

Clusters - Territorial Networks. Where to?

Luiza Nicoleta Radu¹

Abstract: Globalization has led to an increased international trade relations between organizations spatially separated. This determined a greater spatial differentiation influenced by local and regional competition production systems. Territoriality has been considered as the main cause for the development of active areas, explaining also the success of certain local systems of production that became competitive on a global scale. The new school of regional competitiveness promoted by Porter (2003) identifies the cluster industry as a source of competitive advantages, supporting the identification and cluster setting – up as an objective of the public policy. In the last few years, clusters became an important basis for the new policies promoted at the level of the European Union. The challenges established through the Lisbon Strategy, respectively “to make the Europe the most competitive and dynamic based knowledge economy”, determinate a new approach of the economic policy in order to increase competitiveness. For the regional economy, the cluster has the aim to develop new strategies focused on the economic sectors of the regional development, by taking into account sectoral advantages. However, in terms of economic activities promoted at regional level, the spatial development is an essential component for increasing EU competitiveness in terms of economic globalization trends, regional networks being considered the most advanced form of cluster in the economic sector.

Keywords: regional policy; cluster; regional competitiveness

JEL Classification: R 58

1. Recent Approaches for the Policies Implementation

The national states territories are administered through territorial governance, policies being implemented by highlighting the distribution of roles and responsibilities between different levels of government (supranational, national and sub-national). The territorial governance of European Union represents a particular challenge due to the impact of regional policies on territorial development. EU policies have a double impact on territorial development, namely: direct impact by providing information and measuring subsidies and problems of development and indirect effects by stimulating new economic activity (internal market, infrastructure links), by introducing new territorial concepts (sustainable development), by creating new administrative relationships (EU regions, INTERREG), reshaping new maps (especially in border areas), or providing

¹ PhD, in the field of regional policy, Councilor, Ministry of Regional Development and Tourism, Romania, Address: 17 Apolodor Str., North Side, Sector 5, Bucharest, Romania, Corresponding author: luiza.radu@mdrt.ro.

information or territorial statistics (ESPON) that can influence political decisions. European regions have a huge territorial potential for sustainable growth and job creation, through the tangible resources territorially organized such as social capital, institutional requirements, community development and entrepreneurial capacity.

The mobilization of various territorial potential requires a new understanding of territory and private sector cooperation. Territorial influence of EU Cohesion Policy and other policies (e.g. rural, environmental, transport) should be recognized at all levels. This means that EU policies should take into account local, regional and national policies, as well as the development potential through a more coherent approach to territorial development. In addition, regional and local development strategies should focus on European needs, and better use of the opportunities offered.

Recent approaches of the cohesion policy highlights the importance of geographical aspects (“geography matters”). This means that a special meaning is given to territorial cohesion, which refers to the history, culture and institutional situation of the Member State. In this way, there can better exploit the opportunities offered by Europe's territorial diversity and development approaches of these areas. Thus, regional policies should have a stronger territorial dimension not only directing investment to areas that are emerging as development engines, but also to areas and towns with serious social and economic problems that tend to decouple from the development economic.

Currently, even if there is no universally accepted definition of the term territorial cohesion, there can be identified several approaches to this concept. First, the international literature defines territorial cohesion as a polycentric and endogenous development in order to achieve more competitiveness and innovation clusters in Europe. Secondly, territorial cohesion can be seen as a model of balanced development, in order to reduce socio-economic disparities and avoiding imbalances. Thirdly, it is expressed in terms of accessibility, such as equal access to facilities, services and knowledge. It can also be defined as a network, emphasizing physical and interactive connections between different communication centers and their connection with surrounding areas. Thus, although the definition of territorial cohesion is still in debate at European level, there are some elements characterizing the phenomena, such as the balanced development of the territory, territorial disparities and valorizing the territorial potential.

In this context, the clusters can be seen as the most appropriate tool for implementing the new European approach to competitiveness and territoriality.

Clusters – Territorial Networks - Concepts

According to the international literature, clusters are a group of companies or institutions located in a specific geographic region, connected by interdependencies in order to provide a group of products or services (Porter, 1996). Maskell and Lorenzen (2004) considers that each cluster represents a model of market organization where private companies strengthen relations between them and the outside world, where particular institutions are acting, implementing workforce strategies by using local externalities in order to pursue technologic activities that serve different target groups. A cluster can be defined as a group of firms, related to economic actors and institutions that are located nearby and have reached a sufficient level to develop specialized services (expertise, resources, suppliers and competent staff).

