Defining Industrial Districts: A Case of an Emerging Local Nanotechnology Agglomeration

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Abstract

In this paper the authors center the scope in Catalonia (Barcelona) upon its leading indicators results in nanotechnology established by the authors in past studies on a larger area: the western Mediterranean Arc region. One of the targets of the present work will be to determine if the Catalonia region gather the requirements of nanodistrict. If so the authors will introduce some considerations about the main stakes that should be overcome to consolidate a healthy development of this agglomeration. The authors have detailed examined the nanotech scientific cluster for the geographic agglomeration of Catalonia that registered by far a cumulative number of more than 1000 nanotechnology publications between 1998 and 2006, Mangematin and Errabe (2012). The scientific specialization of this cluster is examined as well based on six categories which represent aggregations levels from Thompson ISI database. From this start point the authors analyze other dimensions of this potential nanodistrict. So the relations between scientific production, inventions and innovations are assessed through patent publications and other qualitative indicators. Methodology: The multi-dimensional scaling statistical technique for visualizing diverse sets of data will be described. Measures for convergent activity within a district as well as the constituent and component results of the data used as input will be presented. Results of the multi-dimensional scaling will be presented. Validation: The validity of the method in light of the case, the construct and face validity of the results and the internal validity of the results will be discussed. The co-location of agglomerations and patents will be discussed. Conclusions about measuring this district will be provided reflecting on the usefulness of the technique. Finally current prospects for the region will be discussed.