CONSIDERATIONS OF COMPETITIVENESS CLUSTERS – CONCEPTUAL ISSUES AND THE ROMANIAN EXPERIENCE

Nicoleta Asalos

INTRODUCTION

Romania aims to become a high added value generating economy which should bring substantial benefits to the investors and employees. The engine of this evolution is the increase of the productivity by investments in the productive capital, equipment and technologies and the human capital too. The stimulation of the dynamism and internationalization of the entrepreneurial basis represents a key means of developing a prosperous economy and answering the challenges and opportunities of a globalized market. Romania will promote the transition towards a knowledge economy and will try to get an as high as possible position on the added value scale.

Clusters suggest that a good deal of competitive advantage lies outside companies and even outside their industries, residing instead in the locations at which their business units are based. This creates important new agendas for management that rarely are recognized. Cluster thinking suggests that companies have a tangible and important stake in the business environments where they are located in ways that go far beyond taxes, electricity costs, and wage rates. The health of the cluster is important to the health of the company. Companies might actually benefit from having more local competitors. Trade associations can be competitive assets, not merely lobbying and social organizations [8].

Through clusters not only individual firms can be supported but groups of firms, which represents a more promising approach in terms of the efficiency and potential impact of individual public support actions. As a result, the commercialisation of R&D results can be better ensured and SMEs can be better engaged into larger scale projects through cluster organisations. Thus, the challenge today is not to create more clusters but rather to create better and more sustainable ones. Although this sounds logical, it is not quite so easy to achieve in practice. This represents a paradigm change for public authorities involved in cluster policies as well as for cluster practitioners, and it may have a significant impact for future cluster funding and development.

1 A BRIEF IMAGE ABOUT ROMANIAN COMPETITIVENESS IN GLOBALIZATION CONTEXT

Romania’s development strategy should focus on drivers of economic and social change in order to promote economic growth, at the same time, the strategy must be flexible enough to adapt to shocks and change processes. After joining the EU, Romania has pursued the development of European economic convergence at both nominal and especially real. This process of catching assumed that, in 2007-2013, Romania will have high economic growth rates, but keeping it stable macroeconomic equilibrium. Development of competitive economic advantages must be a constant process that takes into account the European tendencies but also the whole process of globalization. Romania’s future is that of a dynamic, competitive and innovative operating in the economic, social and political European Union and the global economy. Increasing integration into global economic flows is a dynamic process, both for Romania and for the global economy, which in turn in a process of continuous change.

As a member state of the European Union, Romania has received support to promote economic growth and social cohesion. National Development Plan represented a strategic planning document to guide and stimulate socio-economic development of Romania in accordance with EU development policies. The overall objective of the NDP, which aimed to reduce socio-economic disparities towards the EU was supported by three specific objectives:

- Increasing the long term competitiveness of the Romanian economy;
- Develop the basic infrastructure to European standards;
- Improved and more efficient use of local human capital.

In reaching the overall and specific objectives for 2007-2013, measures and actions envisaged were grouped in six national development priorities:
Development of competitive economic advantages must be a constant process that takes into account European trends, but also by globalization in general. Therefore, the increase of competitiveness must not be regarded as a process of exploiting the advantages on a short term (such as the reduced cost of the labor force) but as a process of creating an economic structure based on capital investments and research-development – innovation processes. In other words, the outlining of a medium and long term convergence perspective must have in view the development of an economy based on knowledge. Although great progress has been made lately, Romania has serious discrepancies regarding competitiveness in relation to the states of the West and Central Europe. The reasons of this lagging behind can be found at the level of all the elements that determine the competitive capacity. All can be translated finally in a decreased productivity which defines the competitiveness matter in Romania.

The most problematic factors for doing business in Romania are as follows: 15.5 percent consider tax rates to be an issue. In addition, 13 percent mentioned the inefficient government bureaucracy, while 11.9 percent blamed policy instability for hampering the businesses. Access to financing is a problem for 10.8 percent of respondents, while corruption is regarded as problematic by 9.7 percent of respondents. The least problematic factors are crime and theft, and poor public health, each with 0.5 percent.

