

## Taking the Complexity Out of Quantitative Risk Assessment

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When thinking about your latest capital project, many questions naturally arise. What if the steel supplier can't deliver on time? What if engineering doesn't approve design submissions in three iterations and instead takes eight? How will a supply chain delay in procuring equipment affect turnover to operations? And what will each of these cost in terms of schedule and budget impact?

Given the fact that the probability of any of today's large, complex capital projects coming in on time and under budget is currently hovering at around 20%, experienced project teams must understand the need to assess these scenarios and to develop mitigation strategies.

Experts would argue that the process of Quantitative Risk Assessment (QRA) exists to help identify, mitigate, and account for such risks. Yet this area has historically remained the domain of specialists, with focused knowledge and tools which don't translate well to the democratization of data and processes. When key information is held in the hands of a few, organizations tend not to be able to leverage that information and to act on it in a timely manner.

Why has QRA often been difficult to implement in the real world? Here we'll attempt to lay out several reasons why this is happening, and to provide some hope for how this problem can be resolved in the real world.



### The Difficulties of Collaboration

As subject matter experts are typically not co-located and are busy performing many duties for the firm, few opportunities typically exist to align calendars to have yet another meeting. When a meeting does get off the ground, sometimes the most honest and objective analysis may not be presented, simply due to meeting dynamics.

Fortunately, technology exists today whereby subject matter experts can be invited to offer their assessments of risk and mitigation strategies, and they can provide that feedback openly in the absence of "optimism bias." By going through the process of offering this feedback in one's own digital space, risk workshop meetings can now be more productive events,

as much of the pre-work has already been done, and actions such as developing risk mitigation strategies can now be accelerated.

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## Effectively Assimilating Feedback

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When SME input is received, it's often difficult to assimilate all the feedback in a common format, for further review and study. Instead, there is typically a collection of Outlook emails, Word Docs, OneNote files, and Excel spreadsheets sharing space on a SharePoint directory whose path is only readily remembered by a few individuals. In this case, while arguably good data may have been collected, its organizational value diminishes as few can leverage and act upon the data.

Solutions exist whereby this feedback is kept in context with the original project planning assumptions and can easily be referenced throughout the project's life cycle. This removes the "gatekeeper" paradigm as more project team members have direct access to the data, compared to a few specialists representing a slim slice of the overall business.

QRA involves complicated math theory and formulas, which are sometimes difficult to explain and convey to business leaders. This creates a dynamic pitting of academic and practical worlds against each other. But rather than hunting down broken links or errant formulas in spreadsheets, today's technology allows for complex computations to be handled in the background, while allowing users to interact with the data via intuitive graphs, charts, and in-application notifications.

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## The Gatekeeper Paradigm Revisited

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Risk assessment, whether qualitative or quantitative, is rarely integrated into project management processes outside of scheduling and planning. Again, the gatekeeper paradigm arises as this data is held within the domain of a few specialized users of legacy scheduling tools.

From a broader perspective, risks – and their mitigation strategies – can be easily shared across an organization's entire set of business processes. These include cost budgeting and forecasting, change order management, and contract and procurement management, all the way through to field data capture and health, safety, and environmental compliance.

As risk mitigation strategies can now be integrated across several business processes, as-built information allows organizations to identify systemic risks and to bake those into their knowledge library for better and more accurate planning on the next project.

This, in turn, allows for more streamlined operations, fewer surprises, and continuous improvement while simplifying and democratizing the approach to quantitative risk assessment. 



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### About the Author

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Since 1998, Rick Deans has worked with InEight customers in more than 35 countries to help identify innovative solutions that address their biggest project management pain points. As executive vice president of industry engagement, Rick leads InEight's efforts to engage with its most strategic customers through the Industry Advisory Group (IAG). Rick works with IAG member companies to evaluate InEight solutions before they are put to work on projects and also to identify industry best practices. Rick is passionate about facilitating strong partnerships across the industry and helping build awareness of InEight solutions.

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### About the Article

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