



Engineering & Project Management
Assignment Number : 03

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the **AGILE** MANIFESTO

1 **CUSTOMER**
COLLABORATION
over contract negotiation

2 **INDIVIDUALS** **AND**
INTERACTIONS
over processes and tools

3 **RESPONDING** **TO**
CHANGE
over following a plan

4 **WORKING**
SOFTWARE
over full documentation

AGILE PROJECT MANAGEMENT

Agile management or *agile project management* is an iterative and incremental method of managing the design and build activities for engineering, information technology, and new product or service development projects in a highly flexible and interactive manner. Agile Project Management is how you deliver high value and technical quality within your time and budget constraints. An agile project is completed in small sections called iterations. Each iteration is reviewed and critiqued by the project team, which may include representatives of the client business as well as employees. Next step is determined after understanding iterations.

The main benefit of agile project management is its ability to respond to issues as they arise throughout the course of the project. Making a necessary change to a project at the right time can save resources and, ultimately, help deliver a successful project on time and within budget.

It's about understanding self-organizing teams and the interaction between all the roles contributing to the development process. And it's about encouraging collaboration and discovering innovative solutions, unleashing the power of Agile thinking hence to evolve quickly, respond, and adapt.

Agile Process

- Iterative and incremental
- Parallel and concurrent, not phased
- Planned around deliverables, not activities
- Dynamic project balancing via scope adjustments
- Heavy emphasis on collaboration
- Management by facilitation

Iterative and Incremental

- ❖ Iterative
- ❖ Repeatedly executing nested process cycles
- ❖ Iterations provide synchronizing points
- ❖ Iterations provide feedback points
- ❖ Incremental
- ❖ System is built in progressive stages
- ❖ Iterations add features and refinements
- ❖ Each increment is a working system

Phased vs. Concurrent Activities

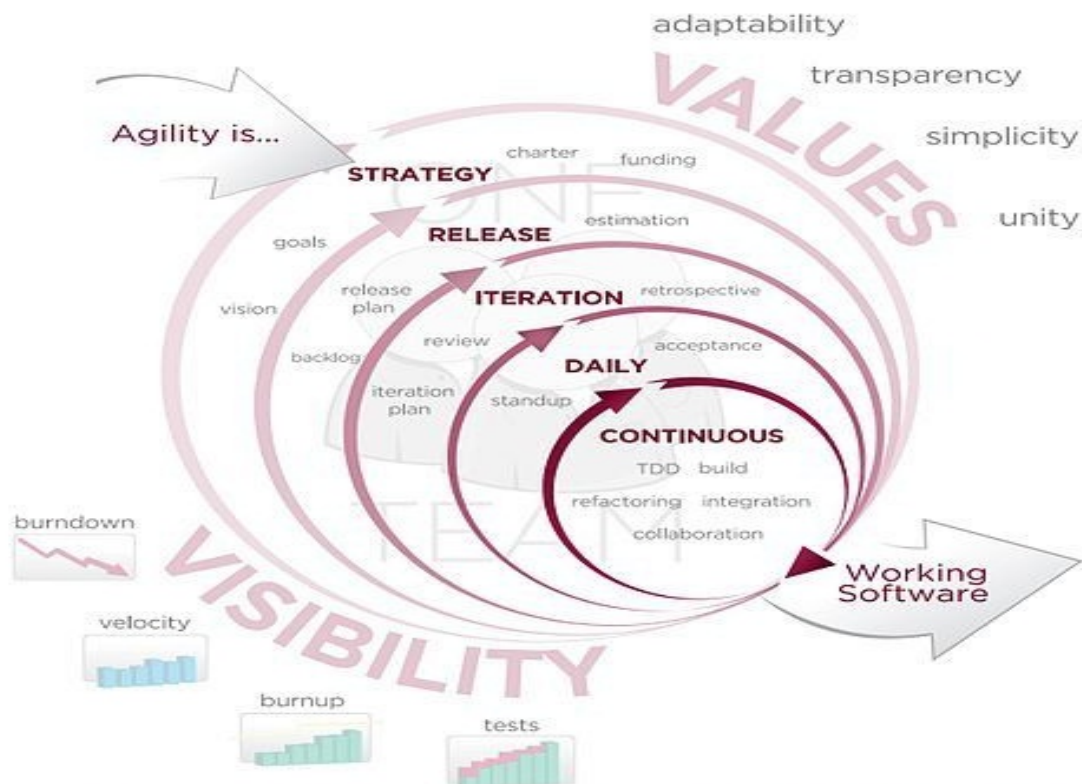
- ❖ Phased Approach
- ❖ Gathers similar activity types together
- ❖ Preference towards serial completion
- ❖ Ultimate in phased approach is waterfall
- ❖ Concurrent and Parallel
- ❖ Activities occur opportunistically
- ❖ Activities of all types happening at same time
- ❖ Partial completion considered the norm

