

The Power of Negative Thinking:

How to Turn Murphy's Law in Your Favor to Manage Risks in Product Development

Say you've been given a major assignment, one where your career hangs in the balance or where the future of your organization is at stake. What if you could predict the significant things that could go wrong¹ with your new assignment – and be able to prevent them, or at least be able to manage them so they do not disrupt your objectives? This would put you in a proactive position rather than reacting to unanticipated trouble.

Many of us are faced with deploying or implementing major initiatives for our organizations. Whether it is developing a new product platform, introducing a major new product or making a new strategic move, this type of event can carry sizeable risk to both your career and perhaps the future of your company.

The scientific community has been successfully dealing with the issue of risk reduction and mitigation for some time. Over the years, engineers and scientists have developed tools and methods to help them cope with unanticipated failures. They have learned successful ways to anticipate what may go wrong in order to prevent it. From risk analyses to FMEA (Failure Model and Effect Analysis) to design of experiments, these methods, when well-understood and carefully applied, have proved to work (see Appendix B for a glossary of risk).

Let's take an example from science. Launching a new satellite into orbit is a major scientific challenge, to say the least. Engineers and scientists use methods to identify, predict and mitigate those things that can negate the launch and that are likely to happen. Please note the two criteria: first, things that can negate; and second, things that are most likely to happen. This second step is critical because the things that can happen are innumerable, but those that are likely to happen are fewer and thus more manageable.

Rapidinnovation, LLC, a management consulting firm whose focus is product development optimization, has

¹ Anything that could go wrong with your project is loosely defined as a risk or a potential failure. See Appendix B for a glossary of risk.

long recognized the power of these seemingly esoteric tools and developed a version that non-scientists find user-friendly, called Rapid Risk Reduction.

Let's apply Rapid Risk Reduction to projects in the business world. For example, mergers and acquisitions are occurring with increasing frequency; say you've been assigned the task of executing an acquisition. If you could predict those things that might ruin the project, prioritize them based on likelihood and take steps to prevent them before they even occur, this would greatly improve your chances of success. Or say you've been assigned to purchase and deploy a new CAD software application. Using this methodology, you could list in priority – before you even get started – those things that might interfere to the point of causing a failure – e.g., having to spend considerable money or ending up with no deployment. You would list and prioritize issues such as unacceptance by employees, lack of proper training, disruption of service, etc., and then plan how to address them, well in advance of their occurrence.

Now what if you could apply Rapid Risk Reduction methods to your project in a fraction of the time that scientists take in a friendly and interactive way and without all that math? What if you could actually predict those few significant issues that could become the proverbial career-limiting ones and take steps to prevent them? Your rate of success would go up, as would your level of confidence.

Looking at things that can go wrong is not a trip into discouraging optimism, but rather a chance to tap into a group's wisdom so as not to repeat the mistakes of the past and to anticipate future ones. A wise person once said, "Experience is the best teacher, but the tuition is lower if you are willing to learn from your mistakes."

Why do companies fail to manage risk?

Our experience shows that most product development professionals are aware of the issue of risks; furthermore, they are also aware of the need to manage them, yet they fail to even start. The causes are many, but more salient is the urgency attached to product development, where teams fail to do risk management because they believe there is not time, not enough "bandwidth." Another reason is the lack of tenacity or proactive risk management, where there is a single meeting to identify risk and then it is mentioned no more for the duration of the project. Naturally, this latter



instance yields little benefit, and consequently the perception of risk management is a negative one. Nothing could be further from the truth; risk management is a powerful weapon to reduce time-to-market, improve customer satisfaction and improve the probability of business success.

Engineering organizations tend to do FMEA (Failure Mode and Effects Analysis), which is a proven and valuable risk-management tool, except that FMEA is generally only applied to the product, and only within the engineering organization. Risk in product development can happen anywhere, from pricing of the new product to service and repair to project risks. Risk management must go well beyond the components of the new product; a holistic approach will save time and considerably improve the probability of introducing a winning product (see examples of risk in product development in Appendix A at the end of this article).

How we do it

We have streamlined the process, recognizing that organizations have precious little time anymore. Our method is highly efficient; we have eliminated redundancies and steps that are not essential to results. After 11 years of working with product development organizations, we've learned how to thrive in chaotic environments and help our customers deliver results.

