Cross-sectoral cooperation vs. cluster development at European level

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Abstract

One of the most actual instrument used by the European Institutions for encouraging and supporting in the same time the entrepreneurs is the promotion of industrial entities to organize themselves in different consortia named clusters and to apply further under this form to European calls for obtaining the necessary funds for industrial development of their SMSs and regions where they are located. The mentioned funds are dedicated more often to those clusters which were in advance evaluated by an accredited institution. Is there only an unique institution in charge with this or it is allowed that the clusters evaluation is made by different organizations?

For the moment the evaluation technique consist mainly in clusters evaluation done by the European Secretariat for Cluster Analysis (ESCA), with the means of a set of indicators, on the basis of which the quality of cluster management is eventually certified, after obtaining the “gold label”. The use, at an European level, of cluster benchmarking has become more and more necessary, in the context of internationalization and of the tough competition that clusters have to face.

The paper will highlight also the need for cluster policies and smart specialization strategies (SS3) in order to promote economic growth and regional competitiveness.

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1. Introduction

Motto:
“In today’s creative economy, the real source of economic growth comes from the clustering and concentration of talented and productive people.” (Florida R., 2008)

The increasing popularity of clusters is reflected in the growing number of policies and initiatives supporting them. The analyses carried out so far indicate that clusters are drivers of competitiveness and innovation, of economic growth and jobs. This paper has been drawn up in the context of a more intense activity of the European Commission to support economic clusters, considered as important instrument of the new European industrial policy and also of the Regional & International Strategies for Smart Specialization (RIS3).

The paper is underlining the benefits of the cluster policy which defines the very cluster policy as an extensive set of specific government policies whose aim is to strengthen the existing clusters or facilitating the emergence of new ones. This part of the paper examines mainly two types of policies summarizing actually the multitude of current policies, namely: policies that support the development of current clusters or clusters that are now in a process of formation and policies that use the information on how the industrial development in clusters takes place in order to substantiate and develop various general policies. In this context there will be discussed the methodology of clusters benchmarking. The last part of the paper is dedicated to the potential for clustering of the activities in the Romanian manufacturing industry branch, as well as cluster mapping.

2. Clusters

During their evolution industrial clusters have gone through a series of development phases which have been brilliantly summarized in the works of Markusen, and the evolution is shown in the table below:

| Table 1 The typology of industrial clusters according to Markusen: type of growth/evolution of clusters |
|-----------------------------------------------------------------------------------------------------|
|                                                                                                      |
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Source: adaptation after Markusen, A. (1996). ‘Sticky Places in Slippery Space: a Typology of Industrial Districts’, Economic Geography, 72 (3), 293-313
2.1. Clusters / networks and Governance

In literature governance is considered as utterly important, while clusters have a regional/local dimension which requires democratic relations among the economic players that form the cluster chains. In reality, there has been a trend, both of the national authorities and of the local/regional ones, to grant assistance to cluster managers / cluster organizations in the sense of bringing to their knowledge both the needs/wishes of people in the region/locality and an overall vision of the competent institutions in the region. That is why, for the purpose of efficient governance, it is necessary to understand the relations among the players in a certain cluster in a given locality, on the one hand, and on the other hand, among the partner players, but from other localities (including companies and institutions in the cluster in other localities). In other words, the goal of good governance is therefore to identify strategic decision-makers; they can be in the locality or outside of the locality where the cluster is based, within a nation or outside of the nation’s borders. In this situation, the approach is different from the traditional one, limited geographically or from the point of view of belonging to an industrial branch, avoiding in this way the limitations imposed by the usual methodologies of cluster analysis related to the internal economic growth. This approach is required especially in the situation of a “globalized” economy, since the spatial dispersion of productive activities and industrial networks in the context of globalization has become a reality that cannot be challenged. The key question is whether the power of making strategic decisions is also dispersed? The current analysis of the cluster – case by case – should be carried out from a multidisciplinary perspective. As is known, relations are not only of an economic nature, but also of a social-political nature, based on the spatial, cultural or mental proximity. Such a multi-disciplinary analysis can serve the impact analysis in the region of the clusters and cluster policies initiated around them. Cooperation, or on the contrary, conflicts between the cluster members have an impact on the strategic decision-making; cluster/network governance can rely on a broad participation of members or on the contrary, on a dominating group making the decisions.

