Chapter IX
Collaboration Challenges in Community Telecommunication Networks

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ABSTRACT

This article reviews the literature on networks and, more specifically, on the development of community telecommunication networks. It strives to understand the collaboration needed for innovative projects such as intelligent networks. Guided by a change management framework, collaboration within a community network is explored in terms of the formation and performance phases of its development. The context, content, and process of each phase is analyzed, as well as the interaction of the two phases. User involvement and technology appropriation are discussed. Collaboration challenges are identified and linked to the sustainability of the community network. Policy makers are presented with a model that gives some insight into planning and managing a community network over time.

INTRODUCTION

Collaboration in networks and managing performance across organizations has gained the attention of researchers (Huxham & Vangen, 2000). Our comprehension of collaborative networks[2] has progressed substantially over a couple of decades (Oliver & Ebers, 1998), but it lacks integration (Ebers, 2002).

Collaborative networks cover a range of purposes such as innovation requiring heavy investment in R&D, international ventures, and the delivery of public services like health and education. This article is focused on telecommunication networks that operate within a physical and shared community space. The more ambitious community networks aim to become "intelligent" communities with broad participation and significant impact on the local social and

economic development. To understand them as a dynamic phenomenon, a framework is needed that can accommodate and organize the conceptual pillars of organizational environment, structure, culture, leadership, and management. Pettigrew (1992, 1987) offers such a framework, and Ebers (2002) and LeBrasseur et al. (2002) demonstrate its effective application.

Organizations in all sectors have become more interested in inter-organizational collaboration to encourage synergy, innovation, and economic development. Although there are many pockets of successful collaborative efforts, there is a continuing need to identify the challenges and opportunities inherent to community networks. With this focus, this article is divided into four main sections. First, collaborative networks are defined and described, and community telecommunication networks and their potential for supporting intelligent communities are analyzed. Second, key collaboration challenges that impact on the development of a community network are introduced. Third, the literature is reviewed and organized according to the context, content, and process involved in these community networks during their two phases of development–formation and performance. The collaboration challenges present in each phase of development are explored, including challenges that the users experience. Fourth, the article concludes with policy implications for network planners.

TELECOMMUNICATION NETWORKS AS AN EXAMPLE OF COLLABORATION

Collaboration is the pooling of resources (e.g., information, money, labour), by two or more stakeholders or partners[3], to solve a set of problems, which neither can solve individually (Gray, 1985). It involves an interactive process whereby organizations, using shared rules, norms, and structures, act or decide on issues related to a problem domain (Wood & Wood, 1991). The intentional goal-oriented collaborative arrangement that emerges is that of a network (Poyhonen & Smedlund, 2004).

Networking represents a particular form of organizing or governing exchange relationships among organizations and is an alternative to markets and hierarchies (Ebers, 2002, p. 23). Network partners maintain their autonomy and retain residual property rights over their resources that have been pooled to achieve mutually agreed outcomes (Bailey & McNally-Koney, 1996; Brown et al., 1998; Gray & Hay, 1986; Huxham & Vangen, 2000; Oliver & Ebers, 1998). The principal coordination mechanisms for allocating resources are negotiation and concurrence. Informal social systems, rather than bureaucratic ones, coordinate complex products or services and reduce uncertainty (Jarillo, 1988; Jones et al., 1997).

Networks have gained in importance over the last two decades. For the private sector, globalization and the speed of change have encouraged collaborative efforts. For government, downloading[4] since the 1990s has forced new ways to view management of programs and services for resource maximization (Bradford, 2003; Bailey et al., 1996). Municipalities and regions have also demonstrated an increased interest in collaboration efforts and network development to attract new opportunities and maintain their competitive advantage. Collaborative networks typically increase the scale and visibility of program efforts, increase support for projects, and leverage capital to enhance feasibility, speed, and effectiveness (O'Toole, 1997). Synergy is achieved through improved resource management and intensive exchanges on specific projects.

To achieve synergistic gains and programming enhancements from sharing resources, risks, and rewards, stakeholders need to shift their focus toward collaborative rather than competitive advantage (Lowndes & Skelcher, 1998). Too often in the past, public sector organizations built independent silos and their private sector counterparts viewed potential partners as com-

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