

Agile Project Management

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Agile History

- Project methodology invented in early 2000.
- Has become the dominant standard of managing IT and software project at technology companies.
- Originally inspired by Japanese manufacturing methodologies (just-in-time, lean manufacturing).
- Was adapted by technology company to help mitigate some of the problems with the standard waterfall model.



Waterfall model

- Requirements
- Design
- Implementation
- Testing
- Deployment and Maintenance

IT Risk

- Large-scale IT project have a reputation of being over budget, and delayed and in fact in many cases never delivered.
- Some Case studies:
 - UK e-border (£0.5B, cancelled, 2007 - 2014)
 - UK NHS Connecting for Health (£12B, discontinued, 2002 - 2011)
 - Sweden Dental Health System (£1.5B, cancelled, 2007 - 2010)

Agile - Scrum

- Scrum is a lightweight, iterative and incremental framework for managing complex work.
- Designed for teams of 10 or fewer members,
- Teams break their work into goals that can be completed within timeboxed iterations, called sprints.
- Each sprint is no longer than one month and most commonly two weeks.
- Progress is tracked and re-plan in 15-minute time-boxed daily meetings, called daily scrums.

Agile Philosophy

- The framework challenges assumptions of the traditional, sequential approach to product development
- It enables teams to self-organize by daily face-to-face communication among all team members and disciplines involved.
- A key principle is the dual recognition that customers will change their minds about what they want or need and that there will be unpredictable challenges—for which a predictive or planned approach is not suited.

Agile Philosophy II

- Scrum adopts an evidence-based empirical approach accepting that the problem cannot be fully understood or defined up front.
- Instead it focuses on how to maximize the team's ability to deliver quickly, to respond to emerging requirements, and to adapt to evolving technologies and changes in market conditions.

Scrum roles

- Product Owner: representing the product's stakeholders and the voice of the customer, is responsible for delivering good business results.
- Development team: has from three to nine members who carry out all tasks required to build increments of valuable output every sprint

Scrum master

- The scrum master is the role responsible for gluing everything together and ensuring that scrum is being done well.
- In practical terms, that means they help the product owner define value, the development team deliver the value, and the scrum team to get to get better
- The scrum master is “servant leader”.



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Scrum Master duties

- Maintain project board.
- Manage stand-ups.
- Interface with supervisors.

Scrum Stand-ups

- In many sports like (American) football and rugby, the team huddles before each play.
- Daily scrum is a daily meeting that reinforces the “we” to keep everyone aware of the team’s landscape and progress.

Scrum Stand-ups

- At every daily standup each member answers three questions:
 - What did I work on yesterday
 - What am I working on today
 - What issues are blocking me
- These questions highlight progress and help flag team blockers.

Scrum Stand Ups

- Choose a time that works for everyone.
- Keep standup efficient
- Make the standup part of the team's retrospective
- Reference scrum board
- Be open to asynchronous stand-ups

Interface with stakeholders

- Raise blockers with supervisor (academic or industrial)
- Update team about issues
- Liase with Covise about platform or agile principles.