Agile Planning

Creation of prioritized set of deliverables and execution of activities to create deliverables and not to forget the management via feedback and adaptation.

Three Views of an Agile Project

- Work Products
- Cycles
- Timeline of Events



The Work Product Structure of Agile Development

- Incremental Building Blocks
- Business Objectives
- Projects and Products
- Feature Sets
- Sagas and Stories
- Technical Work Units (Tasks)
- Technical Integrations
- Traceability through the Deliverables

The Cycles of Agile Development

- Release Cycle
- Iteration Cycle
- Task Cycle
- Episode Cycle
- Forward-Driving Activities
- Resolution Increases
- Feedback through the Cycles

PRINCIPLES

- ★ Highest priority is to satisfy the customer through early and continuous delivery
- ★ Active user involvement is imperative
- ★ The team must be empowered to make decisions
- ★ Requirements evolve but the timescale is *fixed*
- ★ Capture requirements at a high level; lightweight & visual
- ★ Develop small, incremental releases and iterate
- ★ Focus on frequent delivery of products
- ★ *Complete* each feature before moving on to the next
- ★ Testing is integrated throughout the project lifecycle – test early and often
- ★ A collaborative & cooperative approach between all stakeholders is essential

- ★ At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly
- ★ The best architectures, requirements, and designs emerge from self-organizing teams.
- ★ Continuous attention to technical excellence and good design enhances agility.
- ★ Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

- The agile model emphasizes on the fact that entire team should be a tightly integrated unit. This includes the developers, quality assurance, project management, and the customer.
- Frequent communication is one of the key factors that makes this integration possible. Therefore, daily meetings are held in order to determine the day's work and dependencies.
- Deliveries are short-term. Usually a delivery cycle ranges from one week to four weeks. These are commonly known as sprints.
- Agile project teams follow open communication techniques and tools which enable the team members (including the customer) to express their views and feedback openly and quickly. These comments are then taken into consideration when shaping the requirements and implementation of the software.

There are various methodologies that are collectively known as agile. The most popular ones are

DSDM is probably the original agile development method. DSDM was around before the term 'agile' was even invented, but is absolutely based on all the principles we've come to know as agile. DSDM seems to be much less well-known outside of the UK.

Scrum is also an agile development method, which concentrates particularly on how to manage tasks within a team-based development environment. Scrum is the most popular and widely adopted agile method – I think because it is relatively simple to implement and addresses many of the management issues that have plagued IT development teams for decades.

XP (Extreme Programming) is a more radical agile methodology, focusing more on the software engineering process and addressing the analysis, development and test phases with novel approaches that make a substantial difference to the quality of the end product.

DSDM is probably the most complete agile methodology, whereas Scrum and XP are easier to implement and complementary because they tackle different aspects of software development projects and are both founded on very similar concepts.

Scrum is a lightweight process framework for agile development, and the most widely-used one.

A Scrum process is distinguished from other agile processes by specific concepts and practices, divided into the three categories of Roles, Artifacts, and Time Boxes. These and other terms used in Scrum are defined below.

