

## Balancing Structure with Agility Offers Best of Both Worlds

Highly strategic IT projects, particularly those that are large, complex and distributed, pose significant project-management challenges. Typically, project managers approach these projects using a traditional, structured method that builds in predictable systems, a command-and-control management style, specialized roles, formal communication paths and explicit documentation.

But a recent study examining a large distributed cruise-line project reveals that it's possible to simultaneously combine the structured method with the 'agile method' to achieve a more successful outcome.

Florida International University researchers Dinesh Batra, Weidong Xia, Debra VanderMeer and Kaushik Dutta studied a \$15-million, 28-month strategic project that developed a new web presence for a cruise line. In the course of their research, they interviewed the project manager and the project teams. They discovered that while the project started out as a \$3-million, 14-month project, it quickly expanded its scope and budget due to enhanced requirements, changing executive sponsors, and issues with technical infrastructure and capabilities.

"Conventional wisdom recommends that as project size increases, the team should use a structured approach, which fosters better cost-monitoring," says Batra. "But there was pressure to complete the project as quickly as possible while managing the evolving scope."

So the cruise line tried a novel experiment, combining an agile method called Scrum\* within the structured framework. Agile methodologies subscribe to four values that ostensibly contradict the structured method:

- 1) Individuals and interactions over processes and tools
- 2) Working software over comprehensive documentation
- 3) Customer collaboration over contract negotiation
- 4) Responding to changes over following a plan

"The project's evolving user requirements presented a unique challenge that neither agile methods nor structured approaches alone could effectively address," says Batra. "While the large, strategic, distributed and outsourced aspects required the planning and control capabilities of a structured approach, the uncertain and evolving nature of the project required the fast, iterative and incremental learning and discovery capabilities of the agile approach."

Combining these two methods enabled the company to respond to changes quickly and effectively. The structured approach served as the architectural foundation for maintaining order and predictability while the agile approach addressed the project's changing dynamics.

“The balance is not only workable, but is essential to ensure that the project demonstrates both control and agility for achieving its challenging and dynamic goals,” says Batra.

Batra adds a word of caution, however. “Agility without structure can cause chaos, particularly in large complex distributed projects where planning, control and coordination are critical. And structure without agility can lead to rigidity, particularly where a project involves a great deal of learning, discovery and changes.”

The researchers note that, contrary to the widely held view that the structured and agile approaches cannot be harmonized, sometimes the hybrid approach is the most successful.

Despite the cruise-line project’s increased scope, costs and timeline, the company deemed it successful. “As long as the perceived benefits, both tangible and intangible, were more than the costs, the company was satisfied,” says Batra. “The project met user requirements, provided a strategic advantage and was replicated at the company’s other international sites.”

\*Scrum development is an agile method based on a timeboxed development period called a sprint. This method maintains a backlog of user requirements, features self-organizing teams, verbal communication, expects changes in requirements, and accepts that user requirements cannot be clarified without actually developing software. It also features a ScrumMaster who protects the developers from interference caused by new user-requirement changes during the sprint.

Source:

Batra, D., Xia, W., VanderMeer, D., and K. Dutta. "Balancing Agile and Structured Development Approaches to Successfully Manage Large Distributed Software Projects: A Case Study from the Cruise Line Industry," *Communications of the Association for Information Systems*: Vol. 27, 2010, Article 21.

*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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