

# Technical Issues Facing Work Groups, Teams, and Knowledge Networks

**Lynda R. Louis**

*Xavier University of Louisiana, USA*

## INTRODUCTION

Communities of practice have become prevalent in today's business and educational environments. Loosely defined, communities of practice (CoPs) are informal groups within or across organizations. These groups are viewed to have a common set of information needs or problems. Davies, Duke, and Sure (2003) suggest that while not a typical organizational unit, these informal, work-oriented networks share a common agenda, interests, or issues. Millen and Fontaine (2003) assert that these communities are defined by a common disciplinary background, similar work activities and tools, and have shared stories, contexts, and values. Burk (2000) says CoPs are expansions of one-on-one knowledge sharing. This article discusses first the background to such issues as team formation, member participation, and sustained membership; it then considers future trends in knowledge capture and sharing, and the support such communities require.

## BACKGROUND

The primary advantage of a CoP is knowledge sharing, and facilitating learning and organizational memory (Gallivan, 2000). Hara and Kling (2002) say the CoP provides an informal learning environment where both novices and expert members of the community may interact, share their experiences, and learn from each other. Wenger, McDermott, and Snyder (2002) assert that these communities thrive because they deliver value to their organization, to the teams on which the members serve, and to the community members themselves.

Even though CoPs are not formal parts of an organization in the same sense as a workgroup, a work team, or a traditional knowledge network,

research reveals that many of the same technical issues abound for these communities. All have been well documented from the CoP perspective since the term has become so widespread in both the corporate and educational arenas. For this discussion, these issues are grouped into the following categories: team membership, knowledge management, communication mechanisms, and community support. Team membership encompasses such topics as team formation, member participation, and sustained membership. Knowledge management includes topics such as knowledge creation, knowledge capture, knowledge sharing, and knowledge management (KM). Communication mechanisms concerns the ways in which members communicate and the tools management may provide to facilitate that communication. Support centers on what support tools and mechanisms are employed from an information technology (IT) perspective. Each of these issues presents challenges and opportunities for both the corporate and the academic communities.

## Community Formation

Communities of practice generally form through an informal network. The term was coined when it was noted that copy machine technicians often shared much of their informal discussion in natural settings during social interactions, often around the water cooler. Orr (1996) reported that these technicians shared experiences associated with repairing machines that was not part of the standard documentation used to service the devices.

CoPs form as needed to meet the knowledge needs of its members. Membership is not fixed and provides a vehicle for constant change. However, researchers acknowledge that in order to be successful and alive, members must be active participants of the community.

## **Sustained Membership**

Since membership in a CoP is usually voluntary, sustained membership is of concern to many corporations that provide support for these communities. Ferran-Urdaneta (1999) asserts that the community outlives its members. Burk (2000) says that these communities can be impeded by turnover and restructuring.

## **Member Participation**

Since membership is voluntary and not part of an assigned workgroup, CoP participation is not mandatory and does not absorb great deals of energy or attention of any one individual member. However, with the new tools that are being deployed to capture the knowledge of the members, some corporations are contemplating ways to make participation a requirement. Kankanhalli, Tanudidjaja, Sutanto, and Tan (2003) suggest that participation be made part of an employee performance appraisal. However, this raises the issue of whether membership is then considered 'voluntary'. Lesser and Storck (2001) discussed the implications of CoPs on organizational performance. They argued that the social capital in CoPs lead to behavioral changes, which in turn influence business performance. Corporations must find a way to encourage the continued participation in the community and not threaten the existence of the CoP or the performance of the business.

Rogers (2000) conducted a study of an online (virtual) community of practice to address the issue of fostering coherence in a virtual community. His study concluded that interactions in this community demonstrated characteristics of mutual engagement, joint enterprise, and shared repertoire. These are explained in the "Key Terms" section.

## **FUTURE TRENDS**

### **Knowledge Creation**

Hara and Kling (2002) assert that there are three types of socially constructed knowledge that members must learn: cultural knowledge and two types of subject-matter knowledge (either book knowledge

or practical knowledge). The challenge here is to know what type of knowledge works best with the community so that the community meets its objective and commitment to the group, and brings value to the organization.

### **Knowledge Capture, Sharing, and Management**

Researchers acknowledge that to be beneficial to corporations, the knowledge that is shared between members of CoP needs to be captured and preserved. As such, many knowledge management tools have been deployed to assist the members in documenting and reusing that knowledge. Attention must be given to ensure that the information technology and knowledge management systems enable CoPs to flourish (Agresti, 2003).

The KM tools allow for the economic reuse of the knowledge (Kankanhalli et al., 2003). The tools should allow queries and solutions to be posted efficiently and provide discussion threads. The majority of the knowledge capture tools include the computer-supported cooperative work (CSCW) tools used for collaborations (Birnholtz & Bietz, 2003; Cluts, 2003).

### **Communication Mechanisms**

The primary mechanism for communication between members of a CoP has moved from the initial face-to-face social environment to electronic media, as the value of CoPs has been recognized within the organization. As such, companies are now providing Internet, intranet, and Web-based availability to members using a special purpose collaborative environment. Also, knowledge management tools are being deployed to assist with the capture and reuse of the knowledge that the communities hold.

### **Community Support**

It has become apparent by most corporations that support the activities of CoPs that more than word of mouth support is needed. As such, most corporations are provided support from their information technology (IT) organizations. This support must come with committed funding and tools. Training to use the

3 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/technical-issues-facing-work-groups/10543](http://www.igi-global.com/chapter/technical-issues-facing-work-groups/10543)

## Related Content

---

### Virtual Communities of Practice: A Mechanism for Efficient Knowledge Retrieval in MNCs

Jens Gammelgaard (2011). *Virtual Communities: Concepts, Methodologies, Tools and Applications* (pp. 2068-2085). [www.irma-international.org/chapter/virtual-communities-practice/48791](http://www.irma-international.org/chapter/virtual-communities-practice/48791)

### Mobile Virtual Communities of Commuters

Jalal Kawash, Christo El Morr, Hamza Taha and Wissam Charaf (2011). *Virtual Communities: Concepts, Methodologies, Tools and Applications* (pp. 1773-1780). [www.irma-international.org/chapter/mobile-virtual-communities-commuters/48771](http://www.irma-international.org/chapter/mobile-virtual-communities-commuters/48771)

### VR Presentation Training System Using Machine Learning Techniques for Automatic Evaluation

Yuto Yokoyama and Katashi Nagao (2021). *International Journal of Virtual and Augmented Reality* (pp. 20-42). [www.irma-international.org/article/vr-presentation-training-system-using-machine-learning-techniques-for-automatic-evaluation/290044](http://www.irma-international.org/article/vr-presentation-training-system-using-machine-learning-techniques-for-automatic-evaluation/290044)

### Virtual Worlds and Well-Being: Meditating with Sanctuary

Laura L. Downey and Maxine S. Cohen (2018). *International Journal of Virtual and Augmented Reality* (pp. 14-31). [www.irma-international.org/article/virtual-worlds-and-well-being/203065](http://www.irma-international.org/article/virtual-worlds-and-well-being/203065)

### Virtual Reality in Healthcare: A Survey

Dorota Kamiska, Grzegorz Zwolinski, Anna Laska-Leniewicz and Luis Pinto Coelho (2022). *Emerging Advancements for Virtual and Augmented Reality in Healthcare* (pp. 1-10). [www.irma-international.org/chapter/virtual-reality-in-healthcare/294194](http://www.irma-international.org/chapter/virtual-reality-in-healthcare/294194)