# Optimizing Service- and Innovation Teams Through Dynamic Social Network Analysis

Daniel Oster, Dept. of Information Systems, University of Cologne
Peter A. Gloor, MIT Center for Collective Intelligence
daniel.oster@gmx.de

This paper describes a project identifying high-performing interaction patterns of knowledge workers. Towards that goal we analyzed teams of employees at a local bank in Germany, and developed a set of interventions for optimized face-to-face and virtual collaboration. Using the TeCFlow software tool, a dynamic social network analysis was conducted based on communication archives and online surveys. Over 6 months we collected e-Mail data from 80 bank employees working at three branch offices, and three central groups. In addition, we were able to monitor external communication flows between the bank and 120 IT employees who have been outsourced to an external services provider as well as the post merger integration of two social networks from two merged enterprises. To discover correlations between effective communication patterns and performance, we collected performance indicators such as achievement of objectives, operating profit, benchmarking of tasks, personal evaluation, and self-assessment on the group and individual level by conducting an online survey and obtaining data from the accounting department.
Central questions addressed in this project are how communication and social network structure influence revenue, individual and group performance? As a result of the dynamic social network analysis, we were able to identify different categories of communication patterns typical of managers as well as of other levels of hierarchy. We also were able to find efficient communication patterns for common tasks such as managing meetings, opening a bank account, or selling a mortgage to a customer.