Introduction

Agile Methods (AMs) are very recent but many of their basic principles are rather old, inherited from the lean production pioneered in the ‘60s at Toyota for the production of cars. Moreover, many practices on which AMs are based have a long tradition in software development. For instance, unit testing has been used since the ‘60s. However, one of the major achievements of AMs is the integration of all these well established principles and practices with some others more recent such as pair programming.

The Open Source (OS) movement has a long tradition as well. However, it was born as a way of licensing software not as a development method. Moreover, people producing OS software use a wide range of different approaches to software development. Even if, it is not possible to define a single OS development method, there are some basic principles and approaches that have become common in several OS communities.

Surprisingly or not, there are many basic principles and development techniques that are similar in AMs and OS Software Development (OSSD). As an example further investigated in the first section of this book, the three of the four principles of the AMs are completely embraced by OSSD.

The analysis of commonalities and differences between AMs and OSSD is at the beginning but it is interesting to understand how some development approaches...
have evolved during the time and whether they produce concrete benefits in terms of software quality and customer satisfaction.

This book is a first attempt in the investigation of such relationship through of the analysis and the comparison of the basic principles and practices, the discussion of some empirical evaluations, and the presentation of promising assessment methodologies.

This book addresses three main audiences: managers, researchers, and students.

In this book, managers can find the basic principles and practices that are the base for AMs and OSSD, how they are related to each other, and how the organization of the work is affected. Moreover, the last section related to industrial adoption guides the reader into the main aspects to consider in using such technologies in a business environment.

Researchers can find not only a theoretical analysis of the phenomena of AMs and OS, but also the definition of an experimental framework for data collection and analysis and a set of empirical investigations.

This book can be used by software engineering students in BSc and MSc courses as a starting point to study how AMs and OSSD approaches the development process and how they are related to each other.

Besides the references listed in each chapter, here below the reader can find a small set of additional readings:

- **Section 1: AMs and OSSD**

- **Section 2: Analysis of Practices**
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