

Planning for the Unexpected

Projects are planned change. Volatility is *unplanned* change. Yet inevitably, as all project managers will attest, every project encounters some unplanned change, or volatility. It could arise from changes to targets such as schedule, budget or scope; changes in key governance personnel; or even changes beyond the project, such as changes in organizational strategy, technology or industry.

When project and volatility collide, project performance can be affected
So how much impact does volatility have on projects and their outcomes?

More than you would imagine. After surveying almost 650 experienced project managers in the U.S. and U.K. about their most recent projects, researchers discovered a number of surprising factors related to volatility and its impact on project management:

- projects with no changes in key personnel faced a 22 percent risk of under-performing while those with two or more personnel changes faced a risk of more than 50 percent.
- projects, on average, experienced a total of eight changes to targets such as schedule, budget and scope. On average, these changes tended to extend the schedule approximately 10 percent longer than original estimate.
- The larger the project, the more the volatility. Also, higher levels of volatility led to lower levels of performance.

Drs. Andrew Gemino and Blaize Reich of the Segal Graduate School of Business at Simon Fraser University in Vancouver, B.C. and Dr. Chris Sauer of Saïd Business School at Oxford University in England examined three dimensions of volatility: changes in governance, such as key project personnel; changes in targets, such as budget, schedule and scope, and external changes related to organizational strategy, technology and industry. Of these three dimensions, governance volatility, or changes to key personnel, had the largest impact.

“One of the most startling findings in the U.K. portion of the study was that a single change of project manager is associated with a seven percent increase in schedule,” says Gemino. “As well, the project could also be expected to under-deliver its scope by 3.5 percent and cost four percent more.”

And while a single change in project sponsor had no significant effect on budget or schedule variances, it was associated with a 5.6 percent decrease in the percentage of scope delivered.

So it’s not surprising that when the ex-director of a mega-project worth some £2 billion heard of these findings, she quipped, “If only I’d known beforehand that my departure would add £80 million to the budget, I’d have offered to stay for half that!”

Her comment isn’t entirely ridiculous. Since losing a project manager can cost a project 15 percent of targets, says Gemino, it makes sense to invest resources up-front to avoid this risk, perhaps by offering incentives for the project manager to remain on the job or by establishing under-studies for key roles.

The researchers offer several other recommendations to help plan for the unexpected:

- Sponsors and project managers need to keep track of changes. Increased volatility is a signal of a risk of underperformance.
- When possible, spend more effort in planning to reduce number of subsequent target changes.
- Ensure changes to projects targets are necessary. Formal change requests are a mechanism for linking value to proposed changes..

Gemino suggests to create a change-request process and stick to it. “The word ‘just’ is the key.” he says. “If a client asks if you can ‘just’...ask them if they can ‘just’ fill out this ;little change request,” says Gemino. “It’s important to be responsive, but it’s also important to make sure that requested changes are necessary. It is amazing what a two page change request form can filter out.”

Finally, says Gemino, project managers needn’t worry too much about planning for external change related to industry, technology or even strategic changes within the organization. “Surprisingly, external volatility was not significantly related to performance,” he says. “We’re not sure why.”

Just be thankful for small mercies.

Source: Sauer, C., Gemino, A, and Reich, B.H. "Managing Projects for Success: The Impact of Size and Volatility on IT Project Performance", *Communications of the ACM*, 60:11, Nov. 2007, pp. 79-84.

PMPerspectives.org is a website which connects project managers and sponsors with project management researchers. Our mission is to understand and improve project management practices. The research team comprises Dr. Blaize Horner Reich and Dr. Andrew Gemino from Simon Fraser University, Canada and Dr. Chris Sauer from Oxford University, UK.

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