With respect to the detailed structure of the Global Competitiveness Index, Romania is an underachiever in the transparency of government policymaking (ranked 140 out of 142 countries), quality of overall infrastructure ranked 139, the extent and effect of taxation ranked 135. Other pillars where Romania reports negative results are the cooperation in labor-employer relations ranked 137, the brain drain process ranked 131, while the availability of latest technologies was ranked 115.

On the positive side, Romania is ranked 4 in trade tariffs and 15 in redundancy costs. Other top 50 rankings are achieved for broadband internet and mobile subscriptions, the quality of math and science educations and the tertiary education enrollment rate. Romania is ranked 34 for the number of procedures to start a business and 40 for the number of days to start a business.

For governments, thinking about the competitiveness of nations and states has focused on the overall economy, with national-level policy as the dominant influence. The importance of clusters suggests new roles for government at the federal, state, and local levels. In the global economy, sound macroeconomic policies are necessary but not sufficient. Government’s more decisive and inevitable influences are at the microeconomic level. Among them, removing obstacles to the growth and upgrading of existing and emerging clusters takes on a priority. Clusters are a driving force in increasing exports and are magnets for attracting foreign investment. Clusters also represent an important forum in which new types of dialogue can and must take place among companies, government agencies, and institutions such as schools, universities, and public utilities [9].

2 THE EVOLUTION OF COMPETITIVENESS CLUSTERS – FROM THEORIES TO REALITY IN ROMANIA

Clusters affect competition in three broadways that both reflect and amplify the parts of the diamond:
(a) increasing the current (static) productivity of constituent firms or industries;
(b) increasing the capacity of cluster participants for innovation and productivity growth, and
(c) stimulating new business formation that supports innovation and expands the cluster [9].

Three successful systems may be regarded as reference points: the French centralized system, the German complex system combining support flexible schemes at the central and regional level, and the Swedish one which represents the successful application of the “triple helix” theoretical pattern: “industry-research-authorities”.

The Romanian realities require an adjustment of the pattern. A fourth actor is needed “the catalytic organization” - consultants, technological transfer centers, chambers of commerce destined to bring to the” same table" the other three partners who do not cooperate naturally. The “Four Clover” pattern is already successfully applied in Romania in the field of some clusters / potential competitiveness poles such as “Dacia-Renault” in the automotive field or “Pro Wood” in the wood field.
Therefore, the “cluster” term mainly indicates the industrial agglomerations and emphasizes the concentration of some enterprises in the same field or related fields with economic effects as they have been identified by Marshall: (over the labor force, the specialization of suppliers and as regards the technological transfer and innovation). They can have a “triple helix” complete structure or not.

“The competitiveness cluster/poles” is an association of enterprises, research – development and professional training organizations acting in partnerships in order to implement a mutual development strategy. This strategy is built around some innovatory projects whose final aim is the approach of one or more markets. Therefore we deem the pole to have the triple helix complete structure (authorities-R&D-industry) or four clover (+ catalytic institution).

Michael Porter’s economic theory was the starting point in the implementation of the cluster and regional competitiveness pole concept, namely, “a cluster” is an economic concentration of enterprises, small and medium sized enterprises especially, on a given geographical area, interconnected with the own nuclei (centers) of research, professional training centers, specialized suppliers, in a certain field, that are in competition with one another but in cooperation relations also and a competitive pole is a regional innovative cluster with national and international vocation or a cluster network.

The economic reality in Romania required the presence of catalytic institutions (entities specialized in the innovation and technological transfer, consulting firms, chambers of commerce etc.) within the pattern called “the Four Clover”. The clusters and the competitiveness poles in Romania have no legal personality; they are established based on a protocol of cooperation signed and sealed by all the members but the management association of the joint structure has legal personality.

A number of studies have attempted to identify potential clusters in Romania. The first study on the economic agglomerations competitive cluster in Romania was most likely coordinated by the International Center for Entrepreneurial Studies (CISA), in Bucharest, in 1998. Study methodology was based on Porter’s competitiveness diamond theory and used a panel of businesses of all sizes (small, but large companies) and focused on data from the eight development regions in Romania. The study has identified three types of "early" cluster in the production of software, in the shipping industry and wood industry.