In the opinion of more specialists, the principles of good governance are based on the identification of real strategic decision makers or centers and correlating their decisions with the aims and goals of the local communities in their proximity. Such an approach from the perspective of economic development policy at a national and regional level might sometimes be different in real life. For instance, according to some methodologies applied in some areas, the national and local authorities lay stress on the support of industry infrastructure in order to attract more companies, thus facilitating the development of local clusters; however, other methodologies lay stress on the role of institutions in providing the funding, training and consulting services. However, we consider that the best decisions on the model of governance are based on the cluster analysis in a very well defined context (where there are different stakeholders at local/national/international level) and by collecting information specific for each and every case. Eventually, the efficiency of the chosen governance model is reflected in the impact that the cluster activities has on the level of economic development at local/regional level. The chosen structures and forms of governance are reflected also on the results of cooperation and competitiveness of production in the region. In this respect, the individual capacity to get involved in the decision-making process regarding local development should be better used. Good practices prove that there is a long process of learning involving people, companies and institutions which interact, a process which fosters every player to give an input to governance.

As it is argued in the literature the essence of governance is its focus on ‘strategic decision-making’ power and processes; worth mentioning is that the process is strongly influenced by the policies in the field.

Research into the cluster policies indicates that basically there are two types of policies
• policies that support the development of current clusters or clusters in the making
• policies which use the information on how industrial development in the clusters is going on in order to substantiate and develop various general policies.

These two types of policies have certain characteristics:
• The cluster policy means a change of perspective from individual companies to systems of local/regional companies and the environment is also added to the value of the company(Păuna C.B. & All, 2014);
• The cluster policy means also a smaller support for big companies and a bigger interest in the local agglomerations of SME-s.
This type of policy is also focused on the indigenous processes of growth and less on the efforts to attract investment;

The concept of „regional clusters” brings to the forefront a policy based on the idea of the strengths, since stress is laid on stimulating the strong points or potentially strong points of the regional industry. This could be organized as a process from top to bottom, which involves the local authorities, the industry and the experts;

The notion of a cluster also leads to the stimulation of social processes, for instance, encouraging interaction based on trust, in order to increase the inflow of knowledge between the local players and the lesser use of interventions via financial facilities, for instance;

Clusterisation brings to the forefront the role of public authorities as facilitators or brokers among companies and between companies and the cognitive infrastructure.

According to Boekholt and Thuriaux (1999) „the cluster policy lies in stimulating the connections with the local business environment by means of a public-private dialogue, defining the common needs for research, relations of „co-development” between contractors and suppliers, etc”.

Table 2: Types of cluster policies

| Systemic failures of the market | The response of public policies | Countries that consider clusters when drafting public policies |
|---------------------------------|---------------------------------|-------------------------------------------------------------|
| Inefficient functioning of the markets | Competition policy and regulatory reforms | Most of the countries |
| Information failure | Technological forecasts | The Netherlands, Sweden |
| lnformation failure | Strategic information on the market and strategic studies on clusters | Canada, Denmark, Finland, Holland, USA |
| Limited interaction between players in innovative systems | Agencies and schemes of brokerage and networking | Austria, Denmark, Holland |
| Limited interaction between players in innovative systems | Creation of platforms for a constructive dialogue | Austria, Denmark, Finland, Germany, Holland, Sweden, United Kingdom of Great Britain, USA |
| Limited interaction between players in innovative systems | Facilitating cooperation in the networks (schemes of cluster development) | Belgium, Finland, Holland, USA, United Kingdom |
| Lack of correlation between the public infrastructure in the field of knowledge and needs of the market | Centers of excellence common for research – industry | Belgium, Denmark, Finland, Holland, Spain, Sweden, Switzerland |
| Lack of correlation between the public infrastructure in the field of knowledge and needs of the market | Facilitation of joint cooperation industry-research | Finland, Spain, Sweden |
| Lack of correlation between the public infrastructure in the field of knowledge and needs of the market | Human capital development | Denmark, Sweden |
| Lack of correlation between the public infrastructure in the field of knowledge and needs of the market | Programs for technology transfer | Spain, Switzerland |
| Lack of demand | Policy of procurement | Austria, Holland, Sweden, Denmark |
| Failure of the government | Privatization | Most of the countries |
| Failure of the government | Rationalization of business | Canada |
| Failure of the government | Horizontal political decisions | Canada, Denmark, Finland |
| Failure of the government | Public consulting | Canada, Holland |
| Failure of the government | Reduction in government interventions | Canada, United Kingdom, USA |

Source: adaptation after EUROPE INNOVA (January 2008), Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness, draft distributed in the European Presidential Conference on Innovation and Clusters, Stockholm 22-23 January 2008

One of the most actual instrument used by the European Institutions for encouraging and supporting in the same time the entrepreneurs is the promotion of clusters through participation to European calls for obtaining the necessary funds for industrial development of their SMSs and regions where they are located. The mentioned funds are dedicated more often to those clusters which were in advance evaluated by an accredited institution. As it is known for the moment there is only an unique institution in charge with this, namely the European Secretariat for Cluster Analysis (ESCA) which uses a set of indicators (see table 3), on the basis of which the quality of cluster management is eventually certified, after obtaining the “gold label” (there are actually three phases of evaluation, that include also the bronze and silver labels besides the gold one – depending on the development level of cluster organization). The use, at an European level, of cluster benchmarking has become more and more necessary, in the context of internationalization and of the tough competition that clusters have to face. We wondering if it is appropriate to have only one institution in charge with clusters benchmarking or it should be taken into consideration
the specificity of regions and it should be established some other similar institutions in charge with clusters benchmarking from different parts of Europe: South East European area, Baltic Area, etc.

