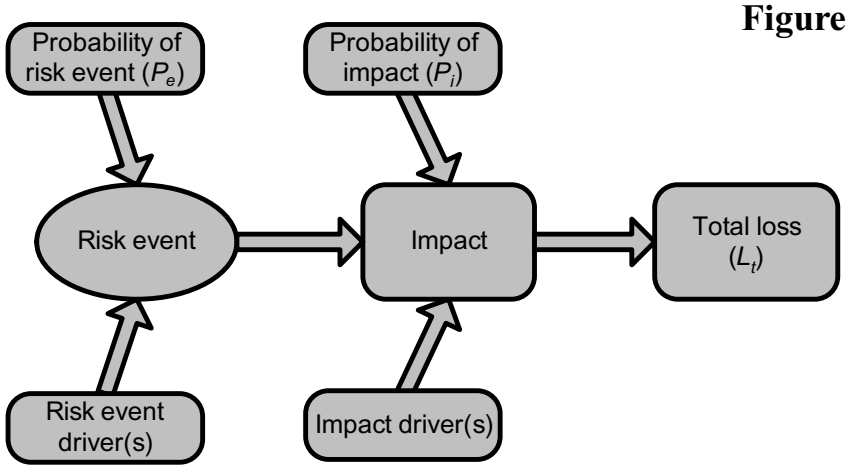

Figure 1. Components of the Standard Risk Model, the two drivers being the most valuable.
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Risk Model *continued*

The two components at the top of Figure 1 are simply the *probabilities* of the risk event and the impact. This leaves the two boxes at the bottom, the *risk driver*s and the *impact driver*s, which are actually the most valuable parts of the model. A driver is something existing in the project environment that leads the team to believe that a particular risk event or impact, respectively, could occur. As suggested by *Standard* Risk Model, both simpler and more complex models are in use. For instance, Wideman tacitly assumes what we call the Simple Risk Model, and the U.S. Department of Defense tacitly suggests a model we call an Ishikawa Risk Model. We believe that there is great value in stating your model explicitly and using it as a basis for discussing your project's risks.

The value of the model as a consensus builder resides in its driver components. The other components, such as the two probabilities and the total loss, as well as your action plans for handling the risk, stem from these facts about the risk. Here are some ways in which the drivers assist you in communicating about a risk:

Is the risk real? Have you ever been in a project brainstorming session in which the team identified perhaps a hundred risks, and then everyone became a little uneasy about the prospects for the project? It seemed doomed by so many risks. The drivers are your escape from this predicament. Just start asking, risk by risk, "What in the project environment leads you to believe that this might happen?" If there are no facts to back up the risk's existence, you don't have a risk. Dismiss it.

How serious is the risk? The risk's importance to the project depends on its total loss and the two probabilities at the top of the figure, a quantity we call the expected loss, $L_e = P_e \times P_i \times L_t$ (some people call this quantity risk exposure). Each of these three factors is essential to establishing the risk's seriousness, but your team can argue endlessly over such things as probabilities. Your drivers help you to resolve these arguments by basing them on your project's facts, for example, just how often in the past has the initial batch of circuit boards failed to function? When they did malfunction, just how long did it take to fix the design and produce another batch? If the team argues about this, send them off to collect some historical data, which then become your drivers.

What are we going to do about the risk? This is where the drivers in your model are most valuable. Each driver —each individual fact underlying the risk—is a clue as to how you can manage the risk. Using the drivers to create action plans is much more powerful than looking at the risk event or impact boxes in the model directly. When you work from the drivers, you are working from root causes, not symptoms. The reason that we have separated the risk event and its impact is that these two drivers lead to different kinds of action plans. Risk drivers suggest prevention plans, things that you can do to keep the risk event from happening. In contrast, impact drivers lead to contingency plans, actions you can take to control the damage if the risk event does occur. In general, you should have both prevention plans and contingency plans for a risk, in case the risk occurs before the prevention plans are fully effective. However, prevention plans are clearly more proactive than contingency plans, so they are preferred.

A risk model is an addition to a risk management process, not a replacement for it. You still organize your project's risk management effort around certain steps. We use the five steps of risk identification, analysis, prioritization, response planning, and ongoing monitoring. The two references suggest somewhat different, but basically similar processes. However, in contrast with the two references, we recommend that you use the risk model explicitly as the basis of discussion of each risk throughout all five steps. The model builds as you proceed through the steps, and it becomes the basis for your ongoing monitoring plans and metrics until project completion.

References

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