Chapter 8
Innovation Cluster Development Potential in the Regions of Turkey: A Geographical Perspective

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ABSTRACT

The assessment of firms' innovativeness levels in a specific territory can be assumed to be an important indicator of future innovative collaboration, some of which might also be cluster setup initiatives. Assuming that geographical proximity can also provide a favorable opportunity for strengthening inter-firm ties, the goal of the chapter is to discover the best innovation variables for Turkish firms in terms of being members of potential innovative cluster formations. Following an overview of the innovation parameters used in the study, the current situation of the firms in question and their problems are briefly stated. The analysis part includes a regression test to discover the variables affecting firms' innovativeness in order to tackle the problems stated. Regression results have shown that intellectual capital, technology infrastructure, and geographical concentration levels affect the innovation performance of the firms in different regions. The conclusion involves further policy improvements for empowering regional innovation capabilities.

INTRODUCTION

In responding to globalization pressures and opportunities, SMEs face two main challenges: first, to transform them and increase their competitiveness (Fassoula, 2006), and second, due to their limited resources, to generate greater synergy by collaborating with other SMEs and related partner institutions. The concern with both emerging sources of global competition and the necessity for continuous innovation has focused firms' attention on the strategies which are available when it comes to responding to these challenges, where the connection between "innovation" and

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"clusters" becomes an important issue. Later in this section, we examine cluster basics and their relationship with agglomeration economics.

Again, with the massive demand for new products and services, new firms entering the market create, for the existing ones, pressure to co-operate in order to find new markets and opportunities. Innovation appears as a value creation activity as a means of developing existing markets, while it is also observed as a key element of business design by Teece (2010).

The notion of "clusters" is used to define a group of enterprises, which concentrate on similar and related products. The firms in a cluster can also be geographically concentrated in one or multiple regions[1]. Such firms can be specialized in a particular area on a sectoral basis, by involving similar technologies. This, in turn, has led to a growing fascination with industrial clusters due to the perceived relationship between clustering and enhanced competitiveness and innovative performance (Bramwell, et al., 2008). Such types of organizations are structured around specific markets. According to Giuliani *et al*. (2005), clustering may be considered as a major facilitating factor for a number of subsequent developments (which may or may not occur): division and specialization of labor, the emergence of a wide network of suppliers, the appearance of agents who sell to distant national and international markets, the emergence of specialized producer services, the materialization of a pool of specialized and skilled workers, and the formation of business associations.

The concept of cluster is mentioned by Porter (1998) mainly in the context of competitiveness. He defines cluster boundaries as the linkages and complementarities across industries, promoting both competition and cooperation. According to Porter, clusters boost innovation via interaction and by the flexibility of the firms involved as a result of the participation of other firms in the value chain and by the coordination of related technical assistance[2]. Clustering encourages a more effective division of labor among firms and operates in conjunction with physical proximity among numerous competing producers. A cluster's assets are stated by Porter as being access to special market information, employee skills, scientific and technical expertise, and supplier bases[3].

Although the cluster characteristics stated above also provide clear insights into cluster definitions, there are also alternative views, especially with regard to the factors, which might be related to innovation and competitiveness. The reason for the lack of a common understanding of the fundamentals of a cluster may be due to the content of cluster definitions involving dynamic concepts such as competitiveness, cost advantage, and entrepreneurship, some of which have been extended by different researchers. For example, Porter (1990) found that the business environment in a certain region is an underlying factor, but alternatively Schwanitz *et al*. (2002) deduced that competitiveness may also depend on entrepreneurial activity, structural, functioning competitive policies as well as on an adequate infrastructure. According to Porter, a micro level competitive advantage can be obtained in cost advantage differentiation. However, this view has been extended by Hamel and Prahald (2005) who linked sustainable competitive advantage to core competences and defined it as an advantage that one firm has relative to competing firms. Porter has claimed that entrepreneurs who work within a cluster can easily perceive unsatisfied needs in their geographical area and, by using the required assets, skills, and in particular, the intellectual capital available in the related territory, can set up brand new companies. In this context, Castillo and Fara (2002) believed that clusters should be set up in territories where there is an already existing entrepreneurial environment.

Agglomerations, clusters and networks, although they involve different characteristics, are three interrelated notions[4]. This framework established a link between the co-location of firms and economic efficiency, as firms would cluster