

Views from an Organization on How Agile Development Affects Its Collaboration with a Software Development Team

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Abstract. The purpose of this study is to investigate how agile development affects collaboration in an organization. Agile processes have received interest from the software development community during the last years as they address changes, such as new customer requirements or re-prioritization of development tasks, which is important to manage in software development. Most of the research published about agile processes are based on opinions from teams applying these processes. However, since software development is an activity where many parties often collaborate, it is interesting to investigate from an organizational point of view, how agile development affects collaboration between these teams and their organizations. An agile process based on extreme programming, XP, was applied by a team during eight months. The team interacted with its surrounding organization regularly. People from the organization which the team collaborated with were interviewed to understand how the use of the process affected their collaboration with the team. The results show that the interviewed people perceived an improvement of their collaboration with the team, as the team started develop software in an agile way.

1 Introduction

Successful software development projects are characterized by project teams that collectively take responsibility of their engineering processes. Further, a team should recognize the team members' viewpoints on how team performance can be improved, as stated in [4]. This is also true when developing software, as confirmed in [7]. Software development projects of today are often large and involve a lot of people with different abilities. It is important to recognize their viewpoints on how collaboration can improve, in order to deliver fault free software on time. The study addresses this issue, by recognizing how an organization perceives its collaboration with a software development team.

Agile methods have received interest from the software development community during the last years, perhaps mainly due to the fact that they address changes which is important in software development. Agile methods emphasize

simple and direct communication as a means for improving software development results. Communication is facilitated as people sit close to each other, daily meetings are performed and charts on team performance are made visible. These aspects and more enable a simple and direct communication, which help manage changes in software development. Further, collaboration is based on communication as mentioned in [6]. Thus, the use of an agile process ought to improve collaboration in an organization, as agile methods facilitate communication. The purpose of the study is to investigate whether this is the case.

In the study, an agile process was introduced to a large organization with a complex software development environment, which included both support and maintenance of several systems. In these kinds of environments changes occur frequently such as new versions of requirements and re-prioritization of tasks. A team applied the agile process during eight months. The team wanted to improve its software development process by using this kind of process, as iterative development and an improved ability to handle changes were appealing to the team. The process was based on XP [1], but not identical to it since some parts of the process were not introduced and others were adapted to fit the team's development environment. The team collaborated with its surrounding organization to develop software.

This paper investigates how collaboration between a team and its surrounding organization was affected, from an organizational point of view, during introduction of an agile process. Most of the research published about agile processes are based on viewpoints from teams applying these processes, but this study provides input on how an organization considers use of an agile process. Hence, interviews were conducted with the organization on how it perceived its collaboration with the team before, during and after the process was introduced. The results of the study may help understand how agile development affects collaboration in organizations, seen from an organizational perspective. The study presented in this paper is part of a case study where the purpose was to investigate the effects of introducing an agile process based on XP to a large organization with a complex software development environment. The results presented in this paper concern how the surrounding organization perceived that their collaboration with the software development team changed as the agile process was introduced to the team. The results presented in [11] address the team's performance by analyzing quantitative data before and after the agile process was introduced. Finally, the results presented in [12] concern how the team perceived their use and adaptation of the agile process.

Section 2 contains related work and Section 3 presents the research methodology. In Section 4, the study context is described. Section 5 details the introduction of the agile process. Section 6 presents the research results. Section 7 summarizes the main conclusions from the study and Section 8 includes discussion of the results and future research.