Collaboration Engineering for Designing Self-Directed Group Efforts

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INTRODUCTION

Collaboration is important to create organizational value. By collaborating, people can accomplish more than they could as separate individuals. Collaboration is the making of joint efforts towards a goal. Yet, achieving effective e-collaboration is easier said than done. Groups are not likely to overcome the challenges of collaboration by themselves (Nunamaker, Briggs, Mittleman, Vogel, & Balthazard, 1997; Schwarz, 2002).

To support organizations and groups in their e-collaboration efforts, a myriad of technical approaches for e-collaboration support have been developed, such as group (decision) support systems, video conferencing, and computer supported collaborative work. This technology support is often combined with process support called facilitation (Nunamaker et al., 1997). While research has demonstrated the added value of such groupware systems in the field (Fjermestad & Hiltz, 2001), and facilitation is regarded as a critical success factor for successful use of such systems (Nunamaker et al., 1997; Vreede, Boonstra & Niederman, 2002), their adoption and diffusion is difficult (Briggs et al., 1999).

Consequently, collaboration support in the form of technology and process support is not always available to groups that could benefit from such support. While collaboration support is often offered by experts its sustained implementation would be simplified if we could transfer the skills required for collaboration support to practitioners in the organization. When they can use such skills on a recurring basis, collaboration support could be availed to groups for recurring processes, without mounting-up costs from hiring group process professionals. This approach is named collaboration engineering (CE).

Collaboration engineering is defined as an approach to designing collaborative work practices for high-value recurring tasks, and deploying those designs for practitioners to execute for themselves without ongoing support from professional facilitators (Briggs, Kolfschoten, Vreede, & Dean, 2006; Briggs, Vreede, & Nunamaker, 2003; Vreede & Briggs, 2005). To enable the transition of collaboration support skills and their application by practitioners we need to be able to design easy to use, robust collaboration support, both in terms of process support and technology support. Collaboration Engineering research therefore addresses both a design and deployment challenge, that when overcome enable more sustained implementation of collaboration support. In this article, we will further explain the collaboration engineering approach; the challenge it addresses, the details of the approach and the research challenges it poses.

BACKGROUND

Collaborative efforts can be far more effective and efficient if they are explicitly designed, structured and professionally managed so as to minimize cognitive load and maximize the focus of purposeful effort (Nunamaker et al., 1997). This is often referred to as facilitation – the structuring and management of collaborative efforts. Research has discussed the tasks of a facilitator, which includes among other things; instructing and motivating the group, managing discussion and conflict, and employing tools and techniques

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to support groups in achieving their goals (Clawson, Bostrom, & Anson, 1993; Hayne, 1999; Schwarz, 2002). Facilitation not only provides structures with which people can work together, it also supports people in using available technologies, and points people to relevant information resources (Kolfschoten, Hengst, & Vreede, in press). Field research at IBM, Boeing, BP, EADS, and ING shows that facilitators can achieve reductions of over 50% in terms of labor costs and project time by applying groupware technologies to carefully designed collaboration processes (Vreede, Vogel, Kolfschoten, & Wien, 2003).

Unfortunately, without professional facilitation reaping the benefits of collaboration and collaboration technologies is difficult. Organizations often resort to implementing technologies, yet experiences show that technology alone seldom is the answer. What is needed is the conscious design of effective collaboration processes followed by the design and/or deployment of new collaboration technologies to support these processes. Such design effort requires extensive expertise on the appropriate use of technology (Dennis, Wixom, & Vandenberg, 2001), and experience with different challenges in group work (Schwarz, Davidson, Carlson, & McKinney, 2005)

The adoption and sustained use of collaboration support poses a further challenge. In order to implement successful collaboration support expertise in the design and facilitation of collaboration processes should be available to groups and teams in the organization. There are several approaches to the implementation of collaboration support in organizations, which despite their benefits are not always successful. One approach is, for instance to create internal support facilities with trained facilitators. Another approach is to hire (expensive) external facilitator/consultants. While the later is often expensive, internal facilitators are difficult to sustain as well. Facilitators are frequently promoted away, leaving nobody who knows how to use the technology. Likewise a budget crunch may mean facilitators are laid off, limiting access of teams to support capabilities (Agres, Vreede, & Briggs, 2005; Briggs et al., 1999; Briggs et al., 2003).

The aim of collaboration engineering is to offer an approach to implement collaboration support in organizations that is more likely to lead to sustained use and recurring benefits. Instead of training facilitators, who have extensive expertise, experience and skills, to support ad hoc “all round” processes, collaboration engineering focuses on training practitioners, i.e. domain experts in the organization, to support a frequently recurring high value collaborative task. It thus focuses on processes for mission-critical tasks that must be executed by teams rather than individuals, that must be executed frequently, and that have a high payoff if successful. The value of improving a recurring task is likely to be higher than that of improving an ad-hoc task, since the benefits will be derived in each instance of the recurring effort. Examples of such recurring collaboration processes can be found in various sectors, for example financial services, defense, and software development:

- Financial services
  - Risk assessment & mitigation (see example in Text Box 1)
  - Service product development
  - Sarbanes-Oxley assessments
  - Marketing focus groups
- Defense
  - Crisis response
  - Situational Awareness
  - Course of Action Analysis

Text Box 1. Example of a collaboration engineering effort in the field

Following industry guidelines, ING Group, an international financial services organization, was faced with the challenge to perform hundreds of operational risk management (ORM) workshops. They needed a repeatable collaborative ORM process that operational risk managers could execute themselves. Researchers applied Collaboration Engineering techniques to develop such a process, the Risk & Control Self Assessment (R&CSA) process. Collaboration Engineering was used to model and field test the R&CSA process in a pilot. After this pilot, the R&CSA process was fine-tuned and validated by a group of 12 ING ORM experts. Since then, over 350 ORM practitioners were trained to execute this process. To date, these ORM practitioners have successfully moderated hundreds of workshops where business participants identify, assess, and mitigate operational risks. While many consultancy organizations offer risk assessment workshops as part of their professional portfolio, ING now has the skills to run such workshops for themselves, without the support of external professionals.