

# Networks of Excellence as Virtual Communities

**Anca Draghici**

*Politehnica University of Timisoara, Romania*

**Nada Matta**

*University of Technology of Troyes, France*

**Gila Molcho**

*Technion—Israel Institute of Technology, Israel*

**George Draghici**

*Politehnica University of Timisoara, Romania*

## INTRODUCTION

The “Communities of Practice” concept was first used in relation to the learning process in 1991 by Jean Lave and Etienne Wenger (1991) at the Institute for Research on Learning as part of an attempt to “rethink learning.” In 1998, Wenger extended this concept and applied it to other contexts, including organizational settings (Wenger, 1998).

Around 1991, Nonaka began to present his theories of knowledge management to explain the role of knowledge creation processes in stimulating innovation and creativity but also in increasing company competitiveness. In 1995, Nonaka and Takeuchi published *The Knowledge Creating Company*, in which they present a complex theory about knowledge management. Western organizations and managers have quickly learned from the experience gained in the culture of Japanese companies. Hence, the Japanese style in knowledge management initiatives, which is centered on nontechnological techniques for applying discipline to tacit knowledge transfer and innovation, has been adopted under new conditions and by different cultures.

Koulopoulos and Frappaolo (1999) explained the notion of an ad-hoc or virtual team as a recombinant structure for work that quickly combines people and resources to solve a particular problem or client issue. Market globalization has forced organizations to go beyond the limitations of space and time. Using advances in information and computer technology (ICT), they have built virtual teams as part of real companies, which can be more efficient, flexible, and easily adaptable to market requests. In this context,

Stewart (1999) describes communities of interest as communities formed within an organization in which people assume roles based on their abilities and skills instead of on titles and hierarchical stature.

In 2000, Kotler explained that the increased competitive pressure of the post-industrial global economy and the exponential advances gained in computing power and information technology (IT) have dictated increasing interest in knowledge management as a sustainable source of competitive advantage (Kotler, 2000).

In 2000, Kimble, Hildreth, and Wright explored how knowledge is created, shared, and sustained using Lave and Wenger’s concept of Communities of Practice (CoPs). They investigated how this might translate into an international, geographically distributed environment.

From 1991, and based upon theoretical research as well as companies’ practical experience and development, the concept of Communities of Practice began to be associated with knowledge management as well as with developing social capital, nurturing new knowledge, stimulating innovation, and sharing existing tacit knowledge within an organization. Indeed, Communities of Practice are now an accepted part of organizational development.

## BACKGROUND

The following discussion summarizes the representative historical and contextual elements that have led to the European Commission’s decision to finance the formation and development of networks of excel-

lence (NoEs) with the support of the 6<sup>th</sup> Framework Programme.

## **SCIENTIFIC RESEARCH DEVELOPMENTS**

- 1991 - Lave and Wenger used the term “Communities of Practice” for the first time.
- 1995 - Nonaka and Takeuchi developed the theory of knowledge management based on tacit and explicit knowledge and on the knowledge creation process.
- 1999 - Koulopoulos and Frappaolo discussed ad-hoc or virtual team definition.
- 1999 - Stewart described the concept of communities of interest.
- 2000 - Kotler explained that to achieve competitive advantage, companies can use knowledge management.
- 2000 - Kimble, Hildreth, and Wright investigated how Communities of Practice might translate into an international, geographically distributed environment.
- 2003 - European Technological Platforms developed as communities of interest that join together specialists from industry, research, nongovernmental associations, professional associations, academic communities, and others.

European Commission (EC) reaction:

- 2000 - Lisbon strategy from 2000 to 2010 (in the context of the European Union with 15 countries).
- 2001 - European Council meeting in Stockholm; Lisbon strategy must continue.
- 2002 - EU enlargement to 25 countries. European Council meeting in Barcelona; Lisbon strategy must continue; intermediary objectives for 2007 were established.
- 2002 - EC launched FP6 Programme to finance NoE form and development.
- 2007 - EC will launch the 7<sup>th</sup> Framework Programme (FP7) for future European research.

Since 2002, the 6<sup>th</sup> Framework Programme (FP6) for research, technological development, and demonstration activities (2002-2006) has included two new

instruments to be used, where deemed appropriate, as priority means of carrying out activities in the priority thematic areas, with the objective of integrating European research: integrated projects (IPs) and networks of excellence. From this perspective, a network of excellence is a new organizational structure that plays an important role in European research and education (learning). NoEs are strongly linked with European Technological Platforms. Established in 2003, NoEs are considered frameworks for defining research and development priorities, time frames, and action plans on a number of strategically important issues in achieving Europe’s future growth, competitiveness, and sustainability objectives. They seek to strengthen effective public-private partnerships in the development of the European Research Area of knowledge for growth.

## **COMMUNITIES OF PRACTICE AS BACKGROUND FOR KNOWLEDGE NETWORKS**

Market globalization has instituted an environment of uncertainty and continuous change for all organizations. Hence, organizations have been forced to implement rapid and dynamic structures that differ from the old hierarchical ones, such as more flexible and agile teams or groups, known as communities and networks.

The enormous evolution of IT has sustained the increased internationalization of organizations’ activities and satisfied the growing need for knowledge transfer and sharing inside and outside communities and networks. More than information management, in the mid-1990s, knowledge management has become a new innovative “weapon” for supporting the knowledge creation process. More recently, the importance of sharing more subtle, softer types of knowledge has been recognized. A certain type of community, the community of practice, has been identified as a structure that can nurture, share, and sustain such types of knowledge (Hildreth & Kimble, 2002).

Today, we must facilitate switching the roles of informal and formal groups in organizations (Hildreth & Kimble, 2004), since Communities of Practice are often constituted as informal groups based on members’ voluntary actions, which have common goals or purposes and always find internal resources for motivating their work. Organizations have accepted such structures within or adjacent to their formal structure

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