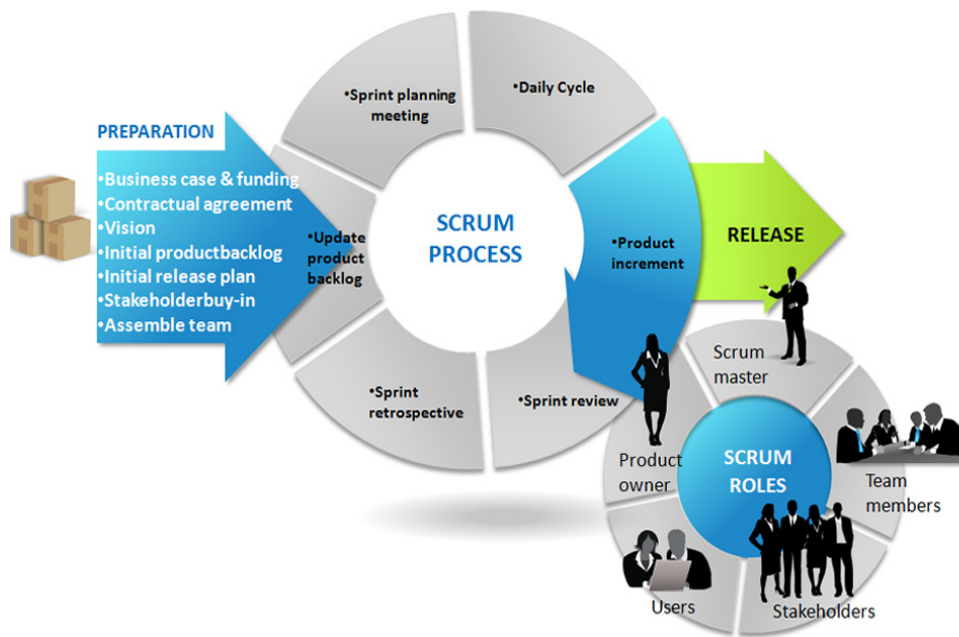
Scrum is most often used to manage complex software and product development, using iterative and incremental practices. Scrum significantly increases productivity and reduces time to benefits relative to classic "waterfall" processes. Scrum processes enable organizations to adjust smoothly to rapidly-changing requirements, and produce a product that meets evolving business goals.

An agile Scrum process benefits the organization by helping it to

- Increase the quality of the deliverables
- Cope better with change (and expect the changes)
- Provide better estimates while spending less time creating them
- Be more in control of the project schedule and state

As a result, Scrum projects achieve higher customer satisfaction rates.

SCRUM PROCESS



Gains With an Agile Process:

- ❖ Respond to change and leverage learning
- ❖ Deliver the highest business value (ROI)
- ❖ Decrease time-to-delivery
- ❖ Increase productivity and efficiency
- ❖ Produce better quality solutions
- ❖ Create a more fulfilling development culture

THE BENEFITS:

Revenue

The iterative nature of agile development means features are delivered incrementally, enabling some benefits to be realised early as the product continues to develop.

Quality

A key principle of agile development is that testing is integrated throughout the lifecycle, enabling regular inspection of the working product as it develops. This allows the product owner to make adjustments if necessary and gives the product team early sight of any quality issues.

