Paper title: Challenges in Enterprise Adoption of Agile Methods - A Survey

Agile methods are a departure from plan-driven traditional approaches, where the focus is on generating early releases of working software using collaborative techniques, code refactoring, and on-site customer involvement. Research and surveys have shown that agile methodologies are an efficient way of producing software with significant advantages in production costs, time-to-market, complexity, and quality improvement over heavy-weight traditional methodologies. Even with such apparent advantages the information technology industry has not seen large-scale adoption of agile methods. In this survey paper, the major challenges in adopting agile practices by enterprises are addressed. Drawing information from the literature issues like framework for agile organizational change and adoption strategies are examined. Inputs from the industry suggest that most organizations are best suited in adopting a combination of traditional and agile method. There is no agile methodology that can be universally applied and have to be tailored to integrate into existing processes.

Keywords: Agile processes, chasm, enterprise, software development, technology adoption lifecycle.

Status: accepted final

Reviewer nr.1 comment:

It is an excellent research article that represents a critical survey on Agile Methods and the challenges facing adopting them universally by the Software Industry.

I wished only if the author(s) can make some distinctions between the various Agile Methods (e.g. XP, Scrum, FDD, DSDM) and classify different degrees of challenges facing each one of them in producing realizable models of software (e.g. MDA). Possibly in a form of a table.

Reviewer nr.2 comment:

The authors have made a survey of the challenges in the adoption of Agile methods by enterprises. They list down a number of advantages in adopting agile practices such as Improved ROI, Cancelling failing projects at an early stage, higher software quality, improved controlled on projects and team cohesiveness. They list a number of difficulties by adopters of agile methods. According to Reifer there have been gains in productivity, reduction in costs, reduction in time to market and reduced defect rates. Moore's technology adoption lifecycle is expressed as a bell curve divided into five stages. There is chasm between the second stage of Early Adopters and Early Majority. Agile processes are currently in the Early Adopter zone. The authors list a number of
challenges in adopting agile methods - serial thinking, closed mindedness, office politics, black and white mind-set, fear of challenge, specialized skills, documentation-heavy mind-set and do-it-all-at-once attitude. The successful adoption of agile methods requires strategies such as management buy-in, education and support to employees, integrating agile practices to external processes, starting agile project success and sustenance of agility. The authors present a case study of one of the two strategies for adopting agile methods, namely, incremental adoption, which was a failure. The authors should have given a case study of a successful adoption of agile methods as well, if available as it would give the experiences and techniques used for meeting the challenges in the adoption of agile methods.

The authors also present experiences of four large organizations in implementing agile (eXtreme programming or XP) pilot projects. Integrating agile projects in large organizations with existing processes is the primary challenge. They list eight incompatibilities between XP pilot projects and the environments. The organizational change framework used in Qwest example is described in terms of eight principles and limitations of agile software processes by Turk et al.

The paper is well written. On page 1 the authors refer to the waterfall model without giving the reference and explaining it. The authors should give the reference for waterfall model and explain briefly.

Reviewer nr.3 comment:

This is a good survey paper on Agile methodology. The paper not only describes the methodology, but provides an analysis of the effect on organizations and limitations. The following suggestions may improve the paper:

In sections 3 and 4 highlight what is different / similar in adopting Agile methodology to adopting any ‘new’ system by an organization.

In section 6 – highlight when (year(s)) that the organizations described in reference [9] attempted to introduce Agile technology

Editor Comment:

Your paper is accepted, please make the minor changes as suggested by the reviewers