

DOES DISTANCE MATTER? AN EMPIRICAL EXPLORATION OF THE GEOGRAPHY OF LEARNING

Abstract

The purpose of this paper is to empirically analyze how different forms of proximity influence interactive learning and ease of knowledge transfer among entrepreneurs, in order to advance the knowledge-based theory of clusters. Making use of ego-network data, gathered among entrepreneurs from the Amsterdam IT and new media-cluster and analyzed using structural equation modeling, the data leads us to reconsidering the role of geographical proximity as main catalyst of interactive learning and knowledge flow among entrepreneurs. A strong case is put forward for acknowledging other forms of proximity, namely relational, cognitive, and in particular epistemic proximity, as main facilitators of interactive learning and ease of knowledge transfer.

Key words: clusters, interactive learning, entrepreneurship, (epistemic) proximity

1. INTRODUCTION

A central theme in cluster literature revolves around the question to what degree clusters, here defined as agglomerations of similar and related business activities, enhance entrepreneurs' creative and innovative capabilities through facilitating local learning (Bahlmann & Huysman, 2008). Put differently, being located in a local knowledge network is considered to intensify one's creativity, learning, and innovative capacities. The spatial clustering of economic activities is supposed to enhance not only local learning (Bathelt, Malmberg & Maskell, 2004), but also regional economic revitalization and intensified innovation (Amin & Roberts, 2008). Clusters are, thus, seen as the prime vehicles for supporting knowledge dynamics among entrepreneurs, for spatial agglomeration eases the process of knowledge transfer and learning through forming relationship-specific heuristics.

These processes of learning and knowledge transfer are assumed to be spatially sticky due to their context specific nature. This implies that actors can only share new, creative ideas effectively when sharing a similar social context which is, to a large extent, assumed to be defined locally (Sole & Edmondson, 2002; Gertler, 2003). As such, it is considered advantageous for entrepreneurs to be located in a cluster, surrounded by similar and related entrepreneurs with whom they can interact (Bathelt *et al.*, 2004).¹ In principle, the process of local learning taking place within a cluster is considered to be facilitated by high degrees of geographical proximity (i.e. being located in the same cluster) and cognitive proximity (i.e. the degree to which ego and alter share similar work related knowledge) among the actors involved.

However, the above line of reasoning is increasingly met with a sense of unease, as recent studies argue that it is not the local knowledge network per se distinguishing successful clusters from unsuccessful ones. Clusters, it is argued, can distinguish themselves through building and maintaining so-called pipelines: "a variety of channels for low-cost exchange of knowledge with relevant hotspots around the globe" (Bathelt *et al.*, 2004: 33; see also Saxenian, 2006; Owen-Smith & Powell, 2004; Tallman & Phene, 2007). New creative input is considered to enter the cluster through entrepreneurs with ties to other 'knowledge hotspots' (i.e. clusters), enhancing the creativity of the entrepreneur involved as well as the creative and

¹ In addition, the co-location of similar and related entrepreneurs is said to increase competition and rivalry, thus serving as a strong incentive for both innovation and product- or service-differentiation (Porter, 1990; 1998). Being located in a cluster enhances an entrepreneur's ability to constantly monitor and compare his/her offerings to that of his/her competitors.

innovative capacity of the cluster as a whole due to knowledge spillover effects and local network dynamics. Personal ties between entrepreneurs spanning cluster boundaries are hypothesized to be crucial channels for the transfer of new, creative ideas, whereas local knowledge networks are hypothesized to mainly facilitate a 'local buzz' (Bathelt *et al.*, 2004).

These observations appear to contradict the knowledge-based theory of clusters, which seeks to explain the existence of clusters based on their assumed value as facilitators local knowledge dynamics (Arikan, 2009; Malmberg & Maskell, 2005; Maskell, 2001). In addition, economic geographers nowadays consider knowledge exchange critical to assessing cluster performance (Tallman, Jenkins, Henry & Pinch, 2004). Given the latest findings of Saxenian (2006) and Owen-Smith & Powell (2004), the dogmatic belief in knowledge dynamics being confined to predefined cluster boundaries appears to lack a sound theoretical and empirical basis. In particular, the role of geographical proximity as main facilitator for local knowledge dynamics appears to contradict with the apparent ease, speed, and significance of knowledge transfer spanning cluster boundaries. From the field of economic geography, this has resulted in a call for assessing other forms of proximity in facilitating knowledge dynamics among entrepreneurs, such as relational, cognitive, and epistemic proximity (Bunel & Coe, 2001; Gertler, 2003). This requires us to critically approach both knowledge dynamics within and knowledge dynamics across cluster boundaries making use of a relational perspective.

The discussion above reveals a fundamental question: *under what conditions of proximity can knowledge transfer successfully take place both within and across cluster boundaries?* Based on the knowledge-based theory of clusters, geographical proximity (i.e. being located in the same cluster) combined with some degree of cognitive proximity should be sufficient for facilitating learning (Boschma, 2005). It appears, however, that the role of geographical proximity is overemphasized in explaining learning and knowledge transfer (Oinas, 1999). Other forms of proximity have been suggested as facilitators, thus limiting the role of geographical proximity (Boschma, 2005).

This paper provides an empirical exploration of how different forms of proximity, including geographical proximity, interact in facilitating knowledge dynamics among entrepreneurs. In this study, the concept of knowledge dynamics is divided in two subcategories: interactive learning and ease of knowledge transfer. Both subcategories are recognized as important vehicles for understanding knowledge dynamics from both a geographical and relational perspective (Boschma, 2005; Reagans & McEvily, 2008). To study this, we turned our attention to entrepreneurs located in the Amsterdam IT- and New Media-cluster, the Netherlands.

In addition, we would like to use this paper to draw attention to the concept of *epistemic proximity*, here defined as the degree to which two actors (ego and alter) share a common worldview, as an important enabler of interactive learning. This concept emerged during the course of thirty-two preliminary interviews generated prior to the quantitative phase of this research. This concept takes on a distinctive role in the total palette of proximities discussed in this paper by serving as a prominent facilitator of knowledge dynamics among entrepreneurs, both within and across cluster boundaries.

In raising this issue, we move away from perceiving the cluster as a 'bounded region' from a knowledge perspective, and instead adopt a social network perspective to interpret and understand innovative dynamics at a regional level. Or, as Thrift & Olds put it, "the network serves as an analytical compromise, in the best sense of the word, between the fixities of the bounded region metaphor and the fluidities of the flows metaphor" (1996: 333).

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