Exploring the Role of Communities of Practice in Regional Innovation Systems

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INTRODUCTION

In the past two decades, the related concepts of regional innovation systems and clusters have become widely circulated in both academic and policy circles. Both concepts depart from the idea that innovations predominantly occur as a result of interactions between various actors, rather than as a result of a solitary genius (Håkansson, 1987; von Hippel; 1988; Lundvall, 1992), and that innovation and industrial transformation result from interactions across sets of actors within a spatially defined territory (e.g., countries, regions). Researchers within this field posit that most innovations are based on some form of problem solving in which someone generally perceives a problem and turns to someone else for help and advice (Teigland, Lindqvist, Malmberg & Waxell, 2004), and that spatial proximity seems to enhance the processes of interactive learning and innovation (Malmberg & Maskell, 2002). These assumptions draw striking parallels to the traditional concept of communities of practice (Brown & Duguid, 1991; Orr, 1990; Wenger, 1998), which are emergent groups of people who know each other relatively intimately and who primarily work together directly in face-to-face situations since learning and knowledge are situated within a physical setting (Teigland, 2003). Thus, the purpose of this short article is to provide a brief discussion of clusters and regional innovation systems, and propose broad areas of future research in which the community of practice concept can contribute to our understanding of clusters and regional innovation systems.

BACKGROUND

While no one universal definition exists, one definition of a cluster is a *spatial agglomeration* of similar and related economic and knowledge-creating activities (Waxell, 2005). Regional innovation systems are networks of organizations, institutions, and individuals within which the creation, dissemination, and exploitation of new knowledge and innovations occurs (Cooke, Heidenreich & Braczyk, 2004). The link between clusters and regional innovation systems is that within these spatial systems, groups of similar and related firms (e.g., large and small firms, suppliers, service providers, customers, rivals, etc.) comprise the core of the cluster, while academic and research organizations, policy institutions, government authorities, financial actors, and various institutions for collaboration and networks make up the innovation system of which the cluster is a part (Teigland et al., 2004).

Cluster and regional innovation system researchers argue that interactive learning and innovation processes are not space-less or global, but on the contrary, geographical space plays an active role in these processes. Spatial proximity carries with it, among other things, the potential for intensified face-to-face interaction, short cognitive distance, common language, trustful relations between various actors, easy observations, and immediate comparisons (Malmberg & Maskell, 2002).

Two areas of primary investigation within regional innovation systems are: (1) Why are some regions more competitive than others? and (2) How can regional innovation systems be supported? Much of the extant literature on regional innovation sys-

tems and clusters tends to focus on formal interactions between actors. However, in one of the most well-known studies, Saxenian (1996) proposes that one of the primary reasons for the relative success of the Silicon Valley area over that of Route 128 in Boston is that knowledge is easily shared through informal relationships similar to those of communities of practice between individuals belonging to competing firms as well as other organizations in the Silicon Valley region. This is in direct contrast to the Route 128 area in Boston where informal inter-organizational fraternization was discouraged.

REGIONAL INNOVATION SYSTEMS AND COMMUNITIES OF PRACTICE: FUTURE AREAS OF RESEARCH

The concept of a community of practice is emerging as an essential building block of the knowledge economy. These communities develop through the mutual engagement of individuals as they participate in shared work practices, supporting the exchange of ideas and knowledge between people, which results in learning and innovation within the community (Brown & Duguid, 2000). Communities of practice may also extend across a firm's legal boundaries, and relationships between such a community's members facilitate the flow of knowledge between organizations (Brown & Duguid, 2000; Teigland, 2003), and as indicated above in Saxenian's research, they may play a vital role in regional innovation systems.

Community of practice research may be divided into two broad areas: (1) the cognitive and relational aspects and (2) the structural aspects. Prior research in the first area has emphasized the importance of shared identity, language, values, and norms, as well as relations built on mutual trust and reciprocity for knowledge exchange and learning (e.g., Wenger, 1998). Thus, one area of future research could investigate the cognitive and relational aspects of communities of practice that span organizational boundaries within a regional innovation system to better understand the dynamics of knowledge flows and innovation. A second area of future research within regional innovation systems could focus on understanding the structural aspects of these inter-organizational communities of practice (e.g., Schenkel, Teigland & Borgatti, 2001)—for example, the relationship between community structure and knowledge sharing, how structures change over time, and how community structure influences the cognitive aspects of shared language, values, and goals.

CONCLUSION

The cluster and regional innovation system concepts provide a means to describe the systemic nature of an economy, that is, how various types of industrial activity are related. Using the communities of practice perspective as a lens provides an additional scope for analyzing the interactions and interdependencies between firms and industries across a wide spectrum of economic activity.

REFERENCES

Brown, J.S., & Duguid, P. (1991). Organizational learning and communities of practice. *Organization Science, 2*(1), 40-57.

Brown, J.S., & Duguid, P. (2000). *The social life of information*. Boston: Harvard Business School Press.

Cooke, P., Heidenreich, M., & Braczyk, H.-J. (Eds.). (2004). *Regional innovation systems. The role of governances in a globalised world* (2nd ed.). London: Routledge.

Håkansson, H. (1987). *Corporate technological behaviour: Co-operation and networks*. London: Routledge.

Lundvall, B.-Å. (Ed.). (1992). *National systems of innovation: Towards a theory of innovation and interactive learning*. London: Pinter.

Malmberg, A., & Maskell, P. (2002). The elusive concept of localization economies—towards a knowledge-based theory of spatial clustering. *Environment and Planning, A,* 34.

Orr, J. (1990). *Talking about machines: An ethnography of a modern job*. Unpublished Doctoral Dissertation, Cornell University, USA.