

# *Scrum Research at Carnegie Mellon*

**Mark C. Paulk, Ph.D.**

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## *Three Topics*

**Practices that characterize the Scrum agile method, along with common variants and tailorings**

**Which Scrum practices, or variants thereof, have been implemented and the perceived value of the method**

**Factors affecting Scrum adoption**

## *Scrum*

A process for incrementally building software in complex environments.

- **Backlog** – all outstanding work for a product area
- **Sprints** – 30-day increments of work that produce a deliverable
- **Scrums** – daily status check meetings

***K. Schwaber, Agile Project Management with Scrum, 2004.***

<http://www.controlchaos.com>

## *Scrum Practices*

The Scrum method, as defined by Schwaber, Beedle, Sutherland, etc.

- practices: 30-day Sprint, Product Backlog, Daily Scrum, ...
- roles: ScrumMaster, Development Team, Product Owner, ...

Variations on the Scrum method

- different lengths of Sprints
- ScrumMaster = project manager

## *Associated Practices*

### **Defining “done”**

- design reviews
- code reviews
- unit tested

### **Practices commonly associated with other agile methods**

- test-driven development
- pair programming

### **Good engineering and management practices in general**

- top-10 risks list
- customer-supplier relationship

5

## *Practice Effectiveness*

**The Scrum method in principle should be used without much variation – significant variation probably indicates a “ScrumBut” implementation**

**Practices that are perceived as working will continue to be used...**

**Were any Scrum practices perceived as not being feasible?**

**Did any Scrum practices not work well when tried?**

6

## *Why Adopt Agile Methods?*

**... pilot the agile practices and see how they work?**

**... use agile methods on my projects (because I like it)?**

**... adopt agile methods in a particular domain – where appropriate?**

**... adopt agile methods for the organization?**

7

## *Measuring Business Success*

**Does the project have a “product vision” that characterizes success?**

**How does the project measure success?**

- financial / market (profit, market share)
- quickly responding to changing customer needs
- cost and schedule drivers
- quality
- customer satisfaction / delight
- innovation (building for the future)

8

## *Factors Affecting Adoption*

### Some general adoption issues

- sponsorship – addressing business problems
- resistance to change
  - We need a requirements specification.
- shelfware (facades)
- training, user groups, conferences
- scope of piloting / adoption
- politics, responsibility, accountability

### Some cultural issues

- power and control
- uncertainty (when will we be done?)
- confrontation vs compromise
- risk aversion

9

## *The Agile Alliance*

### Agile Manifesto

“We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

- **individuals and interactions** over processes and tools
- **working software** over comprehensive documentation
- **customer collaboration** over contract negotiation
- **responding to change** over following a plan

That is, while there is value on the items on the right, we value the items on the left more.”

<http://www.agilealliance.org>

10

*Cultural Misfits*  
(Using the DoD as an Example...)

**Regulatory requirements for a level playing field raise challenges for evolutionary and incremental development...**

**The need by the contracts officer for a requirements specification...**

**Progress payments defined from a waterfall mentality...**

**Barriers – regulatory and cultural – to a collaborative customer relationship...**

**Protests from competitors...**

*Project Context*

**Size (people, \$\$, schedule, ...)**

**Market (web design, financial services, databases, ...)**

**Technology (languages, tools, methodologies, techniques, ...)**

## *Research Realities*

**We'd like more information than most people are willing to take the time to provide...**

- **participation by people doing the work is crucial to insight**

**Surveys inspire more questions...**

**Follow-up interviews provide deeper, but less comparable, information...**

## *Research Plans*

**Survey of Scrum projects**

**Interviews and case studies of selected projects**

**Publications confirming / testing "what everyone knows"**

- **Scrum practices, variations, and associated practices**
- **business value of Scrum**
- **factors affecting Scrum adoption**

## *Questions and Answers*



15

## *Contact Information*

**Dr. Mark C. Paulk**  
**Carnegie Mellon University**  
**Institute for Software Research**  
**407SCR 115**  
**5000 Forbes Avenue**  
**Pittsburgh, PA 15213 USA**

**Email:** [mcp@cs.cmu.edu](mailto:mcp@cs.cmu.edu)  
**Web:** <http://www.cs.cmu.edu/~mcp/>



16