The cluster benchmarking covers 36 indicators which analyse the cluster and the cluster management organization taken into consideration six factors (see table 3): the structure of the cluster, governance and strategy of the cluster, financing of the cluster management organization, services provided by the cluster management organization, contacts and interaction with relevant players.

Table 3 Overview of clusters benchmarking indicators used by ESCA

| STRUCTURE OF THE CLUSTER | CLUSTER MANAGEMENT AND GOVERNANCE / STRATEGY OF THE CLUSTER ORGANISATION | FINANCING OF THE CLUSTER MANAGEMENT | SERVICES PROVIDED BY THE CLUSTER ORGANISATION (SPECTRUM AND INTENSITY) | ACHIEVEMENTS AND RECOGNITION OF THE CLUSTER ORGANISATION |
|--------------------------|--------------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------------|--------------------------------------------------------|
| Age of the cluster organisation | Legal form of the cluster organisation | Number of cluster participants per employee (full-time equivalents) of the cluster organisation | Total financial income (public funding, chargeable services, membership fees and other private sources) in the total budget of the cluster organisation in relation to the age of the cluster management organisation | Number of external cooperation requests received by the cluster organisation |
| Nature of the cluster: driving forces | Nature of the cluster: degree of specialization | Human resource competences and development in the cluster organisation | Development of human resources | Institutional origin of external cooperation requests |
| Composition of the cluster participants (Committed participants) | Geographical concentration of the cluster participants (Committed participants) | Strategic planning and implementation processes | Development of entrepreneurship | Geographical origin of external cooperation requests |
| Utilisation of regional growth potential | International participants of the cluster | Thematic and geographical priorities of the cluster strategy | Matching and networking with external partners / promotion of cluster location | Characteristics of cooperation with other international clusters |
| Nature of cooperation between cluster participants | | | | Visibility in the press |
| | | | | Impact of the work of the cluster organisation on R&D activities of the cluster participants |
| | | | | Impact of the business-oriented services of the cluster organisation on SME participants |
| | | | | Degree of internationalisation of cluster participants |
| | | | | Impact of the work of the cluster organisation on international activities of the cluster participants |

Source: ESCA, www.cluster-analysis.org

2.2. Potential of economic clustering in Romania

To develop the SME sector the Government of Romania drafted an Action Plan (early in the 2000) whose aim was to remove the obstacles from the demand and increase business (registration of companies and authorization procedures, legal framework and taxation system, access to financing and information). The strategic lines of action were:

- creating a friendly environment for business to facilitate the creation and development of SMEs;
- improve access of SMEs to foreign markets;
- develop productive and innovative activities of SMEs and increase in SMEs competitiveness on various markets;
- promote entrepreneurship

The last two lines of action are directly linked to the clustering policy which the national government intended to develop and implement.

Preoccupations in this respect went on, besides the projects developed on this topic a more active involvement of national/local authorities being noticed.
Ministry of Economy, Trade and Business Environment is responsible for drafting and implementing the industrial policy.

A national cluster policy with very well defined goals and a subsequent action plan has become visible as of 2009. The current document of industrial policy 2010-2013 has a capital devoted to innovative clusters which was drafted in partnership with the Federal Ministry for Economic Cooperation and Development of Germany (represented by GTZ) and is based on the benchmarking analysis of cluster policies in France, Germany and Sweden. The Romanian cluster policy has a “top-bottom” approach at regional level.

The National Reform Program 2011-2013, in its chapter on Industrial Policy identifies programs and measures for developing clusters financed both from public funds and European funds.

The Ministry of Economy, Trade and Business Environment facilitates the good practices of clusters with EU members countries, candidate countries, Norway, Japan etc.

For the future, the Ministry of Economy, Trade and Business Environment – the Industrial Policies Directorate – intends to involve the Regional Development Agencies and the Romanian Association of Clusters - Clustero – in promoting the cluster development program.

