Conclusions

This book has presented Agile Methods and Open Source identifying similarities, differences, and complementarities.

These two areas are very active and are evolving fast. For these reasons we expect that the influence of each other will increase in the future.

In our analysis, we have considered several aspects of the two areas including the founding principles, the technical details, and the organizational problems. Moreover, a number of case studies have been included to provide evidences of the effectiveness of specific approaches. However, in most of the cases, the implementation of such techniques is not straightforward and several difficulties emerge in their implementation in different kinds of environments.

Section 1 has compared AMs and OSSD focusing on their theoretical background and evolution from their beginning. We have highlighted that even if they have evolved from different communities and the basic values are expressed in different ways, the aims, the objectives, and the actual practices are not so different and they overlap in many cases. This investigation is just a first attempt in identifying relationships between AMs and OSSD. In particular, more investigation is required in the actual implementation of the Agile and OS models inside organizations (both communities and companies) and in the definition of a set of strategies to help them in the integration of such development approaches with the culture already existing in the organization. Such investigations should analyze not only the development teams but also the entire structure of the organization considering their specific environment and the related business models as well.

Section 2 has described the adoption of some Agile practices (and processes) in the development of OSS. Our investigation has considered some of the most com-
mon practices (e.g., test first and code ownership) and has evidenced that such Agile practices are also used in OSSD. However, there are several others that have been introduced in Section 1 and can be investigated. An interesting further research could be the investigation of such practices in different contexts such as in communities and in companies, analyzing not only the adoption of the practices but also the differences in their adoption if the two contexts.

Section 3 has presented a framework for conducting experiments and a set of experimental analysis related to the application in different contexts of some common development practices such as pair programming, requirements management, and project management in Agile and non-Agile environments. Such analyses have highlighted differences and commonalities in the application of the practices in the considered environments. These analyses are just a first set of experimental evaluations in real industrial settings; further investigations are required to enlarge both the practices analyzed and the application environments.

Section 4 focused on the industrial adoption presenting assessment methodologies, main adoption issues that companies face, and an overview of the available tools to support the adoption of the practices. According to the surveys carried on, trust is a key issue for the adoption of OSS and it relates to several aspects of the product itself and the development process used to build it. The data presented come from European companies (large, SMEs, and Public Administrations) and large well-known OS communities. The investigation could be extended including different areas, including more companies, and compare the different approaches different kinds of companies have. Moreover, a set of guidelines for the implementation of the assessment and the exploitation of OSS could be developed to help companies in such activities.

Summarizing, AMs and OSSD are deeply connected through the aims, the objectives, and the vision over the art of software development. They acknowledge that to produce good software you do not need just the right tools or process but you also need good people. There is a lot of research to carry on in this area, in particular for helping companies in the adoption of the methodologies and the specific practices that need to be customized to satisfy the needs of specific companies.

We hope that the analysis we have carried out will help the reader to better understand Agile and Open Source and push him to a further investigation of the topics.