United Nations Industrial Development Organization (UNIDO 1999) considers cluster as being a sectoral and geographical concentration of companies that gains from the agglomeration of specialization vendors, availability of raw materials and components production and local labor market. They are supported by public and private networks that promote collective learning and innovation diffusion. However, the cluster is a form of spatial concentration of interconnected companies, institutions and organizations that have the same development goals, cooperate and compete in some areas (Market Economy Research Institute, Poland, 2005).

According to Ketels (2004) clusters are groups of companies and institutions co-located in a geographical region, having interdependence relationship and providing a specific set of products and / or services. For Rosenfeld (1997) cluster is a group of companies capable of producing synergy effects based on geographical proximity and interdependence, even if the employment rate is not quite significant. However, the economic clusters are not simply a group of industries, but institutions with diverse support a higher level of competitiveness due to the links between them (Feser, 1998). Cooke and Huggins (2002) considers clusters as geographic concentration of firms that develop horizontal and vertical connections, implies the presence of business support infrastructure and of a common vision of growth, based on competition and cooperation in a determinate market area.

Clusters are organized around a specific sector of the economy (automotive, textile, tourism) within a territory that not necessarily coincides with a major urban area. Cluster feature is that all organizations contribute to the development of that territory, acting as an organized network that includes businesses, educational forms (not only at the university level but also at the pre-university, technical, education and vocational training) research institutes, and other specialized business services (support services market / export, transport, storage, information,

banking, advertising, lobbying, etc.). Moreover, clusters are, by their very nature, “net export zones” because it exports the production of goods and services to customers and consumers from other areas.

As regards the networks, the general definition applicable in different areas of management describes it as a process in which several participants or groups of participants are working together for a common goal, having a common vision. As a rule, this process is not based on formal contracts, but on trust, partnership and believes that all stakeholders will have benefits. (Sprenger, 2001). Moreover, the specialized literature highlights that networks are not only specific spatial structure, but that they make available functions which improves efficiency through spatial interactions. According to Batten (1994), and Reggiani and Nijkamp's (1996) network can be defined as a socio - temporal complex. Thus, the network is a spatial-economic or socio-economic characterized by a evolutionary processes governed by multiple players, organizations of interrelated subsystems. (Reggiani, Nijkamp, Sabel, 2001).

Tijssen (1998) defines network as an evolutionary system of mutual dependency based on relationships between resources, the systemic nature being the results of interactions, processes and procedures. However, Fischer (2006) considers network a distinct form of organization among firms that work together on the market by having horizontal and vertical relationships. Activities within such a network involve creation, combination, transformation, absorption and exploitation based on formal and informal relationships. According to Fischer (2006) network resources are represented by different types of capabilities, skills and assets that can be divided into tangible resources (codified knowledge) and intangible resources (know-how, experience and personal contacts). The international literature also pays attention to regional networks that define local cooperation links between firms (usually small and medium enterprises), banks, institutes of higher education and research, consultancy centers, chambers of commerce and industry, associations of producers, local government and other interested social groups (Maillat, 1990; Cappellini, 1998; Sprenger, 2001).

Clusters or territorial networks cannot be created by authorities, being a result of economic activities on the market. Thus, they have to take into consideration the policies promoted by government. The authorities intervene in support of this process by regulating the operation of networks, the mutual relations established and other factors that directly or indirectly affect their activity.

At European level, the literature begins to notice “changes” that have occurred due to the implementation of regional policy. Networking, clustering is no longer just the attribute of firms acting in the economic environment. Globalization, competition for location and regional development policy determinate the setting-

up of regional networks thus encouraging the mobilization of resources and the regional potential.

At European level, regardless of how it is formed - under the pressure of globalization and intense economic exchanges - networks tend to evolve towards supra-territorial attracting international competitors. The globalization process increases the importance of the regions as business locations and transforms the product competition in a location one. In this way, regional and local partners are forced to improve regional economic culture and promote regional competitive advantages.

International literature identifies different forms of territorial networks: regional clusters, regional environmental centers of excellence, regional initiatives on labor and environment, initiatives of Agenda 21. Also, business networks, and the public or other institutions are integrated components of the system of "regional networks".

