Introduction to Agile and Lean: Organizations, Products, and Development Minitrack

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Abstract

Over the past two decades, research in the area of agile and lean software development has mirrored the strong growth of the use of agile and lean methodologies. Agile and lean management practices (which we define broadly to include Scrum, XP, Lean Startup and other related approaches) roughly triple the success rate of software projects over traditional management approaches. Because software projects contribute so broadly to economic and social improvement, research on agile methods may produce significant productivity gains. The impact extends beyond software; agile manufacturing and agile organizational strategy share many fundamentals with agile software.

1. Introduction

The Agile/Lean mini-track explores agile methods and their effects on quality, speed and communication. We solicited research papers and experience reports that explored agile development, lean product management and agile/lean organizations within software development as well as across other domains.

2. Sessions

At this year's conference, we divide the papers into two loosely related sessions.

Session 1 Understanding and Measuring the State and Practice of Agile. In "Towards Measuring the Agility of Software Business", Kinnunen and Luoma identify a need to measure differences in agility between firms and finding the means to evaluate the differences in agility in reliable manner. This article examines how to measure the agility of a software firm and reports initial steps in the process of developing measurement instruments.

In "Antecedents of Preference for Agile Methods: A Project Manager Perspective", Bishop et al. explore how pragmatism and preference lead to the use of agile methods and the configuration of practices used. Using grounded theory methods, they find that pragmatism is the core category that emerged from their analysis, rather than ideology, which has previously been seen as a key driver of method adoption [1].

In "Scrum in practice: an overview of Scrum adaptations" Hron and Obwegeser dive into specific examples of Scrum method tailoring. In this review, they identify seven specific motivations, and six tailoring strategies used to adapt Scrum. This expands the literature that explores the relationships between particular motivations leading to particular method practice use [e.g., 2].

Souza et. al propose a new framework for value-driven modeling in agile projects. "Towards an Agile Reference Architecture Method for Information Systems" proposes a method using model driven techniques to create a reference architecture for an information system aligned with the business values. They evaluate the method by applying it to an industrial case study

Session 2 Thinking Beyond Today. In "Thoughts on Current and Future Research on Agile and Lean: Ensuring Relevance and Rigor", Saltz et al. argue that in order for the discipline to move forward, a new and more rigorous approach to investigating the agile phenomenon must be embraced.

Smeekes et al., in their paper, "A Wheelbarrow Full of Frogs: Understanding Portfolio Management for Agile Projects", explore how portfolio management adapts to agile projects by performing fewer and less strict process controls, by modifying the budget controls and by shifting from IT project/program control to business outcome control, with an increased focus on business value. As agile projects are more and more commonly part of larger programs, this is an important area in which to build new research.

Finally, in our best paper nominee, "Subgroups in Agile and Traditional IT Project Teams", Pflügler et al. explore the differences in formation of subgroups within project teams that apply agile methods vs. traditional methods, and find that the formation of subgroups differs between the two methods. Task assignment is the dominant factor that leads to the formation of subgroups in traditional methods, whereas previous ties between team members is the dominant factor in agile projects. As such, the importance of social connection within agile teams is highlighted,

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while guidance is provided as to how project managers may wish to assign team members to sub-teams.

3. References

[1] Hirschheim, R., Klein, H., and Lyytinen, K. *Information systems development and data modeling: conceptual and philosophical foundations*. Cambridge Univ Pr, 1995.

[2] Tripp, J.F. and Armstrong, D.J. Agile methodologies: organizational adoption motives, tailoring, and performance. *Journal of Computer Information Systems*, (2016), 1–10.