As many other concentration at a world level, the Romanian cluster model has the following characteristics:

- Concentration (companies, localization in the region);
- Research and development units (research centers, universities);
- Labour force; here relevant are quality, quantity and the qualification of the labour force;
- Cooperation (current or planned projects, other types of cooperation);
- The presence of a third party supplier of services (which provides services which are relevant for the cluster).

The intensity of the above mentioned factors is different from cluster to cluster but as a general trend it is noticeable that as to the concentration of companies and labour force, the Romanian clusters are somewhat different as compared to the European ones, like the smaller number of members in a cluster and the existence of some catalyzing organizations (chambers of commerce, development agencies, local authorities) in the cluster (the model of the clover with a fourth leaf, mentioned for the first time by D. Cosnita in the analysis conducted by GTZ in Romania in 2010).

In this context our paper presents the aspects related to the potential for clustering of the activities in the Romanian manufacturing industry branch, as well as cluster mapping. In identifying the potential for clustering of activities in the Romanian manufacturing industry both quantitative and qualitative methods have been used. The quantitative methods used in the first stage were: calculation of the location coefficient, of the specialization rate, of the Herfindhal index and of the Gini coefficient. In the second stage, the clustering Sternberg & Litzenberger index has been calculated, which takes into account several factors that may influence the formation of clusters. Subsequently, following the correlation of the results obtained from the afore mentioned methods the first information has been extracted regarding the regional potential for clustering of the companies that operate in certain Romanian manufacturing industry branches. Since the research institutes/universities represent some basic components of a cluster next there has been an identification of such units for every branch of the manufacturing industry, mentioning also the regions and counties that they belong to. In this way an inventory has been made of all the research institutes (national institutes, research institutes in universities and also in the Romanian Academy). From among these, the paper focused on those research units located in the big industrial centers or in their proximity, in order to be easily attracted and integrated into the activities of an industrial cluster.

The information obtained from quantitative methods has been added and enriched with information from qualitative methods. These methods included interviews with politicians, representatives of the local authorities and of the business sector, referring to the frame and climate of business, ways of inter-institutional collaboration and cooperation, as well as among businesses, the intensity of links of collaboration among companies, current joint projects and/or future projects, the level of confidence of partners etc. The results obtained from the qualitative methods brought in additional information on the existing clusters and on the potential for clustering of the Romanian manufacturing industry. The quantitative and qualitative methods used have eventually led to identification of many domains of the manufacturing industry, with a potential for clustering: textile and footwear, wood processing, oil extraction and processing (oil equipment, including off-shore platforms), mining equipment, products of precision mechanics, electronic and electro technical products, transportation means (cars, wagons),
chemical products, building materials (cement, glass, ceramics). These domains include all the components necessary for the existence of clusters, namely, the geographical proximity of companies, the adequate density of companies, special research units of the industry, relations of collaboration between the local stakeholders etc. All this information has been transposed on maps with the help of special software. We further present an example in this respect, namely, a map showing a clear and synthetic representation of the potential for clustering of some domains of the Romanian manufacturing industry, by counties and regions of development. The cluster mapping exercise is a relatively new approach, which has emerged from the very need of having a better and direct image on clustering and its economic performances.

Worth mentioning is also the fact that the domains identified (see Fig. 1) as having a potential for clustering are validated by reality, since in the Association of Clusters in Romania “CLUSTERO”, set up in 2011, a series of clusters were already registered during 2013 and they belong to the afore mentioned domains (see http://clustero.eu/). Also worth mentioning is that the economic agglomerations continue to emerge, many of them being stimulated by the direct foreign investments, which are good pre-requisites for the emergence and development of clusters.

Conclusions

According to our results one can say that Romania has an obvious potential for clustering in important industrial domains. However, up until now, clusters have a small share in the country’s economy, both because the authorities only recently got involved in the process of guidance and support for clustering but also because the economic environment – companies, business persons, local authorities and, to a lesser extent, the academic and research environment – show a limited availability for association and collaboration within the clusters. In spite of this, the responsibilities of local and national authorities in creating the adequate environment for the very operation of clusters is expected to increase since the strategic national documents have recently been drafted, in agreement with the regional policy of the EU, and they establish clear guidelines to support and promote clusters, as an important part of the process of implementation of the new industrial policy of the country.

In the end there are to be mentioned some general conclusions but also practical ones related to the problems of clusters in this country and to the need to further continue research in the field of identifying the potential for clustering in the Romanian manufacturing industry; in order for the main drivers of regional specialization and geographical concentration of industry in Romania to be better and more extensively explored, for the purpose of creating regional and national clusters capable to enter into interregional and transnational collaboration for increasing the competitiveness and efficiency of the Romanian industry.
Appendix A  The potential for clustering by domains of the Romanian manufacturing industry

Source: Own calculations

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