As defined, regional cluster initiatives is a regional accumulation of companies acting in the production and services, research, education and other training institutions, offering complementary services such as to enable cooperation within the network. (Sprenger, 2001)

In the literature (Reggiani, Nijkamp, Tijssen, Sprenger, Fischer, Cappellini, Maillat) networks are defined as the specific spatial structures which have cooperative ties that contribute to achieving common goals. Networked relations are characterized by precise steering that identifies the control or dependency relations of a node compared to another. This implies a hierarchical relationship within the network. Each node has a specific function, which depends not only on relations with another node, but the position of the node within the network. Relations within a network are normally connected to other networks. Also, existing relationships in a given network depends on previous relationships in the network due to cumulative process of learning and dependencies. It can be considered that, unlike the neoclassical model based on the balance - imbalance concept, the network model has an evolutionary approach that allows establishing relationships between the network structure in a given period of time and the structure of that network and others in a complementary previous period of time (Cappellini, 2000).

The territorial network approach takes into account, in addition to the spatial dimension, the temporal dimension because a network structure is continuously changing by establishing new relationships, modifying or finishing the existing ones. However establish a new relationship or changing the existing one is influenced by the distance between interacting actors, cumulative learning process and characteristics of other actors of the network. Thus, there can be considered that the iterative approach of direct or indirect links between two participants of the

network (two nodes) depends on the distance between them or between them and other actors; the distance is influenced by the gradual search of each actor of nearest level or integration or cooperation form.

The network model reveals that the distance plays an important role in explaining the different effects of globalization on regional economic development. Rallet, Torre (1998) and Bellet (1993) address the issue of distances under different aspects, namely geographic proximity, organizational and institutional. Thus, in the literature, geographical proximity takes into consideration the links between organizations in terms of physical distance by applying geographical barriers and effects of transport and telecommunications infrastructure. Organizational proximity refers to the links in terms of production organization and relies on logical organization of assets and similarity between the actors belonging to the same organization.

Evolution towards Territorial Networks

The regional dispersal of industries in Europe influenced the evolution of clusters. Thus, unlike the U.S. economy, there is not a high degree of geographical concentration of economic activities in the European industry. The high concentration occurs in those industries with a small growth rate and production concentrated in a few locations. Concentration rate decreases in those industries with a higher growth rate that decided to outsource activities to new locations. Specialized business services are developed for the benefit of companies, so that the small businesses have access to services they would not be able to obtain (economies of scale); collaboration among competitors is encouraged in order to support the cluster, thereby creating economies of agglomeration where these territorial proximity plays an important role. Support for cluster is often supplied by subsidizing the production and availability of specialized business as well as by promoting networking activities that best contributes to identify specialized business services that are most useful to cluster.

These concepts have led to the definition of a regional network model based on the concept of integration and characterized by the ability to establish direct links between the industrial / economic areas, territory and the local administration. This territorial network model implies more formalized of relations between firms (Cappellini, 2002).

One of the features highlighted in the international literature is specialization and complementary of the firms within a network. Also, there is a sectoral diversification of the local economy and greater complementarity between the different activity sectors. Moreover, the territorial network allows an extension of geographical area in which firms operate, promoting complementarity between

regional territorial organization and firms economic relations. There are also needed rules for establishing the organizational structure, the legal status, responsibilities and duties of the partners, types of relations between them.

In this context, the international literature (Howells, 1996; Langendijk, 1999) shows that the nature of regional policy has fundamentally changed; the innovative and learning processes having a higher weight. This is due to the challenges from national level (multi-level governance, uncontrolled urban development, consultation on policies and strategic documents) and international one (climate change, demographic and migration phenomena, energy efficiency, food crisis). Regional organizations are more than implementing bodies of central policies; they have the ability to formulate initiatives, to find resources and to institutionally adapt to the external environment changes. Thus, the regional organizations have the opportunity to develop their own policy implementation mechanisms, mostly based on cooperative relationships with local partners, thus resulting in the creation of networks for regional policy.

In practice, for the implementation of regional policy are created regional networks based on partnership. European Commission support for the implementation of this principle has led to a strong involvement of sub-national level, regional and local authorities' becoming very active. Studies conducted by the European Commission, such as "Partnership in the 2000-2006 programming period", "Partnership for Implementing the Structural Funds", highlights the increasing importance of partnership principle, due to the fact that it can help improve the design, monitoring and evaluation of programs, ensuring greater accountability of different actors on the management of Community assistance.

However, in terms of economic activities implemented at regional level the spatial development is an essential component of the EU approach of increasing competitiveness, the regional networks being the most advanced form of cluster in the economic area.

