

# Knowledge Exchange in Electronic Networks of Practice

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## INTRODUCTION

Communities of practice (CoPs) are regarded as essential building blocks of the knowledge economy, and organizations are promoting them as sources of competitive advantage and facilitators of organizational learning. Within organizations, CoPs have traditionally emerged through the mutual engagement in work by individuals who are either physically co-located or who frequently meet face-to-face (Orr, 1996; Wenger, 1998). In an effort to replicate traditional CoPs online and in response to hypercompetitive conditions and increasing complexity, numerous organizations have implemented online networks to facilitate knowledge sharing. We refer to these online social structures focused on knowledge exchange as “electronic networks of practice” (ENoPs).

Although prior researchers have used the term “community” to describe these structures (i.e., electronic community of practice, electronic community, or virtual community), following Brown & Duguid (2000) we use the term “network of practice” to distinguish these social structures from “communities of practice.” Networks of practice refer to social structures that link similar individuals engaged in a shared practice, but who may never get to know one another or meet face-to-face. These networks typically consist of weak ties where individuals coordinate through third parties such as professional associations or indirect ties such as newsletters, Web sites, bulletin boards, and listservs (Brown & Duguid, 2000). Thus, we adopt the term network rather than community to distinguish between collectives characterized by sparsely connected weak, indirect ties and collectives where members are connected through frequent face-to-face interactions and direct personal ties. We add the term “electronic” to highlight that communication and coordination within this type of network of practice occurs through asynchronous computer-mediated communication, such as bulletin boards, listservs, etc., and that the

focal network structure exists solely in electronic space. The purpose of the network is to facilitate knowledge exchange around a specific practice, and the network structure consists of the aggregation of ties between individuals that are created when individuals post and respond to messages. More precisely, we define an electronic network of practice as a *self-organizing, open activity system focused on a shared practice that exists through computer-mediated communication*. These four defining characteristics are essential for understanding how individuals communicate, coordinate, and interact in these networks.

While traditional, face-to-face CoPs within organizations have received considerable attention, we know much less about ENoPs and knowledge exchange supported by them. Initial research suggests that ENoP participation provides access to useful sources of technical advice for organizational members (Constant, Sproull & Kiesler, 1996). However, there is ample evidence that simply investing in information technologies does not directly enhance knowledge sharing. In fact, researchers estimate that 50-70% of knowledge management projects fail to meet expectations, and they attribute these failure rates to an over-reliance on information technology (Ambrosio, 2000). Thus, a key question for researchers and managers is how to turn an empty electronic space into a vital, active forum devoted to knowledge exchange.

The goal of this chapter is to provide a discussion of ENoPs for researchers and managers interested in studying and supporting these networks. We begin by presenting the characteristics that define ENoPs before discussing two questions related to individual ENoP participation: (1) why do people participate and help others in ENoPs and (2) does participation result in positive knowledge outcomes? Finally, we present and discuss findings from a recent study in a global consulting organization that investigated these questions.

## **BACKGROUND: DEFINING ELECTRONIC NETWORKS OF PRACTICE**

While ENoPs are similar to CoPs in that they are collectives where individuals working on similar problems self-organize to help each other and share perspectives about their practice, they differ in terms of the primary means of communication. In CoPs, mutual engagement typically occurs through physically co-located, face-to-face interactions. However, in ENoPs, individuals mutually engage through asynchronous, text-based computer-mediated communication, such as bulletin boards, listservs, and newsgroups. By posting messages to the ENoP, individuals requiring help may quickly reach out to other participants who then provide valuable knowledge and insight in response. Participants may also share personal experiences and discuss relevant practice issues (Wasko & Faraj, 2000). This posting and responding to messages is recorded like a conversation between participants, representing active mutual engagement in problem solving. However, unlike face-to-face interactions in CoPs where participants perceive various social and visual cues and have access to immediate feedback, in electronic communication these cues are filtered out. As a result, ENoPs represent a lean medium of exchange and the technology impacts how knowledge is actually exchanged between participants (Daft & Lengel, 1986). This mutual engagement also distinguishes ENoPs from more static forms of electronic knowledge exchange, such as document repositories and other databases.

A second characteristic of ENoPs is that the technology creates a weak structural link between an ubiquitous, unlimited number of like-minded “strangers.” Participation is open to anyone with a connection anywhere in the world, and as a result, constraints due to size are eliminated. Thus, knowledge exchange occurs between people regardless of personal acquaintance, familiarity, and location. Knowledge seekers are not limited to asking only others whom they personally know or are able to identify, thus increasing the likelihood of connecting with someone willing and able to help. Additionally, membership is fluid, making it difficult to create and enforce boundaries. This sharply contrasts with the tightly knit relationships between specific members that typify CoP structures. Also, this characteristic separates ENoPs from virtual teams, where members are designated and assigned.

Third, ENoP participation is voluntary. Individuals choose whether or not they want to participate, as well as how often - ranging from simply lurking to becoming an active participant. Additionally, individuals have choices about how they participate, deciding whether or not to post questions, replies, or both. Finally, individuals voluntarily determine what they want to contribute and what knowledge they are willing to disclose as well as the length of the messages they contribute, thus influencing the quality and helpfulness of the knowledge exchanged. Because participation is voluntary, a knowledge seeker has no control over who responds to their questions or who uses their responses. This sharply contrasts with CoPs where people typically know one another and interact over time, creating expectations of obligation and reciprocity that are enforceable through social sanctions. This voluntary participation further distinguishes ENoPs from virtual teams, where participants are expected to coordinate efforts to deliver a specific outcome.

Finally, mutual engagement in ENoPs is typically archived and available to all participants in the network. This creates an online repository of knowledge that can be accessed later by any interested individual, regardless of his or her ENoP tenure or participation in the original engagement. This contrasts with CoPs where access to advice is limited to whom you know, and knowledge is exchanged between seeker and provider without necessarily being made available to other members of the CoP.

## **CURRENT ENOP RESEARCH THEMES**

ENoP research to date tends to be limited to an investigation of individual motives behind participation and knowledge sharing in these networks (e.g., Lakhani and von Hippel, 2000; Wasko and Faraj, 2000). Studies have revealed that individuals share knowledge with “strangers” due to expectations of returns for themselves (e.g., increased reputation, enjoyment, etc.) as well as for the network (e.g., advancing the community). Furthermore, research by Lakhani & von Hippel indicates that individuals make discretionary choices regarding their willingness to share knowledge and help others in ENoPs. However, while ENoP research is increasing, there is little research other than Constant et al.’s 1996 study specifically focusing on *intra-organizational* ENoPs. Thus, one question to ask is, why do individuals participate and

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