

An Approach on Applying Organizational Learning in Agile Software Organizations

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1 Motivation

Agile software development (ASD) has been in evidence over the past years by encouraging changes on how software is developed [1]. However, agile methods strongly focus on empowering the project team in achieving its goals [2]. Little attention is given to creating insights and experiences to the organizational level [3]. Therefore, there is a challenge to overcome the barriers to scale the knowledge on the group level to the organizational level effectively [4].

Some of the problems have been bypassed through the adaptation of practices such as job rotation to increase knowledge redundancy [5], scrum-of-scrums [6], workshops [7] and communities of practice [8] to support multi-team issues.

However, they are not effective in all contexts and must be carefully adapted and tailored. For this reason, specific strategies are needed to spread useful knowledge for the organizational level [9].

In this context, Organizational Learning (OL) may be very relevant to support the generation of organizational competitive advantage, since OL helps improving organization actions through better knowledge and understanding [10].

2 Applying OL in Agile Software Organizations

The primary goal of this research is to investigate how OL can be facilitated in agile organizations to foster organizational competitive advantage.

The overall research tasks consist on analyzing assumptions [10] that contribute to facilitate OL in agile organizations; identifying practices to effectively share tacit and explicit knowledge; analyzing exploitation-exploration tension in agile organizations and proposing alternative balance solutions; proposing an OL framework for agile software organizations considering their characteristics, contextual factors and appropriated practices to address competitive advantage; and evaluating inter-teams

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knowledge sharing and perceived organizational competitiveness (responsiveness, innovativeness, customer satisfaction, financial performance, software process improvement, employees commitment and satisfaction, etc).

The ongoing research is running both in academic and corporate environments. Some preliminary results are the need for (1) joining practices detected by the students in a repository (academic environment), and (2) the achievement of better understanding of the research problem (corporate environment) through an empirical study performed in a software organization that implemented the Scrum method and in an interview with a specialist on implementation of agile methods.

In the academic environment, the next steps consist in designing the participant observations and the case studies, as well as, determining the form of data collection, tools and technical analysis. After, we will execute them to collect and further analyze the evidences.

In the corporate environment, the next steps consist in establishing the companies participating in the action research; develop collaboration agreements between researchers and practitioners; plan and execute the iterative cycle of activities, including problem diagnosis, action intervention and reflective learning to propose a solution to the problem outline by applying and adjusting the proposed framework.

Finally, we aim at analyzing the qualitative evidence, consolidating the proposed framework and reporting the research outcomes to wider community and developing research publications.

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