The national, regional, local policies for developing an economic modern system should take into account three factors of competitiveness, namely the speed of change and adaptation of innovation, forms of networks between local actors, interregional and international importance of the local economy (Orsenigo, 2000). However, new forms of economic integration of firms justify the transition from an approach based on economic concepts of concentration and specialization to one based on the concepts of territorial integration and intersectoral approach promoted by networks. It becomes necessary to adopt a systematic approach at regional level by creating local connections in highly specialized areas, promote intersectoral cooperation and diversifying local production. In this way the development of a region is not limited to a single production system development, but the result of their cooperation at regional level.

Cluster Evolution in Romania

According to the study conducted by the European Cluster Observatory, by considering the cluster size, degree of specialization and employment in the region, industries that are capable of clustering in Rumania are apparel industry, agriculture and zoo-techniques and the footwear.

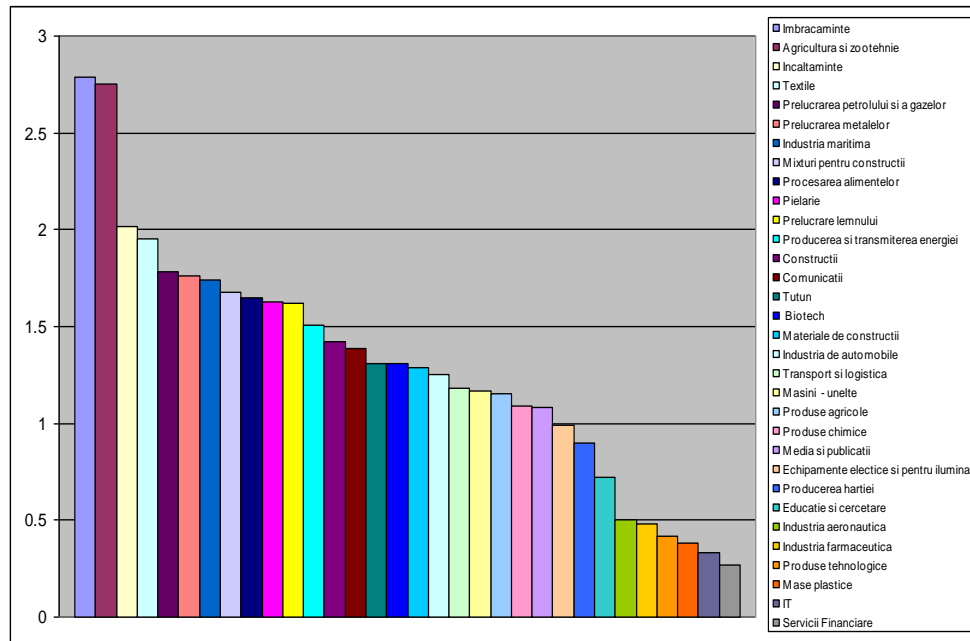


Figure 1. Cluster classification in Romania

Source: Personal data, European Cluster Observatory on industrial competitiveness areas in Romania, 2011

Also, according to data provided by the European Cluster Observatory on employment rate of the cluster, the degree of specialization and categorization of the number of “stars”, the most of the clusters that are holding the top position activates in the industry of clothing and footwear, according to the table below. It also notes the existence of a cluster in the processing of oil in South Muntenia, explicable by the presence of refineries operating in these regions.

Table 1. Top - 15 clusters based on employment, degree of specialization and category

Cluster	Region	Occupied population	Specialization rate	Category
Clothing	North-East	53 835	6.64	3
Textiles	North-East	45 786	5.61	3
Clothing	Centre	42 396	5.65	3
Clothing	South-East	41 401	5.65	3
Clothing	North-Vest	40 798	5.51	3
Clothing	South - Muntenia	38 710	4.61	3
Textiles	Centre	38 378	5.08	3
Communications	West	36 431	14.10	3
Oil and gas	South - Muntenia	36 383	20.61	3
Metalworking	South-East	36 040	2.25	3
Cars	South - Muntenia	32 935	2.71	3
Building structures	North-West	30 919	3.21	3
Footwear	North-West	28 200	15.67	3
Textiles	South - Muntenia	25 884	3.06	3
Building structures	South - Muntenia	23 113	2.12	3

Source: European Cluster Observatory

However, the European statistics regarding the top Romanian regions according to the classification of clusters by the number of “stars” and the employment of categorized clusters reveal that Central Region has the largest number of clusters, followed by the South Muntenia and West Region, according to the table below. Last place is occupied by the Bucharest - Ilfov, while in Romania this region has the highest reported growth in GDP per capita.

