

# Virtual Organizing Online Communities in Support of Knowledge Synthesis

**Kam Hou Vat**

*University of Macau, Macau*

## INTRODUCTION

A central issue in the practice of organizational learning concerns the relation between knowledge of individuals and knowledge on the level of an organization (Cohen, 1991; Cook & Yanow, 1993; Weick & Westley, 1996). The cultivation of various communities—formal or informal—throughout an organization, seems to fill an intermediate level of learning between the organization as a whole and individual organizational members (Wenger, McDermott, & Snyder, 2002). There, knowledge links among individuals are established and communal organizational knowledge is collectively contributed and made available to the rest of the organization. In their study of “communities of practice,” Brown and Duguid (1996, p. 60) described learning as a bridge between working and innovation through their activity theory of knowledge, which could be explained by the notion of exploitation and exploration (Cohen & Bacdayan, 1996; Holland, 1975; March, 1991). Exploitation entails the efficient use of existing competencies in terms of decontextualized, codified, and formalized rules of operation. Inevitably, such rules cannot cover the richness and the variability of practical contexts. It is by context-dependent changes from the existing rules (exploration), with the ensuing need for improvisation and experimentation that learning arises, in interaction between members of the community. Oftentimes, exploration is based on storytelling, to capture and share context-bound experience, and to guide experimentation. In the process of learning, exploitation is based on exploration, and vice versa: we exploit what we have explored, and it is on the basis of exploitation that we explore. The extent to which exploitation and exploration can be combined in time and place depends on our ideas of community development, especially for online communities in today’s Internet age, and the deliberation of information technology through the design of suitable information systems (IS) support. To pursue the goal of organizational knowledge synthesis, there is a strong need to leverage the knowledge embedded in the people of the organization. This need of knowledge sharing among potential communities within and beyond the organization has been well exemplified in the notion of a learning organization (LO) (Garvin, 1993; King, 1996; Levine, 2001; Senge, 1990),

which could be considered as an organization, which helps transfer learning from individuals to a group (and vice versa), provide for organizational renewal, keep an open attitude to the outside world, and support a commitment to knowledge. The theme of this article is, then, to examine the knowledge processes required of the learning organization viewed from the online communities’ standpoint, to develop and sustain the communal knowledge base (Davenport & Prusak, 1998; Hackbarth & Groven, 1999; King, 1999; Levine, 2001; O’Leary, 1998) through the elaboration of appropriate IS (or LOIS) (Williamson & Lliopoulos, 2001) support so as to expand an organization’s capacity to adapt to future challenges.

## THE BACKGROUND OF ONLINE COMMUNITIES

Not surprisingly, our experiences in physical communities lead us to infer what an online community is. Dictionary definitions, for example, talk of groups with common interests, shared goals, activities, and governance; groups and individuals who cooperate to share resources and satisfy each other’s needs. Literally, the term *online community* is not hard to understand, yet it is slippery to define owing to its multidisciplinary nature. In any case, in order to develop online communities—a complex practical activity—we need a disciplinary definition to guide our practice. According to Jenny Preece (2000, p. 10), an online community consists of four important elements: the people who interact socially as they strive to satisfy their own needs or perform special roles, such as leading or moderating; a shared purpose, such as an interest, need, information exchange, or service that provides a reason for the community; policies, in the form of tacit assumptions, rituals, protocols, rules, and laws that guide people’s interactions; and computer systems, to support and mediate social interaction and facilitate a sense of togetherness. Indeed, this definition is sufficiently general to apply to a range of different communities, including physical communities that have become networked and those that are embedded in Web sites (Lazar & Preece, 1998; Schuler, 1996). Applying this definition to Wenger’s (1998) communities of practice (CoPs), we can interpret a

CoP as a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis. As they spend time together, they typically share information, insight, and advice. They help one another solve problems; they ponder common issues, explore ideas, and accumulate knowledge. Oftentimes, they become informally bound by the value that they find in learning together. This value is not merely instrumental for their work. It also accrues in the personal satisfaction of knowing colleagues who understand each other's perspectives and of belonging to an interesting group of people. Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches. They also develop personal relationships, a common sense of identity, and established ways of interacting. Indeed, CoPs are not a new idea. They were our first knowledge-based social structures, back when we lived in caves and gathered around the fire to discuss strategies for cornering prey, the shape of arrowheads, or which roots were edible. From the accounts of Brown and Duguid (2001) as well as Wenger and Snyder (2000), CoPs appear to be aimed primarily at exploitation, in shared expertise for a joint enterprise, which may then form the basis for some exploration. Here, shared work practice often constitutes a common identity and frame of reference. Indeed, the development of online communities has captured our focus today because organizations have come to realize that their competitive edge is mostly the intellectual capital of their employees (Stewart, 1997), and they need to be more intentional and systematic about managing knowledge through harnessing their human resources in order to stay ahead of the pack. Undeniably, in today's knowledge-intensive economy, organizations are increasingly expecting their employees to continually improvise, and invent new methods to deal with unexpected difficulties and to solve immediate problems, and share these innovations with other employees through some effective channels. In this regard, the idea of online community—be it exploitative or exploratory—has inspired many an organization to initiate their collective learning based not so much on delineated learning paths, but rather on experience sharing, the identification of best practices, and reciprocal support for tackling day-to-day problems in the workplace. Cultivating online communities in strategic areas is considered as a practical way to manage knowledge in terms of critical knowledge domains; organizations need to identify the people and the specific knowledge needed for their work, and explore how they connect them into suitable communities of knowledge so that together they could steward the necessary knowledge. From this viewpoint, the cultivation of an organization's communal knowledge base is literally the development of various

communities of practice throughout the organization, enabled by modern information technologies.

## VIRTUAL ORGANIZING ONLINE COMMUNITIES

The idea of *virtual organizing*, attributed to Venkatraman and Henderson (1998), can be considered as a method of operationalizing a learning organization, dynamically assembling and disassembling nodes on a network of people or groups of people, to meet the demands of a particular business context. This term emerged in response to the concept of *virtual organization*, which appeared in the literature around the late 20<sup>th</sup> century (Byrne, Brandt, & Port 1993; Cheng, 1996; Davidow, & Malone 1992; Goldman, Nagel, & Preiss 1995; Hedberg, Dahlgren, Hansson, & Olve, 1997). There are two main assertions associated with virtual organizing. First, virtual organization should not be considered as a distinct structure such as a network organization in an extreme and far-reaching form (Keinanen & Oinas-Kukkonen, 2001), but virtuality is a strategic characteristic applicable to every organization. Second, information technology (IT) is a powerful enabler of the critical requirements for effective virtual organizing. In practice, virtual organizing helps emphasize the ongoing process nature of the organization, and it presents a framework of achieving virtuality in terms of three distinct yet interdependent vectors: virtual encounter for organization-wide interactions, virtual sourcing for asset configuration, and virtual expertise for knowledge leverage. The challenge of virtual organizing is to integrate the three hitherto separate vectors into an interoperable IT platform that supports and shapes the new organizational initiative, paying attention to the internal consistency across the three vectors.

### Understanding the Three-Vector Framework

The first of the three vectors of virtual organizing deals with the new challenges and opportunities for interacting with the members of an organization. The second focuses on the organization's requirements to be virtually integrated in a network of interdependent (business) partners, so as to manage a dynamic portfolio of relationships to assemble and coordinate the necessary assets for delivering value for the organization. The third is concerned with the opportunities for leveraging diverse sources of expertise within and across organizational boundaries to become drivers of value creation and organizational effectiveness. All these three vectors are accomplished by the provision of suitable IS support, whose

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