Chapter 9

Improving Online Collaboration in Contemporary IT Development Teams

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ABSTRACT

An interview study focusing on online collaboration in geographically distributed IT development teams in Danske Bank revealed seven problem areas. To cope with the problems the authors applied a design science research approach to construct a conceptual framework for improving online collaboration. The conceptual framework combines a six-phase teambuilding model with six elements of social capital. Thus, in each phase of teambuilding, the online collaborators aim at building up all six elements of social capital. The complete six-by-six framework was successfully tried and diffused throughout Danske Bank. This chapter gives an account of the framework content and the results from the evaluation.

INTRODUCTION

Future collaborative projects will be undertaken everywhere; globalisation is here now (cf. Friedman, 2006). This means that work will be assigned to anyone who does it better, cheaper or faster. It also means that a company will have many projects, characterised by rapidly assembled project teams, geographically dispersed but with highly specialised professionals who perform specific tasks. Individual project teams will gather and collaborate (online) for varying periods of time, depending on the type of work, and will be dissolved as soon as the project task is completed. For an individual, based somewhere in the world, work and career will be about participating in a series of individual projects, characterised by progress and achievements.

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Thus, online collaboration and projects with geographically distributed team members will be common in the future. In our understanding, a distributed online collaboration team is separated by geography, time zone and/or culture; nevertheless, its members have to work together as a team.

In this chapter, the authors examine a concrete process improvement effort in Danske Bank. Project work in Danske Bank is characterised by many teams collaborating online, with members based in both India and Denmark, but these teams need to improve their collaboration. Danske Bank realised this issue some years ago, and the process improvement effort reported here was initiated from that realisation.

The remainder chapter is organized as follows. First, the chapter carefully explains the research method, specifically, design science research. Second, the chapter give a short account of existing knowledge related to online collaboration, distributed teams and management, as well as the problems at hand. Third, the chapter lays out all the details of an interview conducted in Danske Bank. Fourth, the chapter gives the details of the design of a conceptual framework for solving the problem faced in Danske Bank. Fifth, the diffusion and successful adoption of a six-by-six conceptual framework (i.e., the design)is explained. Finally, the chapter ends with a conclusion.

**RESEARCH METHOD**

In this section, the authors carefully explain the design science research approach taken, the business needs being addressed and the knowledge applicable to the problem at hand.

Benbasat and Zmud (1999) argue that much information system (IS) research today is irrelevant, and they recommend research that is more relevant but without fundamentally challenging the existing academic value system. The authors believe that design science research offers the practical relevance and utility required because it emphasises that a design should address a need or a problem and at the same time, should stand on the shoulders of existing research on the problem area. Probably the first journal paper on design science research about IS is that of Walls et al. (1992), who argue that design is both a product and a process. Thus, a design theory must on one side, handle the design product; on the other side, it should handle the design process. In another influential paper on design science research (March & Smith, 1995), one of the key points is that in design science, a researcher can build and evaluate four elements: constructs, models, methods and instantiations.

Continuing the work of March and Smith (1995), Hevner et al. (2004) present a design science research framework that also enhances the study of Walls et al. (1992). Figure 1 shows an overview of the framework. At the core are such elements as build and justify. The arrows back and forth symbolise the iterative nature of design science research. The left hand side of the figure shows the business needs stemming from people, an organisation or technology. The right hand side of the figure shows the common knowledge base consisting of foundations, methodologies and technology. The bottom two arrows show the main outcomes of design science research – applications in a concrete setting and additions to the general knowledge base.

**The Case and How the Research Was Initiated**

The research reported in this chapter was initiated when Linda Olsen, the First Vice President for Danske Bank’s outsourcing setup called Development Center India (DCI), realised that the firm needed improvement in online collaboration and management.