Rapidinnovation brings the stakeholders in your project or initiative together to imagine all the ways in which their new venture may fail. For example, say you've been asked to use a new technology in your latest development project. While the new technology offers many new advantages, you anticipate trouble because the current technology has been in place for many years, and managers and designers use it with comfort. Using Rapidinnovation's methodology, you could list all the things that might go wrong with your deployment and take effective steps to correct them before they happen - e.g., no training of manager and supervisors on the new technology may cause rejection, lack of proper documentation could make it difficult to implement, or the lack of a transition plan from the old technology to the new one causes disruption of revision control. We do this step in as little as two hours using our Adaptive Facilitation Technique. It is during this phase that thinking "negatively" can pay off. During this phase, your team is licensed to conjure any possible show-stopper or calamity, regardless of how off-the-wall it may seem. It is

this uncensored flow of ideas that captures those obstacles and interruptions that are actually likely to happen. At Rapidinnovation, we can then provide you with the methodology to prioritize risks based on their impact and likelihood using several easy-to-use and fast prioritization methods.

This process will result in a detailed list of what may go wrong, how likely these circumstances are to occur, and the degree of consequence if they were to happen. After this exchange, the Rapidinnovation team provides you with a graphical depiction of all the information in one page (see Figure 1).

Equipped with this information, you can plan your preventative actions, outline fallback alternatives, and secure resources and support from key decision-makers. This information will enable your team to be proactive rather than becoming the victim of any show-stoppers.

A Rapid Risk Reduction session with Rapidinnovation can be completed in as little as four to six hours. At the end, in addition to the prioritized list of possible obstacles and how likely they are to happen, you'll have a fully documented report to share with your managers and others in your organization. And you'll be ready to start developing corrective actions and focusing on project results that will enhance your career and your company's reputation. In addition, you'll have done considerable team development and improved the communication within your development team.

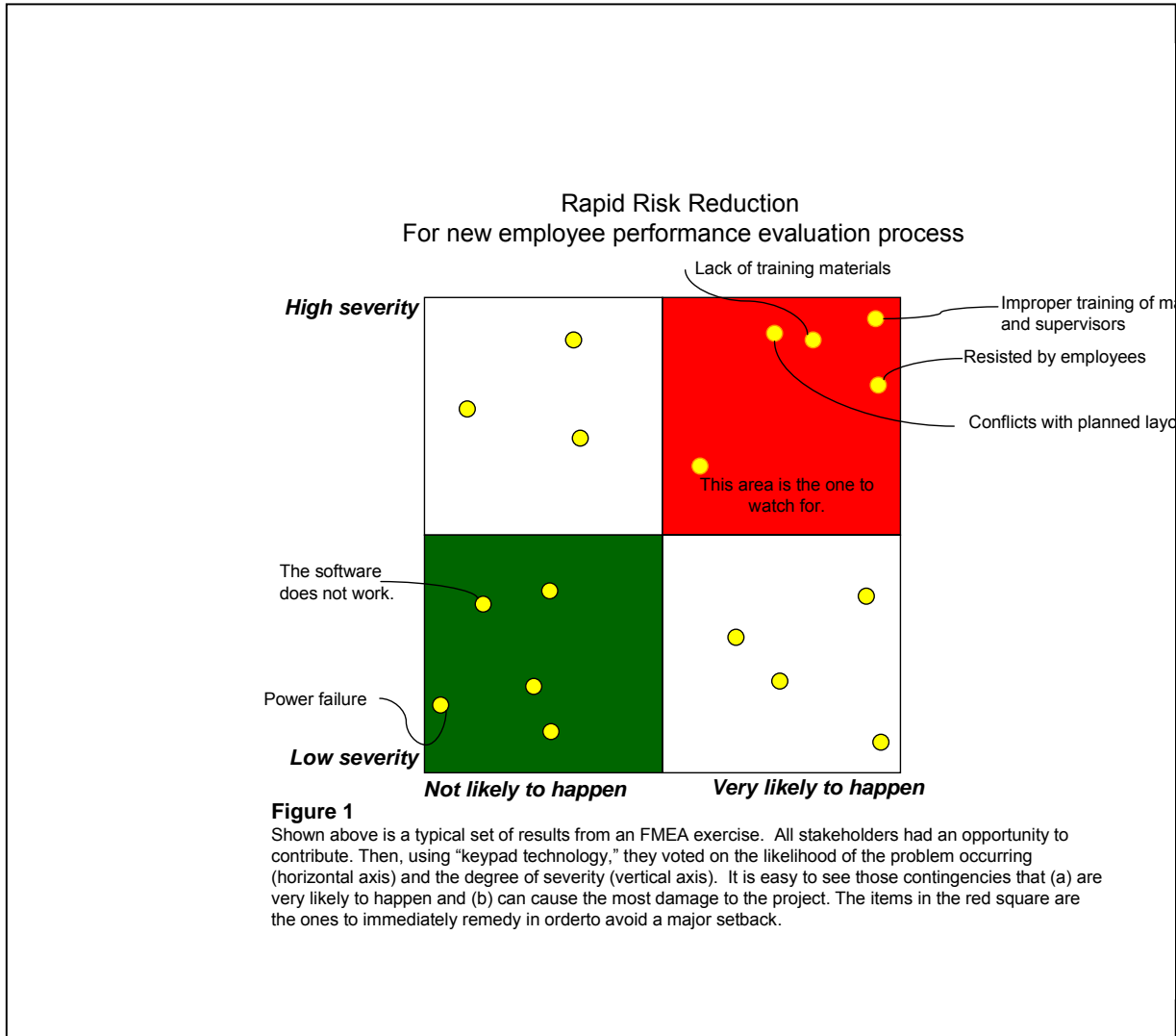
One additional benefit from the session is alignment of all the stakeholders on ensuring the successful completion of your project or initiatives. We have found that even when groups are adversarial, at the end of our Rapid Risk Reduction sessions they become allies and supportive of each others' roles.

