Chapter X

The Impact of Agile Methods on Managing IT Professionals

Mark Toleman, University of Southern Queensland, Australia
Fiona Darroch, University of Southern Queensland, Australia
Mustafa Ally, University of Southern Queensland, Australia

Abstract

This chapter examines the potential for agile methods to provide mechanisms to deal with the software development environment that has evolved in response to the inadequacies of traditional, heavyweight development approaches. A framework is proposed which identifies three major areas of organizational impact that require management attention when undertaking system development in the new environment. This is followed by a detailed examination of the constructs within those three main areas, and assesses the potential for agile methods to address those issues. The current literature and empirical research into agile methods (and eXtreme Programming in particular) underpins the proposals for dealing with contemporary software development challenges. The authors hope that
understanding the environment from the perspective of the framework will assist managers in their perception of the challenges of contemporary software development, and provide them with a firm basis on which to consider the adoption of agile methods.

Introduction

Globalization, the pressure to lower development costs and the requirement to deliver software in “Internet time” demand new approaches to management of system development. Agile methods have evolved in recognition of the shortcomings of the more traditional, heavyweight software development methods. This chapter explores the ways in which the increasing adoption of agile methods has changed the role of the software developer and how agile methods impact on the management of personnel involved in the software development process.

A range of issues within the tenets, principles and core practices of the agile methodologies impact directly and indirectly on the management of software development. For example, three of the four tenets espoused in the agile manifesto (www.agilemanifesto.org), namely, those that emphasize “individuals over processes,” “customer collaboration over contract negotiation” and being able to “respond to changes instead of following a plan,” place new demands on software developers and their managers. Likewise, several of their principles suggest that managing agile teams will bring significant challenges for management. The principles of agile software, developed in conjunction with the agile manifesto, encourage trust in individuals to “get the job done,” “promote sustainable development,” assume emergence of “self-organizing teams” and assume teams will “reflect” on their effectiveness, and work directly with their customers to satisfy their needs for systems that give a “competitive advantage.” Such requirements will test managers, developers, and customers from a range of perspectives but particularly the management of staff.

There are a range of methods that fall under the agile label. The most well known include eXtreme Programming (XP), SCRUM, Crystal and Feature Driven Development (FDD). These methods embody principles and practices that require particular management consideration for their successful implementation. In all these approaches, the changing role of the developer has resulted in a major paradigm shift that needs to be addressed by management in order to make the software developers effective members of an agile team. Some developers may find the transition extremely challenging. To successfully introduce an agile methodology, organizations will need to manage, harness, and direct the skills and talents of these developers in an environment where they
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