A second important reference to research clusters in Romania is the study (Ferrari, 1999) published in 1999 by Marco Riccardo Ferrari, assistant researcher at the Department of Economics of Bocconi University in Milan. It focuses particularly on small enterprises and in the data analysis based on regional and county level. The study identifies three so-called "proto-districts", but this time, the wood industry, textiles and ceramics industry.

The third relevant research in the clusters is the study by Valentin Ionescu (Ionescu, 1999), who argue the existence of "proto-clusters" or "emerging cluster" and reads his view by explaining different levels of development and knowledge of industrial agglomerations identified. Research finding confirms the presence of two "proto-clusters" in ceramics and software industries. In addition, the review suggests that the ceramic industry has a lower potential to form clusters, although there are clear signs of evolution towards the formation of networked structures [2].

A fourth source of data for clusters in Romania is the VICLI3 project, developed within the European program INTERREG II C - CADSES4. The project started in 1999 and lasted until 2001, and tried to identify and support cluster development through regional exchange of know-how. This report identifies four potential clusters appeared in Harghita County (Central Region) in woodwork, pottery, printing and switchgear industry. The emergence of these sectors is clearly related to the area's natural resources.

The fifth research reference for studying clusters of Romania is INCLUD5 project funded under the Interreg III B CADSES, European Initiative for European Regional Development Fund for 2000-2006. The project, conducted between 2003 and 2004, aimed at an analysis of existing clusters of potential partner countries in Central and Eastern Europe and then assisting these countries in developing such clusters, using the experience and know-how in Italy and Austria. Some potential clusters were identified as textiles (North-East, in particular, Bacau County and West Region, particularly Timis), software (Timis, Cluj and Bucharest), wood, steel and metal components (Region center). Furthermore, Brasov seems to gather crowds cluster of companies in the chemical industry, metal products, the general purpose machines and engines. Local clusters could be located in areas such as leather and footwear industry, electrical equipment industry and machinery and equipment industry, TV, radio and communications.

Another reference for research in Romania is WEID8 Project (The location of industrial districts, funded by the European Commission 5th Framework Programme - FP5). Weide project case studies investigating the relationship between clusters at European level. Of the 15 case studies, two were
related to Romania, researching potential existence of clusters in two areas: Banat-Crisana and Arad-Timisoara, in the sports equipment industry, respectively, in the shoe industry.

In 2011 from the 55 clusters identified in the peer workshops, only 27 passed the criteria of actual cooperation and availability/usage of innovation services. In the eight regions we have recognised between two and four clusters. Leading region is Bucharest/Illfov with four recognised clusters. According with fig. 1 clusters share the fields is as following: tourism 9%; textiles 5,4%, Bio 9%, Construction 3,6%, Automotive 9%, ICT 10,9%, Wider Agrofood 14,5% and others 38,1%.

**Fig.1 Cluster Fields**

![Clusters share the fields](image)

The already identified clusters cannot be considered successful since they operate under some protocols and manage the knowledge or exploit certain resources jointly. The training of cluster’s members is a problem because if the collaboration with universities is realized in some cases, in others they tried to cooperate with training centers but without significant results. In Table 1 I have compiled a list of clusters / poles of competitiveness according to their activity fields and location, clusters that are identified and that work on agreements between partners, based on the data provided by the Ministry of Economy, Trade and Business Environment.

