

PMWT Tips & Techniques Article for December 2006
Risk Management Success Factors
By Daniel Galorath

Risk management requires top-level management support, acknowledgment that risks are realities, and a commitment to identify and manage them. One discriminator of a successful organization or project is the use of risk management to anticipate potential negative conditions, problems, and realities. Ineffective projects are forced to react to problems; effective projects anticipate them. "Your organization will be much better once it moves away from reacting to change, and toward proactive anticipation and management of change." [1]

Formal risk management must be an integral part of the entire program management structure and processes. In fact, risk management should be the program manager's number one priority. Risks that become problems can negatively affect cost, schedule, productivity, product quality, and/or system performance. The program manager must plan and establish formal methods for identifying, monitoring, and managing risks and ensure that sufficient resources are available to conduct related activities. An effective risk management plan helps ensure that a quality system is delivered on time and within budget and that it performs to user requirements — the first time.

Tom DeMarco [2] captured the essence of risk management:

The most important aspect of managing risks is to face up to uncertainty ... for instance, if you said, 'I can't tell you for sure whether we'll be done June 15 or June 30,' people will accept that as a reasonable window. Now, unfortunately, that's not a reasonable window at all ... saying it will take from 18 to 30 months to get this job done, that would declare uncertainty that is consistent with a kind of uncertainty we've seen in the past. But that would be politically unacceptable ... The truth of the matter of is, there is a lot of uncertainty. And the thing that is really hard about risk management is it forces you to declare your uncertainty, to show the entire range.

As DeMarco indicates, far too many software projects will identify a potential risk and then ignore the possible impacts. Too often, managers do not want to know what risk management tells them, which in effect is that a significant number of issues can get in the way of success and a can-do attitude is not sufficient to overcome them.

"The problem of project management, like that of most management [is] to find an acceptable balance among time, cost and performance." [3] When a project moves out of balance, risk results. For example, schedule performance often becomes most important due to customer pressures, so cost and product performance lose emphasis. Or product performance takes

center stage due to a customer review, so the focus drifts away from cost and schedule performance. As a result of this imbalance in priorities, what was once well controlled now becomes less well managed and risk results. Risk management can address such imbalances if they occur throughout a project. "An effective risk management program is dynamic and ongoing throughout the development process and requires the participation of everyone involved." [4]

While every project we assess professes to implement risk management, we have observed two very different focuses in its application. Some managers focus on the process and some focus on making risk management a cultural imperative. A manager who focuses on the process has a risk manager who makes sure that the seven steps of risk management are visible in the project and to all stakeholders.

This focus is certainly a necessary part of risk management, but in a certain respect it is a mechanical approach that can convey a false sense of security. The organizations that focus on the process tend to be more concerned with the appearance of process integrity than the result of the process. In these organizations, the project manager will give "lip service" to how important risk management is to the project but will never use risks to influence decisions or plot a future course. He will build a close-looped system where actual risks never leak out.

Indeed, there have been situations where a risk manager dictated the types of risks that could be identified. During one assessment, an engineer related to us the instructions he had received from the risk manager of a major commercial program: "Don't give me any cost, schedule, or process risks because, if they get out, they will make the project look bad."

In our experience, we have found that very few projects implement risk management as a cultural imperative where it is at the core of the management process and where the output of the process, the prioritized risk list, drives all project decisions and activities. Where risk management is a cultural imperative, risks serve as the focus of all project reviews and reporting and the process is an open system that encourages all team members and stakeholders to review and comment on a risk list that is kept current.

In addition, the process is linked to predetermined metrics that are continually collected, that indicate an anticipated project state, and that form the basis for mandatory triggering of mitigations and actions. "A pattern of measurement enables projects to establish realistic plans and then gauge where they are against the plan." [5] When the project falls out of balance, plans invariably are compromised, and when plans are compromised, risks result. Where risk management is a cultural imperative, management has documented effective metrics that allow identification of risks and assessment of their likelihood of becoming problems.

References:

1. Boehm, Barry, Raymond Madachy, and Chris Abts. "Future Trends: Implications in Cost Estimation Models." CrossTalk: The Journal of Defense Software Engineering, April 2000.
2. Dekkers, Carol and Tom DeMarco. "e-Talk Radio: DeMarco, Tom." February 2001. www.Stickyminds.com
3. Norden, P.V. and B.V. Dean, Eds., Useful Tools For Project Management. New York: John Wiley & Sons, 1963.
4. Molt, George. "Risk Management Fundamentals In Software Development." CrossTalk: The Journal of Defense Software Engineering, August 2000.
5. Putnam, Lawrence H. and Ware Meyers. Industrial Strength Software: Effective Management Using Measurement. Washington, D.C.: IEEE Computer Press, 1997.



Daniel Galorath



Daniel D. Galorath has over 35 years of experience in the software industry where he has solved a variety of management, costing, systems, and software problems, and performed all aspects of software development and management. Mr. Galorath is founder and president of Galorath Incorporated, maker of the SEER®; suite of estimation tools; Mr. Galorath is one of the principal developers of the SEER-SEM™; Software Estimation Model. Mr. Galorath completed his undergraduate work and MBA from California State Universities. He is a member of the International Society of Parametric Analysis (ISPA), Society of Cost Estimation and Analysis (SCEA), IEEE, the International Function Point Users Group (IFPUG), and the Association of Computing Machinery (ACM). He was honored with the Freiman Award, recognizing his long-term contributions to the field of parametric analysis. Mr. Galorath teaches courses in software cost, schedule, and risk analysis; software project management; software engineering; systems architecture, and other related topics. He has lectured internationally and is the author of many papers about software project management. Mr. Galorath can be reached at: info@galorath.com His website is www.galorath.com

