

Dissertation Abstract

Stability and change in self-organizing technology-supported groups: Evidence from genres of communication in free and open source software development

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New organizational forms supported by information and communications technologies, such as open source software development and Wikipedia, have recently emerged with great and somewhat surprising success. These organizations are emergent, self-organizing and the best appear able to change and adapt as success breeds new challenges, all without undermining the creative—even emancipatory—collaborative experience. They provide an excellent opportunity to examine change and stability in self-organizing groups.

Yet to date, much research on the organization of open source collaboration has attempted to extract a static ‘method’ and has not addressed the questions of emergence, stability and change which must be understood to engage effectively with projects at different developmental stages as well as to introduce their novel practices in other organizations. The proposed research is a systematic comparative historical study of the lifetimes of two open source projects differing in their ability to sustain early success.

A remarkable feature of these organizations is that they operate almost exclusively through documents (such as email, forums and code) that are stored in public archives. Recurring episodes of work are understood to shape, and be structurally shaped by, identifiable patterns in the form and content of these documents—their genre—and their sequence and timing—or role in a genre system. The research will create a catalogue of work practices by rearranging the full archives of a project’s activity—communications and code—to reconstruct overlapping episodes whose features, such as purpose, form, content, timing and participant roles, will reveal the genres and genre systems used by these projects.

Changes in genres and genre-systems, as well as their use over time, will be examined through statistical analysis of time-series, which will identify periods for qualitative exploration to understand what drives change or supports stability in these organizations. Further, the link between these organizational practices and project effectiveness, such as developer attraction and user popularity, will be examined through time-series regression. The research will further our understanding of change in self-organizing groups as well as the ‘via document’ collaboration that increasingly constitute work today.