**Table 1 The clusters / competitiveness poles situation in Romania**

<table>
<thead>
<tr>
<th>NO.</th>
<th>CLUSTER/COMPETITIVENESS POLE</th>
<th>FIELD OF ACTIVITIES</th>
<th>CITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>AUTOMOTIVEST -Regional Cluster-</td>
<td>Automotive</td>
<td>Timisoara</td>
</tr>
<tr>
<td>2.</td>
<td>ICT -Regional Cluster-</td>
<td>ICT</td>
<td>Timisoara</td>
</tr>
<tr>
<td>3.</td>
<td>DACIA RENAULT Competitiveness Pole</td>
<td>Automotive</td>
<td>Pitesti</td>
</tr>
<tr>
<td>4.</td>
<td>PRO WOOD -Regional Cluster-</td>
<td>Forestry and Wood Industry</td>
<td>Sfantu Gheorghe</td>
</tr>
<tr>
<td>5.</td>
<td>GREEN ENERGY -Cluster-</td>
<td>Renewable energies</td>
<td>Sfantu Gheorghe</td>
</tr>
<tr>
<td>6.</td>
<td>TURISM CLUSTER</td>
<td>Sustainable and innovative tourism</td>
<td>Drobeta turnu Severin</td>
</tr>
<tr>
<td>7.</td>
<td>ELECTROPRECIA -Cluster-</td>
<td>Automotive Mecatronics Electro-technical</td>
<td>Sacele-Brasov</td>
</tr>
<tr>
<td>8.</td>
<td>ASTRICO -Cluster-</td>
<td>Textiles</td>
<td>Savinesti</td>
</tr>
<tr>
<td>9.</td>
<td>FURNITURE -Cluster-</td>
<td>Furniture</td>
<td>Targu Mures</td>
</tr>
<tr>
<td>10.</td>
<td>AGRO FOOD -Regional Cluster-</td>
<td>Agrofood</td>
<td>Arad</td>
</tr>
<tr>
<td>11.</td>
<td>TRANSYLVANIA AEROSPACE -Cluster-</td>
<td>Aviation</td>
<td>Brasov</td>
</tr>
</tbody>
</table>
Currently, the Ministry of Economy, Trade and Business Environment, Management Authority (MA) for Sectoral Operational Programme 'Increase of Economic Competitiveness (MA SOPIEC) has started implementing the project "Support to the MA in formulating and implementing the operation of competitiveness clusters ", supported the consortium of consulting firms Archidata (Italy), CIFESAL (Spain), Bergmann Consult (Romania) and CEED (Romania). Project implementation period is approx. 9 months.

The overall objective is to assist in the development and implementation of operation "Development of business support structures of national and international levels" - "competitiveness clusters" (national visibility and / or international) and main directions:

1. Support Management Authority to develop, launch and implementation of Operation "competitiveness clusters", by developing the necessary documentation for launch aid scheme and other projects to achieve optimal competitiveness clusters, 2. Support to the MA (through training, consultations, recommendations) to a consistent and constructive approach, present and future action.

The specific objectives are generated: 1. Creating the framework for development aid scheme by analyzing the current situation in terms of competitiveness clusters in Romania; 2. Development and implementation of state aid scheme, the Applicant's Guide for operation "competitiveness clusters" in Romania; 3. Support MA staff to address successfully the action, in present and future.

If we are to identify the limits for which the clustering is a difficult process in Romania, we could say that: lack of trust between partners, lack of a material or financial support that would generate the formation of clusters but also the lack of successful companies that could coalesce around them other entities that might form a cluster are the main reasons for which these mergers/economic concentrations have not been properly developed in the Romanian economy.

