

## Does Size Really Matter?

It's no secret that information technology (IT) projects, which are typically very large, have a high risk of failure. In fact, between one-third and two-thirds of all large projects fall flat, according to Standish Group, an IT research organization.

That's why experts have been advising project managers to reduce the scope of IT projects by breaking them into small pieces, with the assumption that if the project is small it will be easier to manage and more successful.

### ***New Research tells a Different Story...***

Yet an extensive new study reveals that small is not necessarily beautiful for IT projects. Even small projects under-perform 25 percent of the time, regardless of budget, effort, duration or team size.

Drs. Blaize Reich and Andrew Gemino 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 have spent the past four years studying IT projects in both the U.K. and the U.S. to see how size affects IT project success.

In the U.K. study they asked project managers from companies of all sizes and across all economic sectors for data about their most recently completed project. In the U.S. study, they used data from Project Management Institute (PMI) members to examine size alongside such factors as project management practices and organizational support.

What they discovered, says Reich, is that project managers shouldn't be trying to cut projects into teeny tiny pieces, since they'll still fail 25 percent of the time. Instead, she says, "create a project that makes sense to you but keep it in the 250-person-months range."

That bit of wisdom comes out of their research into what aspects of size are important. They say size alone isn't going to make a project fail, unless the project is 2400-person months or more. "All 2400 person-month projects in our samples failed," notes Reich. "They either went on too long or had too many people, which raised the volatility since over that time period organizations change and people come and go."

Projects longer than 12 months tend to have a failure rate higher than 25 percent, they found, while projects less than 12 months long all suffered the same 25 percent failure rate, regardless of whether they lasted three months, six months or 12 months.

Team size can also be a predictor of greater failure. "If your team is less than 20 people your risk of underperformance is the same, whether your team has five, 10 or 15 members," says Reich. "Teams with more than 20 people are getting into the higher-risk category."

Interestingly, the researchers also found that budget doesn't impact size or performance. "Only projects over \$40 million U.S. showed any increase in risk of under-performing," notes Reich.

***What's the Bottom Line?***

So what's a project manager to do? The researchers offer the following recommendations:

- Keep projects short and manageable without being obsessively minimalist.
- Limit projects to less than 250 person-months of effort. For example, create a project scope which is less than 12 months' duration for a team size of 20.
- Consider your industry and organizational profile before deciding to go big. Stable organizations, such as a government department with no elections looming or a stable utility company, might be better able to manage a larger project than organizations in more volatile environments.
- For larger, longer projects that cannot be cut down, put measures in place to reduce volatility – for example a retention bonus for the project manager and back-ups for key resources. “If the project manager leaves, or the organization changes structure or strategy, the project is at risk of failure,” notes Reich.

Finally, say the researchers, re-evaluate large projects if your organization experiences a serious change in strategy, structure or an industry shift.

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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