

## Overview of Agile Project Management

Typical software development projects are managed using the traditional waterfall methodology. This involves an often lengthy process of gathering and documenting the functional requirements for the software. Only then does software development begin. It assumes that events and forces that could affect the project are predictable and that tools and activities are well understood. Waterfall project management is divided into distinct phases and, once a phase is complete, it is assumed that it will not be revisited. The weaknesses of this methodology are that projects rarely follow a sequential flow, and clients usually find it difficult to completely state all of the requirements early in the project.

Also typical is the outcome: software that is often late, over budget and not able to easily accommodate changes to the requirements as they evolve. In 2009, the Standish Group Survey found that over two thirds of all IT projects failed or ran into trouble (see figures below). The Standish Group is a Massachusetts-based consultancy responsible for publishing the CHAOS reports since 1994. The reports are based on studies of IT projects and track the succeeded, challenged and failed outcomes of each project. They are the leading provider of research on why projects succeed or fail.

Standish CHAOS Reports by Year

<u>Project outcome</u>	1994	1996	1998	2000	2002	2004	2009
Succeeded	16%	27%	26%	28%	34%	29%	32%
Challenged	53%	33%	46%	49%	51%	53%	44%
Failed	31%	40%	28%	23%	15%	18%	24%

Getting the *right* products to market faster than your competition requires a different approach altogether. Agile methodologies are leading the way by helping software teams deliver products more frequently and with significantly higher quality. Agile project management begins with the premise that software projects are *unpredictable* and that changing technology is going to *drive change*. Agile challenges assumptions about certainty and encourages project managers to embrace change and manage risk to achieve the ultimate goal of delivering working software.

In Agile, the team takes responsibility for delivery and is allowed to self-organize in a way that maximizes their success through the emergence of better requirements, architectures, and designs. The team has a tremendous amount of autonomy; empowerment is the key to bringing out the best that each individual has to offer.

Agile is typically accomplished in iterations, sometimes called sprints. Sprints are typically 2-4 weeks in length, and at the end of every sprint, new functionality is demonstrated.

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TKC Global is currently creating the Navy's Next Generation Airworthiness Website, using Agile Project Management with Scrum. Scrum is an iterative, incremental framework for project management that focuses on three predefined roles:

- *The ScrumMaster*, who maintains the processes (typically in lieu of a project manager)
- *The Product Owner*, who represents the stakeholders and the business
- *The Team*, a cross-functional group that does the actual analysis, design, implementation, testing, etc.

Since implementing Agile Project Management with Scrum in July 2011,

- TKC Global has consistently provided incremental functionality every three weeks. The customer has approved every demonstration as "Done," validating TKC Global's correct interpretation of the customer's requirements.
- Customer involvement has increased dramatically, as they understand the criticality of defining requirements from the users' point of view. The customer participates in User Acceptance Testing (UAT) every three weeks, verifying development against requirements. They also participate in every sprint planning meeting, to fully understand work to be accomplished and team commitment.
- Team collaboration and self-organization have improved, as evidenced in a 50% reduction in programming defects.

Collaboration between the team and the customer is extremely important throughout the life of the project. The customer is involved to a greater degree than in traditional projects and involvement should be from concept to delivery of the project. This not only helps to ensure that requirements are being interpreted correctly, it also helps the customer get better visibility into the development process and its problems, and a better idea about the progress being made.

This methodology allows TKC Global to focus on delivering the highest business value to the customer in the shortest amount of time by rapidly and repeatedly inspecting actual working software every three weeks. The website is being developed more rapidly to the customer's specifications than would be possible with traditional waterfall project management.

In the competitive marketplace, companies such as Microsoft, Google, Yahoo, and Symantec have used Agile Project Management to their advantage. They have discovered that traditional project delivery frameworks cannot deliver fast enough in rapidly changing, highly uncertain environments.

When you consider using Agile Project Management, only one question really matters:

*How will Agile help you be more successful?*

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