

A tough Nut to Crack – Implementing Agile Software Development Methods in Organizations with Strong Working Councils

Master Thesis

University of Cologne – Professorship for Integrated IS | QVC Handel S.à r.l. & Co. KG

Problem Statement

Although many organizations are willing to promote the implementation of agile methods for software development such as Scrum or Extreme Programming, current studies indicate challenges in implementing agile development methods in large scale organizations (VersionOne 2017). One of the key challenges when implementing agile development methods within larger organizations, specifically in Europe and Germany, is to overcome reservations of the working council. Agile methodologies generally rely on work transparency meaning that all relevant aspects of the development process need to be visible to all responsible for its outcome (Schwaber and Sutherland 2013). Team members in agile environments exchange a lot of information regarding their individual work progress on a daily basis and use tools such as agile Boards to foster transparency (Conboy et al. 2011; Dreesen et al. 2016; Hoda et al. 2013). Communicating (and documenting) the work progress of employees is generally an aspect of Agile (Hummel et al. 2013; Recker et al. 2017), which working councils feel queasy about when being introduced to agile methodologies.

Goal of the Thesis

The goal of the thesis is threefold: Firstly, the master student should, based on a thorough literature review, identify challenges for implementing agile software development in general and concerns of the working council for implementing such methods in particular. Secondly, the student should empirically develop a framework with regard to how the working council's concerns could be overcome in practice. The problem can be approached e.g. by tailoring agile methodologies without losing means to provide process transparency or by including the working council in various stages of development lifecycle in order to mitigate fears and establishing trust. This conceptual framework should be based on qualitative or quantitative empirical fieldwork. Thirdly, the student should provide suitable future research directions based on the developed framework in step 2 of the master thesis.

Thesis Approach (high-level)

1. Definition of Final Problem Statement
2. Inquiry and analysis of data through qualitative field research (e.g. interviews, observations, logs & memos) regarding:
 - a. Challenges for implementing agile development methodologies in Germany
 - b. Concerns of German Working Councils with regard to Agile Development
3. Development of a tailored agile process focusing on the mitigation of the working council's concerns identified within step 2b, using qualitative or quantitative empirical research methods.
4. Identification of future research directions based on the developed framework and the overarching thesis results

Corresponding Theories / Theoretical Lenses (to be discussed) e.g.:

- Institutional Theory / Institutional Logics Perspective
- Social Exchange Theory
- Agency Theory / Game Theory / Behavioral Decision Theory
- ...

In case of interesting this master thesis, please contact Tim Dreesen (dreesen@wiso.uni-koeln.de)

Literature

- Conboy, K., Coyle, S., Xiaofeng, W., and Pikkarainen, M. 2011. "People over Process: Key Challenges in Agile Development," *IEEE Software* (28:4), pp. 48-48.
- Dreesen, T., Linden, R., Meures, C., Schmidt, N., and Rosenkranz, C. 2016. "Beyond the Border: A Comparative Literature Review on Communication Practices for Agile Global Outsourced Software Development Projects," *2016 49th Hawaii International Conference on System Sciences (HICSS)*, pp. 4932-4941.
- Hoda, R., Noble, J., and Marshall, S. 2013. "Self-Organizing Roles on Agile Software Development Teams," *IEEE Transactions on Software Engineering* (39:3), pp. 422-445.
- Hummel, M., Rosenkranz, C., and Holten, R. 2013. "The Role of Communication in Agile Systems Development," *BUSINESS AND INFORMATION SYSTEMS ENGINEERING* (5:5), pp. 343-355.
- Recker, J., Holten, R., Hummel, M., Rosenkranz, C., and Project Management, I. 2017. "How agile practices impact customer responsiveness and development success : a field study," *Project management journal*. (48:2).
- Schwaber, K., and Sutherland, J. 2013. "The Scrum Guide." 2018, from <https://www.scrumguides.org/docs/scrumguide/v1/scrum-guide-us.pdf>
- VersionOne. 2017. "The 11th Annual State of Agile Survey," p. 17.