<table>
<thead>
<tr>
<th>No.</th>
<th>Cluster Name</th>
<th>Sector</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>CARPATHIAN TOURISM CLUSTER</td>
<td>Tourism</td>
<td>Sarata Monteuro - Buzau</td>
</tr>
<tr>
<td>13.</td>
<td>ELINCLUS - Innovative cluster</td>
<td>Electronics</td>
<td>Bucharest</td>
</tr>
<tr>
<td>14.</td>
<td>REN ERG - Cluster</td>
<td>Renewable energies</td>
<td>Alba Iulia</td>
</tr>
<tr>
<td>15.</td>
<td>ICT - Competitiveness Pole</td>
<td>ICT</td>
<td>Craiova</td>
</tr>
<tr>
<td>16.</td>
<td>ROMANIAN WATER - Cluster</td>
<td>Water energy</td>
<td>Cluj Napoca</td>
</tr>
<tr>
<td>17.</td>
<td>CLUSTER TRADITIONS MANUFACTURE FUTURE TMV SUD EST - Cluster</td>
<td>Textiles</td>
<td>Focsani</td>
</tr>
<tr>
<td>18.</td>
<td>REGIOFA - Cluster</td>
<td>Wood Processing, Furniture</td>
<td>Odorheiu Secuiesc</td>
</tr>
<tr>
<td>19.</td>
<td>ROMANIAN TEXTILE CONCEPT - Cluster</td>
<td>Textile Clothing, Footwear</td>
<td>Bucharest</td>
</tr>
<tr>
<td>20.</td>
<td>GEOTHERMAL - Cluster</td>
<td>Renewable energies, services in tourism</td>
<td>Oradea</td>
</tr>
<tr>
<td>21.</td>
<td>CLUSTER MARITIM - Cluster</td>
<td>Maritime, fluvial</td>
<td>Constanta</td>
</tr>
<tr>
<td>22.</td>
<td>ROSENC - Cluster</td>
<td>Green energies</td>
<td>Timisoara</td>
</tr>
<tr>
<td>23.</td>
<td>AGRO FOOD - Regional cluster</td>
<td>Agrofood</td>
<td>Sfantu Gheorghe</td>
</tr>
<tr>
<td>24.</td>
<td>IND-AGRO-POL - Competitiveness Pole</td>
<td>Agrofood</td>
<td>Bucharest</td>
</tr>
<tr>
<td>25.</td>
<td>TURISM - Regional cluster</td>
<td>Tourism</td>
<td>Suceava</td>
</tr>
<tr>
<td>26.</td>
<td>ROMANIAN AEROSPACE - Cluster</td>
<td>Aerospace</td>
<td>Bucharest</td>
</tr>
<tr>
<td>27.</td>
<td>CREATIVE INDUSTRIES - Competitiveness Pole</td>
<td>Creative Industries</td>
<td>Iasi</td>
</tr>
</tbody>
</table>
CONCLUSION

- The increase of the economic competitiveness depends both on the performed economic activities and their placing from territorial point of view, on the distribution and space relations in which they are with the resources, the related labor force, the relevant endowments and services and the commodity market;
- The economic competitiveness is determined by: the involvement of the urban centers in the creative and innovative turning into account of the national potential that should create an hierarchical system of development areas/poles by concentrating a combination of competitive products and services or with chances to become competitive.
- Clusters represent a new unit of competitive analysis along the firm, industry and economy;
- “Competitiveness clusters” is an association of businesses, organizations and training of research and, acting in partnership to implement a common development strategy. This strategy is built around innovative projects aimed at addressing one or more end markets. Therefore consider competitiveness clusters have full triple helix structure (authorities R & D industry) or four clover (+ institution catalyst).
- The Romanian realities require an adjustment of the “triple helix” theoretical pattern: industry-research-authorities”. A fourth actor is needed “the catalytic organization”- consultants, technological transfer centers, chambers of commerce destined to bring to the same table the other three partners which do not cooperate naturally. The “Four Clover” pattern is already successfully applied in Romania in the field of some clusters.

Acknowledgment

This paper is financially supported through the project “Post-doctoral studies in economics: continuous training programme for elite researchers–SPODE, grant contract POSDRU/89/1.5/S/61755, financed by European Social Fund through the Human Resources Development Operational Sectorial Programme 2007-2013.

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Abstract
The increase of competitiveness must not be regarded as a process of exploiting the advantages on a short term but as a process of creating an economic structure based on capital investments and research-development –innovation processes. In the last period, clustering has emerged as a new concept for economic development. Many european countries are officially basing their economic development strategies on cluster theories. A much larger number of countries and regions are inspired by cluster theories and use elements of it to foster growth. Competitiveness of a nation can be seen as country's ability to achieve long-term growth in a such a way that its economic structure to adapt efficiently to global economic developments. The importance of clusters suggests new roles for government at the federal, state, and local levels. In the global economy, sound macroeconomic policies are necessary but not sufficient. Government’s more decisive and inevitable influences are at the microeconomic level. Among them, removing obstacles to the growth and upgrading of existing and emerging clusters takes on a priority. The governments in transition economies can play an important role in active facilitation of cluster development processes and supporting entrepreneurial initiatives. The challenge today for the governments is not to create more clusters but rather to create better and more sustainable ones or to create competitiveness clusters/competitiveness poles. The paper proposes to present a brief image about Romanian competitiveness in globalization context, the evolution and benefits of stimulating clusters/competitiveness clusters for increasing economic growth.

Key words
Competitiveness clusters, competitiveness, competitive advantage, clusters

JEL Classification
O16, M21