

## Chapter 19

# Managing Collaborative Research Networks: The Dual Life of a Virtual Community of Practice

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### ABSTRACT

*This paper explores how management practices shape the way dispersed communities of practice (CoPs) function. The analysis is a case study of a dispersed community engaged in conducting and managing collaborative research. The analysis uses data from a social network survey and semi-structured interviews to capture the management practices in the community and demonstrate how they are linked to the patterns of information flows and communication.*

*This analysis is a test case for the broader issue of how distributed communities function. It shows that even highly distributed CoPs may have a dual life: they exist both online and offline, in both face-to-face meetings and email exchanges of their participants. The study examines a dispersed community engaged in conducting and managing collaborative research. The analysis uses data from a social network survey and interviews to examine its managerial practices, information exchanges and communication practices.*

### INTRODUCTION

The last few decades have seen scientific research become more collaborative, more dispersed, and more reliant on technology. The emergence of large collaborative research networks is but just one of the manifestations of this trend. While researchers

have always collaborated informally in “invisible colleges”, their networks are now more formally designed and more tightly coordinated organizational structures (Crane, 1972). Research today is carried out in large and diverse networks that often operate on national or even global levels, across disciplines and across sectors. Such networks

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require significant technological infrastructures for the participants to work collaboratively and to communicate.

Within the broad trend of networked research and technologically sophisticated cyber science, collaborative research networks come in a variety of organizational forms, tasks, and technological infrastructure (Bos, 2008). One organizational form that has caught the attention of the practitioners, but has yet to receive a serious treatment by academics, is research consortia. The purpose of research consortia is to conduct research which meets the needs of users and enable them to act. As a rule, research consortia involve multiple funders and focus on complex problems requiring extensive collaboration. It is not surprising that such consortia create large distributed research networks that can sometimes span national boundaries. What is distinctive about consortia is the strong partnership between practitioners and academics. Other organizational forms of collaborative research may also involve cross-sectoral partnerships. Research consortia, however, require that practitioners from the funding organizations and academics reach a shared understanding of its research goals and of the means to achieve them. In addition to the knowledge creation taking place in the research projects, research consortia involve learning processes on the level of all participants. They generate a shared view of the significant research issues in an area, mutual understanding of the need of diverse stakeholders, and more accurate mutual expectations. In other words, research consortia serve double duty as coordinating mechanisms of large collaborative research networks and as distributed CoPs. Managing research consortia is as much about coordinating research projects as it is about enabling exchange of ideas and learning. However, despite a growing body of literature on the design and management of virtual communities (VC) and dispersed CoPs, their management practices are not well understood.

This study sets out to explore how the management of CoPs affects the way such communities function. The analysis examines a research consortia program run by a Canadian Network of Centres of Excellence (NCE) referred to as the Water Agency. The NCE was created by the Canadian federal government to foster research and innovation in the area of water. All NCEs are responsible for encouraging multidisciplinary and nation-wide research conducted in partnerships with industrial and government participants. They adopt a network structure in order to avoid the “functional silos”, rigidity, and delays common for traditional bureaucracies. In essence, NCEs create collaborative research networks of academics and practitioners whose participants are dispersed across the country.

The NCE under investigation runs two programs: a General program with traditional mechanisms of research funding and a Consortia program following a research consortia model<sup>1</sup>. This discussion focuses on the network of professionals involved in the Consortia program. Among them are academics from diverse disciplines and a wide range of research areas whose work contribute to the understanding water issues such as: watershed and ecosystems research, water infrastructure, threats to water supplies, or water treatment. In turn, the practitioners in the network include employees at different levels of government, industry partners, conservation authorities and non-governmental organizations (NGOs). Some of them fund or contribute in-kind to the research conducted through the consortia. Others are stakeholders who have a vested interest in the research results even though they do not contribute directly to them.

At the moment, the Consortia program has a network of about 140 members. Current members are affiliated with two fully operational consortia and a few new consortia still in their design stages. Members have an email list, which the Consortia program staff uses to send updates

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