Flexibility / Agility

Business Engagement/Customer Satisfaction

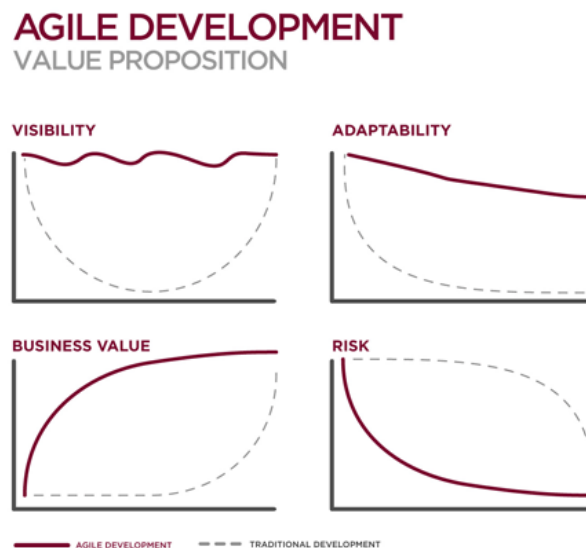
Cost Control

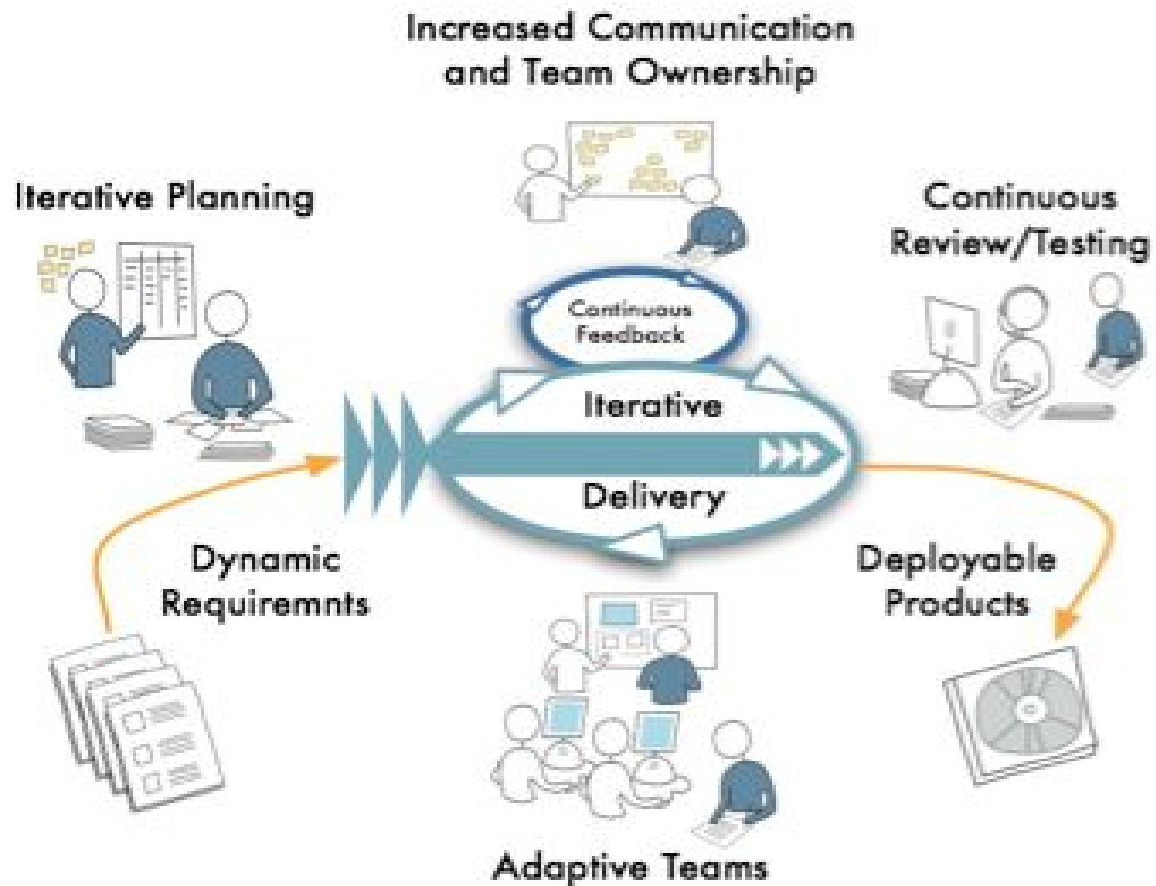
Right Product

Above all other points, the ability for agile development requirements to emerge and evolve, and the ability to embrace change (with the appropriate trade-offs), the team build the right product. It's all too common in more traditional projects to deliver a "successful" project in IT terms and find that the product is not what was expected, needed or hoped for. In agile development, the emphasis is absolutely on building the right product.

More Enjoyable!

The active involvement, cooperation and collaboration make agile development teams a much more enjoyable place for most people. Instead of big specs, we discuss requirements in workshops. Instead of lengthy status reports, we collaborate around a task-board discussing progress. Instead of long project plans and change management committees, we discuss what's right for the product and project and the team is empowered to make decisions. In my experience this makes it a much more rewarding approach for everyone. In turn this helps to create highly motivated, high performance teams that are highly cooperative.





Agile project management is not new, but it has increased in popularity in the past few years. "Gartner predicts that by the end of 2012, agile development methods will be used on 80% of all software development projects. PMI's research has shown that the use of agile has tripled from December 2008 to May 2011" (PMI 2012).

