

INNOVATIVE CLUSTER OR COMPETITIVENESS POLE?

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Abstract

The paper analyzes the situation of clusters in Romania and their areas of activity and innovation in entrepreneurship Romanian state. It is made also a territorial distribution of clusters on the eight regions. The findings lead to the conclusion that there are some clusters that have the vocation to become poles of competitiveness in areas such as renewable energy, automotive, electronics, health, biotechnology, mechatronics or ICT (Information and Communication Technology) which represent the resources for future of the Romanian economy. Regarding the degree of innovation of Romanian Small and Medium Enterprises (SMEs), the level is relatively modest, 30.8% of all enterprises being innovative. If we were to answer the question the title suggests, we would say "yes" to both since the innovative cluster as well as the competitiveness pole promotes par excellence, innovation through study, research and stimulation of creativity. And this is more than enough to support economic growth of Romania and maintain the competitiveness worldwide.

Key words: research-development (R&D), innovation, innovative cluster, pole of competitiveness.

JEL Classification: O25, O30, O40, R11, R38, Y10

I. INTRODUCTION

The theory regarding cluster goes on in time to the English economist Alfred Marshall who, in 1920, studied economic activity in the London area. He concluded that companies in this area are interconnected, presenting three main features, namely, are specialized providers in certain areas, exchange easily information and focuses much of the labor force in the area (Marshall, 1920). These features were later called in the literature "Marshall's third".

Michael Porter has made, in turn, a definition of the cluster which, at present, is the most common, but not universally accepted, but is taken over by almost all the works that deal with this topic. In his sense, a cluster is a group of companies, professional associations, local authorities based on the interaction of common factors grouped into what later was called "Porter's diamond" factors that constitute in competitive advantages. He introduced the concept of industrial cluster or competitive clusters (Porter, 1998).

Of course, other economists have studied the economic activity developed by these industrial groupings, being interested in how clusters contribute to success within their companies and the economic prosperity of the region in which they were located (Fujita, Krugman, Venables, 2001). They set the new economic geography-based on cluster networks in the context of economic relations that are created permanently globally taking into account the amplification of international trades and how this relationship will affect newly created differences in economic performance in different regions of a country or even in larger plan.

Other researchers (Muponda, Chanut, 2014) were interested in finding out the reasons underlying the rapid growth and dynamic of SMEs within clusters. They studied techniques for using equity, relatively modest compared to those of large companies to determine the factors that lead to the effectiveness of these companies. They find that businesses within small-scale cluster allows firms to use their capital more efficiently in creating revenue and profits, calling clusters "emergent phenomena".

II. CLUSTERS AND INNOVATION IN ROMANIA

In the actual practice there is a distinction between the terms of emerging cluster and innovative cluster. The innovative cluster is a cluster coagulated in which its members work together supporting the synergy of each group, having constituted companies exhibiting intense preoccupations of innovation and technology transfer, while the emerging cluster is a cluster in its infancy (Guide for Applicants, 2012).

Between 1998-2013 several researchers have conducted multiple studies and analyzes in Romania for the determination of potential clusters and economic sectors in which they can operate and the competitiveness of such clusters. Their synthesis has resulted in several reports (Guth, Coșniță, 2010; Coșniță, 2011; Tanțău, 2011; Coșniță, Iorgulescu, 2013).

The European Union supports the creation and development of clusters, politics adopted as a solution to the crisis and also the 3% allocation of GDP (Gross domestic product) on R&D and innovation, with the aim of catching economic growth with the US and Japan. The Romania strategy in this sense aims to increase performance through innovation in SMEs, encouraging partnerships between universities, national or regional public authorities, research centers and businesses. Moreover, it aims to focus resources for research, development and innovation in clusters and centers of excellence (human resources, technology, infrastructure, knowledge and managerial skills) in order to increase the competitiveness of the Romanian economy in the world.

