Designing IT Support for Collective Intelligence in Open Collaboration Platforms

Position Statement

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Formal organizations benefit by expanding organizational boundaries through crowdsourcing. But, how sustainable are crowdsourcing endeavors? How can organizations interested in leveraging the expanded talent pool of distributed volunteers ensure that the best capable of making high quality contributions are attracted to the project? How can organizations implement different mechanisms to sustain ongoing contributions by high-quality volunteers? What is the optimal design of the participation technology platform for attracting volunteer contributions? In prior research, we studied how the design of quality feedback mechanisms may influence the naturally occurring interactions and social dynamics of volunteers within technical support groups and impact the ensuing group composition by weeding out undesirable members and socializing newcomers regarding group norms (Moon and Sproull 2008). The study focused on a single aspect of IT support for ensuring ongoing high quality contributions from a community in flux – focusing on the role of feedback mechanisms in nurturing and developing long-term participants strongly identified with the community and its goals. In other related research we focused on understanding social dynamics of participants and both formal and informal leaders (i.e., long-term participants) in the context of online technical support groups and open source software development projects (Hahn, Moon and Zhang 2008, Moon and Sproull 2008). In particular, the research has examined the impact of community platform design elements such as quality feedback mechanisms on participant dynamics and the emergence of community norms regarding high quality contributions and desirable group behaviors. Insofar as the aggregate outcome of the group depends on the quality and social desirability of individual contributions, understanding such design elements is critical.

While the design of feedback mechanisms affects the dynamics of participation within particular groups, many open collaboration platforms also provide features that help volunteers find which crowdsourcing project community to participate in. For example, open source software platforms may use social features that increase transparency of work conducted within the individual projects. Social features on open collaboration platforms enable participants to form ties with one another and receive real-time updates of the activities of others. The mechanism is similar to that within social networks such as Facebook or Twitter. Social features thus help to increase the transparency of activities within various projects and influence the likelihood of discovering new projects and collaboration with participants with shared interests (Dabbish, Stuart, Tsay and Herbsleb 2013).

Collective intelligence in short depends on open collaboration platforms facilitating the optimal allocation of volunteers to appropriate project communities and subsequently providing features that increase the likelihood of sustaining high quality contributions within individual project communities. We propose that a more general framework for studying the design of IT support for collective intelligence is needed that synthesizes the extant work on the design of electronic community applications which is currently dispersed in a number of academic fields including but not limited to the fields of computer-supported cooperative work (e.g., Ren, Kraut and Kiesler 2007), consumer behavior (e.g., Nambisan 2002) and information systems (e.g., West and O'Mahony 2008) and identify common recurring themes as well as the different theoretical lenses that have been adopted in exploring the phenomenon in a variety of different contexts ranging from customer communities (Nambisan and Baron 2010) to open source software development communities (West and O'Mahony 2008). An integrative framework that brings together the different strands of research that have been pursued by scholars of different fields is needed to identify important issues and research questions relating to the design of open collaboration platforms for fostering collective intelligence, and highlight how the different theories such as social identity theory,

social capital theory, and common bond theory just to name a few, contribute to our understanding of designing improved IT support for online collectives.

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