Agile Management Successfully Delivers Upgrade

Services:

Disciplined Agile™
Mentoring

Agile Project
Management

Technologies:

PeopleSoft 8.x

PeopleSoft Tools 8.4 to
8.5

PivotalTracker

Oracle

SITUATION

A state-of-the-art medical facility in Southwest Ohio provides innovative care and advanced treatment for pediatric patients.

Technology is a critical component of their success, transforming health care with significant improvements in patient safety, efficiency, regulatory compliance, and patient satisfaction.

The medical facility needed to upgrade four existing PeopleSoft applications (Financials/ Supply Chain Management, Human Resources, Enterprise Learning Management, and Data Warehouse) to version 8.5 PeopleSoft Tools. This had enterprise-wide effects and had to be delivered within a Go-Live weekend in order to not disrupt normal hospital operations.

CHALLENGE

The Project Management Office (PMO) wanted to try a different approach from previous PeopleTools upgrade projects where the goals were to increase quality with the reduction of production defects and to reduce the amount of time requested for the functional users needed for the quality assurance testing.

Agile Development was identified as an attractive alternative to their traditional project management practices, however the facility had no internal experience with Agile or Scrum practices.

The medical facility needed to accelerate their learning of Agile and ensure it effectively adopted the new practices across a diverse team that included the PeopleSoft Administration Team as well as DBAs and Network/Hardware teams, Functional Testers, and Development teams.

SOLUTION

Strategic Data Systems (SDS) was selected to pilot an Agile project with the medical facility team that previously had conducted a PeopleSoft Upgrade project.

To help the medical facility achieve its pilot project goals and gain learnings to be applied more broadly by the PMO, SDS provided a custom set of services that included:

Disciplined Agile™ mentoring
Agile Project Management

Through this blend of services, SDS was also able to deliver added value to the team by mentoring additional PeopleSoft development projects and creating an Agile support team and an Agile development team for a Human Resources product.

SDS focused on developing the team's skills across key **Disciplined Agile** practices:

Leading Agile teams

Building teamwork

Increasing team member contributions

Building and maintaining a Backlog

Sprint planning and management

Sprint review

Conducting a Retrospective



Disciplined Agile™

Disciplined Agile is a customized approach used by the SDS Agile Development Center (ADC) that allows each client to develop its unique Agile processes needed to reach its goals. Working around a foundation of core Agile practices it includes a flexible collection of best practices, applied by our experienced experts, to guide you in developing your own unique agile approach. **Contact us for complimentary lunch & learns.** www.sds-consulting.com

Agile Management Successfully Delivers Upgrade

RESULTS

The upgrade was successful and delivered on time.

Key engagement achievements included:

- The pilot project was successfully completed within the targeted timeframe of seven months. **The agile team successfully had the upgraded systems running 36 hours early.**
- Project-based metrics provided PMO and management with **clear visibility into the upgrade's progress** and the ability to **proactively identify potential shortcomings within the first few days of the project.**
- Management was then able to **increase work capacity** over the course of the project by off-loading less important work, creating Level 1 and 2 support teams, and having better focus on the upgrade effort.
- During the Go-Live weekend the applications had to be shut down. The team was able to deliver the systems with **only 26 hours of down time, significantly minimizing disruptions to normal hospital operations.**
- The project team and other areas of the organization are continuing to adopt and embrace Agile practices. Agile Project Management practices introduced by SDS were continued by the teams led by internally developed ScrumMasters.

“Our success was a direct result of Agile practices and the mentorship provided by Strategic Data Systems.”

—Senior Director, Application Services

“Working with SDS was key to our successful introduction to Agile. With the guidance of our Agile Mentor we were able to adapt rapidly to changing situations. We saw positive results immediately. Our SDS Agile Mentor provided valuable training and mentoring to several teams within our organization.”

—IS PMO Leader



Agility | Mobility | Usability

SDS is a custom software development company offering a broad range of technology expertise for desktop, web, and mobile application solutions. We have been in business for over 17 years and work with well known companies across industries. Our team specializes in Agile Development and user experience practices along with technology expertise to deliver high-quality results while containing costs. **Contact us for complimentary lunch & learns.**