The situation of research and innovation in Romania is far from the target set of 3% of GDP, but are remarkable efforts made in this regard by the Romanian entrepreneurship, efforts that are estimated to increase further through sustained support from the state. Types and number of innovative companies in Romania, according to the latest official data, can be traced in the following table:

Table 1. Types of innovative firms in 2008-2010

	Total number of enterprises	Number of innovative enterprises	Weight in total enterprises (%)	Enterprises with only technological innovation	Enterprises with only non-technological innovation	Enterprises with technological and non-technological innovation	Number of non-innovative enterprises
Total	26330	8116	30,8	1137	4353	2626	18214
Industry	14742	4439	30,1	747	2058	1634	10303
Mining and quarrying	283	61	21,6	17	32	12	222
Manufacturing	13620	4143	30,4	704	1895	1544	9477
Electrical, thermal energy and gas steam	193	71	36,8	5	41	25	122
Water supply, sewerage waste management	646	164	25,4	21	90	53	482
Services	11588	3677	31,7	390	2295	992	7911

Source: Romanian Statistical Yearbook, 2013

Following the table data it can be observed that only 30.8% of all enterprises are innovative, which is a modest percentage. On economic areas, the percentage of firms that have introduced tertiary product innovation or technological process (31.7%) is slightly higher compared to innovative firms in the industry (30.1%), which means that this sector requires a more rapid adaptation to market and permanent innovative solutions to meet competition.

A synthetic representation of innovative companies operating in the two main sectors of the economy, industry and services may be traced in the chart below:

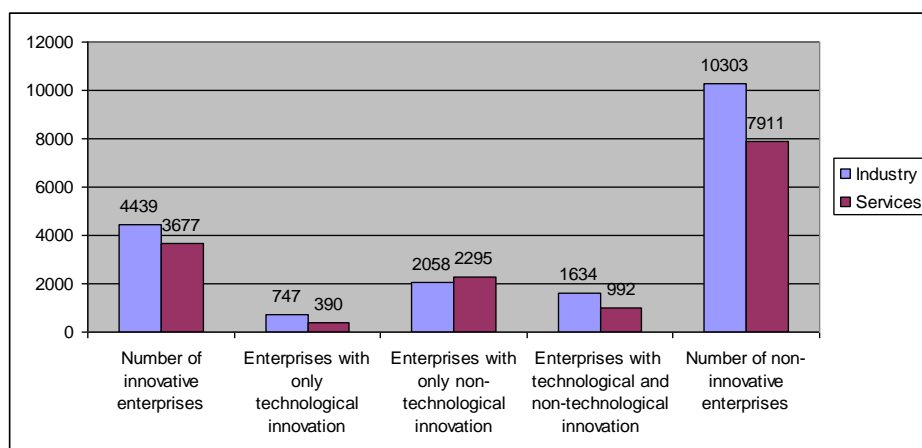


Chart. 1 – Innovative firms compared to non-innovative firms from industry and service sectors

From the above chart we can observe that both the number of innovative companies and non-innovative from industry is higher than those similar in the tertiary area. If we relate to the type of innovation, we conclude that the number of firms characterized only by technological innovation and the companies presenting both technological innovation and non-technological in industry is higher than that of similar companies in the service sector. Service sector firms outnumber those in the industry just in terms of non-technological innovation.

The support that the Romanian state granted for the establishment of clusters through various programs, financed by EU funds and / or national led gradually to the emergence of a number of clusters in Romania, a process that is ongoing. Thus, it currently operates in Romania (January 2015) a number of clusters that are registered with the Association of Clusters and Regional Development Agencies (RDAs). They are found in different stages of development, some emerging phase, others already have coagulated structure and good cooperation between members.

Layout plan of Romania territorial clusters on the eight development regions can be observed in Figure no.2:

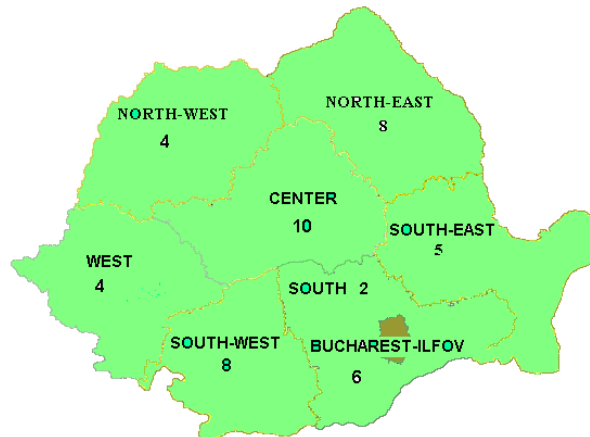


Figure. 2 - Clusters in Romania, January 2015

Source: After data provided by RDAs and the Association of Clusters in Romania, www.clustero.eu