Jose Campos is the founder of Rapidinnovation, LLC, a consulting firm whose only focus is the optimization of product development to ensure innovative new products. We only serve product development organizations, working with engineering and marketing professionals and their managers.

Contact: info@rapidinnovation.com

Visit us at: www.rapidinnovation.com





Appendix A: Example of Risks in Product Development

This table illustrates a small sample of the types of risks that may disrupt your product development program.

Types of risk	Examples
Political <i>(internal and external)</i>	Personal agendas create obstacles to your project. Two managers are competing for a promotion, and your project is caught in the middle. Government or industry regulatory mandates interrupt your project. New safety regulations cause a long delay for your project.
Cultural	Your project involves a cultural change in the organization, which causes obstacles and barriers; for example, the adoption of a new product development process. A new acquisition means you must deal with two cultures: your own and that of the new company. Conflict arises because your engineering team is scattered throughout China, Germany and the U. S. The CEO of the company is risk-averse and considers your project too risky, while you believe it to be very manageable.
Economic	A recession causes budget cuts and layoffs. Added costs make your project unprofitable. The possibility exists that this project won't make a profit.
Technical	The technology you're using in your project does not work. The technology you're using creates a safety hazard.
Legal	The owner of the IP you're using sues your company for infringement. A restrictive law in another country will impact the IP you're planning to use.
Weather	A sudden snowstorm brings your project to a halt. A tropical storm causes severe damage to your buildings. An earthquake damages the facilities of one of your suppliers in the Far East.
Resources	Your key engineer takes ill and is unable to continue working. Two of your top scientists are lured away by a competitor.
People (Resources)	A union shop may go on strike. A layoff could reduce your team.
Organizational	A reorganization is announced in the middle of your project, causing you to lose several engineers to a new division. Your division has no method to prioritize projects; therefore, every project is "priority one."
Procurement	The technology you wish to purchase is not protected, and is available to your competitors. The factory in Korea, which you wish to use to manufacture your new product, has gone on strike and there is no end in sight.
Market	A new industry standard is enforced, which may cause you to have to redesign your products. A new technology is being adopted by your competitors, which may necessitate redesign or a complete new design for your products.



Appendix “B”

GLOSSARY OF GENERAL RISK MANAGEMENT TERMS (*THIS IS NOT AN FMEA GLOSSARY*)

Risk: The probability of something going wrong with your project. The risk is “known,” and one can mitigate it, avoid it or remedy it. It is part of managing your project, and there are tools and methods to deal with it.

Chance: Related to uncertainty. It implies the willingness to make decisions in the absence of information; i.e., “*betting on the come*.” Good for gambling, but not part of managing your project. Uncertainty (chance) is when you don’t know the probability of an event. Risk is knowing the probability, and then managing with the information you have at hand.

Gambling: Not the same as risk management. Gamblers can choose the risks they take; in business, the risks are there already — waiting to be managed.

Predictability: Something that happens as expected.

Ambiguity: Doubt about meaning, or lack of clarity; something that can be understood in more than one way – for example, the behavior of key stakeholders in your project. Ambiguity is related to uncertainty.

Mitigation: Anything that counters the negative effects of the risk or the sources of the risk. It can be prevention, contingency planning or reserves.

Variability: Something that is unpredictable, able to change, not constant; for example, the budget for your project is reduced due to economic conditions.

Risk planning: The decision-making process to define the approach (strategy) and plan the risk management activities for your project.

Risk identification: The process to determine and document which risks are likely to happen to your project.

Risk prioritization: The process to assign levels of importance to the various risks that are possible in your project, based on clearly understood and written criteria.

Risk response planning: The process to develop the reduction of threats to your project; it includes procedures, techniques, roles and responsibilities.

Risk monitoring: The process to detect early signs of risk through the life of your project.

Risk control: The process of executing the risk reduction plans to mitigate or eliminate the damage of risk to your project.

Risk mitigation: The steps you take to prevent, correct or deal with risk. Generally, risk mitigation also includes the things (steps) you do to prevent risk from happening; i.e., avoiding having a risk become reality.