Table 2. Top Regions by taking into consideration the total number of “stars” and the share of employment in categorized clusters

Region	total number of “stars”	Share of employment in categorized clusters
Centre	27	71.25%
South - Muntenia	26	71.43%
West	22	62.53%
North-West	19	63.06%
South-East	17	77.59%
North-East	17	60.47%
South-West Oltenia	15	50.75%
Bucharest - Ilfov	15	54.92%

Source: European Cluster Observatory

Currently, Romania aims to strengthen the competitiveness of innovative local / regional clusters by supporting the innovation throughout the value chain, finding new market niches outside the Community, improving the managerial skills and capacity of the cluster enterprises to adapt to environmental requirements and energy efficiency. Moreover, it is intended to stimulate the firms collaboration in supply chains / clusters and to facilitate the transfer of knowledge and sharing best practices with other European countries.

As regards the creation and development of regional networks in Romania that will be stimulated by establishing at administrative level the general rules for the implementation of policy, as a precondition for the economic actors to find flexible integration modalities on the market in the established legal framework. (Constantin, 2002)

Strengthening cooperation at policy level between Member States of the European Union is, in fact, the main objective of the European Cluster Alliance. The new European challenge is to promote better ways to develop globally competitive clusters. This requires policy-oriented clusters, and practical tools to support this.

In Romania there are major industrial clusters, but these cannot be considered clusters due to the lack of horizontally or vertically collaboration. For now, there is only weak collaboration between the main actors of a cluster. Furthermore the economic development is not yet appropriate to the specific requirements of the cluster concept. In Romania there could be two types of clusters: “natural clusters” being created based on local and regional development, but which are not explicitly supported by specific policies and “public clusters”, created as a result of public support in accordance with European Union legislation.

National, regional and local economic development of a modern system should take into account three factors of competitiveness, namely the speed of change and adaptation of innovation, the networks between local actors, interregional and international importance of the local economy (Orsenigo, 2000). However, new forms of economic integration firms justify the transition from an approach based on economic concepts of concentration and specialization to one based on the concepts of territorial integration and intersectoral approach promoted by networks. Becomes necessary to adopt a systematic approach at regional level by creating local connections in highly specialized areas, promote intersectoral cooperation and diversifying local production. In this way the development of a region is not limited to a single production system development, but the result of their cooperation at regional level.

Bibliography

- Batten, D., Casti, J. & Thord, R. (ed.) (1994). *Networks in Action*. Springer Verlag.
- Cappellin, R. & Orsenigo, L. (2000). The territorial dimension of modern industry and the scope of regional industrial and labour market policies. In Klemmer, P., Wink R. (ed.). *Preventing unemployment in Europe. A new framework for labour market policy*. Cheltenham, UK, Northampton, US.
- Cappellin, R. (2002). Regional industry policy and the new economy. In Atalik, G. & Fischer, M. (ed). *Regional Development Reconsidered*. Springer Verlag.
- Constantin, D. L. (2002). SMEs, Territorial Development and Networking: the case of Romania. *Collection of Papers of the 42nd Congress of the European Regional Association*, Dortmund.
- Cooke, P.; Huggins, R. (2002). High Technology Clustering in Cambridge. In Amin, A.; Goglio, S.; Sforzi, F. (ed.) *The Institutions of Local Development*. Londra: IGU.
- Fischer, M. (2002). *The new economy and networking, Regional development reconsidered*. Berlin: Springer.
- Maillat, D. (1990). SMEs, innovation and territorial development. In Cappellin, R. & Nijkamp, P. (ed.). *The Spatial Context of Technological Development*. Avebury.
- Ketels, C. (2004). *European clusters, Structural Change in Europe. Innovative City and Business Regions*. Ed. Hagbarth.
- Porter, M.E. (1998). Clusters and New Economics of Competition. *Harvard Business Review*.
- Reggiani, A.; Nijkamp, P. & Sabela, E. (2001). New advances in spatial network modeling: Towards evolutionary algorithms. *European Journal of Operational Research* 128, pp. 385-401.
- Sprenger, R.U. (2001). *Inter-firm Networks and Regional Networks*. NSS ADAPT, Bonn.
- Torre, A. & Rallet, A. (2005). Proximity and Localization. *Regional Studies*, 39, No. 1, pp. 47-60.
- Tijssen, R.J.W. (1998). Quantitative assessment of large heterogeneous R&D networks: the case of process engineering in the Netherlands. *Research Policy* 26(7/8), pp. 791-809.