Of course, there are clusters which are not listed as members of the Association Cluster of Romania and therefore it is not known precisely their number. However, we state the hypothesis that those in the records of Cluster Association, which animate and catalyze Romanian clusters, are viable and functional. In addition, clustering in Romania is in the process of development, which means that for the next time, this map will undergo dynamic changes.

The expression of best practices and business success of high degree of excellence of a cluster is embodied in what is known as a competitiveness pole or pole of excellence. So, the pole of excellence, gathers in addition to the basic features of the cluster, a number of attributes that define and increase its value.

The pole of competitiveness is characterized by a well defined strategy of synergistic development of all members of the pole, SMEs, research centers, universities and other institutions of education and training of the workforce, strategy based on trust and collaboration oriented through all the activities they carry out towards research and innovation. The pole of competitiveness is a creator of jobs and aims, in addition to the domestic market the international markets. Vocation and purpose of its existence in an economy is permanent innovation and sustaining economic growth.

It is too early to talk about competitiveness poles in Romania. Romanian clusters require a period of growth and maturation in which trust and collaboration inside their members to gain value and consistency. And yet, if we refer to indicators of business, international relations for innovation and export values embodied in existing clusters in Romania, we can predict that a few of them who intend to become poles of competitiveness.

We appreciate that in Romania there are enough areas that give rise to genuine competitiveness poles that combine excellence in both the demanding business and also so necessary in today's economy, research and innovation. Areas such as ICT, renewable energy, automotive, electronics, health, biotechnology, mechatronics represent the future resources of the Romanian economy.

If we were to answer the question the title suggests, we would say "yes" to both since the innovative cluster as well as the competitiveness pole promotes par excellence, innovation through study, research and stimulation of creativity. And this is more than enough to support economic growth of Romania and maintain the competitiveness worldwide.

III. CONCLUSION

Based on current data and analysis performed in this work we can draw some conclusions on the situation of clusters and competitiveness poles of Romania:

Regions located diagonally northeast - southwest present the greatest number of clusters. From geographical point of view, these regions are very different, which allowed the creation of clusters in various fields.

If we find the Central Region sectors as wood, metal or food industry, based on the area's natural resources and thus the tradition, there were also added new fields such as electrical engineering, renewable energy and creative industries, which shows new skilled labor and new technologies, ie the natural resource industries moving into the resources created (innovation and technology) and smart specialization.

North East area combines traditional sectors such as textiles, construction and tourism, with areas considered for future in EU economy such as ICT, biotechnology and health, while South West region combines local tradition in tourism and building material with resources created in the automotive sector, ICT and mechanical engineering (rolling stock).

The two western regions combine, in turn, traditional food and wood processing sectors, based on the area's natural resources with industries of the future and of resources created: ICT, renewable energy, automotive, electronics.

The capital, far from its real potential yet recovered resources created in the ICT, electronics and mechatronics, in addition to traditional textile sector, while South combines local tradition with harnessing creativity and technology in the automotive sector.

Finally, South East, exploiting its strategic geographical position to the Black Sea through its seaports and river merges with the natural resources created in traditional shipbuilding and textiles sectors.

In terms of innovative firms in Romania only 30.8% of all enterprises are innovative, which is a modest percentage. On economic areas, the percentage of firms in the tertiary sector that have innovation activities is 31.7%, slightly higher than the innovative firms in the industry (30.1%). It follows that the services sector needs to adapt more rapidly to market and permanent innovative solutions to meet competition.

The general conclusion that emerges from this analysis is that Romania is still far from its creative and innovative potential exploitation, which creates real opportunities for future growth in R&D and opportunity to become a real competitor on international markets.

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