

Constantin BORDEI

Doctoral School of Economics and Business Administration
„Al.I.Cuza” University, Iasi

WHY SHOULD THE WHOLE BUSINESS ENVIRONMENT AND BUSINESS RELATED ORGANIZATIONS CHOOSE AND SUPPORT THE DEVELOPING CLUSTERING PROCESS?

Theoretical
article

Keywords

Cluster,
Competitiveness,
Cooperation,

JEL Classification

O11, O14, O15, O31, O35

Abstract

This paper represents a brief though concentrated review on the common aspects that are pursued when dealing and talking about the concept of cluster, also displaying some motivating reasons for the companies, institutions and all related entities to choose and support the clustering process. The clusters represent geographical concentrations of companies that are interrelated, which have developed connections with other organizations, such as professional agencies, governmental agencies, research and development institutions and educational institutions. Possessing their feature of competences concentration poles, they nowadays represent key players on the international economic and competitiveness stage, promoting a series of objectives such as the development of industries, environmental technologies, the reduction of production costs and the most important, the enhancement of the cooperation between the business environment, universities, research and development institutions and governmental institutions.

Introduction

The study of clusters has represented the base of the industrial policies that have been adopted by many countries. Clusters are now seen as an important policy-making mean, which can be used to stimulate innovation and to support the competitive advantage of companies, and, as a result, to enhance the growth of regional and national competitiveness growth on international markets, the economic literature emphasizing the positive link between clusters and productivity and the companies' efficiency, claiming that geographical concentration and the cooperation process between companies promotes the efficiency and productivity.

At the beginning of the 1990's, policy makers have admitted and supported the existence of clusters and claimed that they do not only represent a simple business agglomeration, but also an innovating platform. "Innovation is strongly geographically concentrated, much more than high prosperity or productivity. Clusters - regional specialized companies' concentrations and institutions related through multiple links - offer a favorable environment to innovation. They reduce the barriers which stand in front of developing new business ideas and gaining from the advantages of globalization (Center for Strategy and Competitiveness, 2008). Despite this recognition, clusters still are a part of the industrial, the competition or the innovation policy and do not represent the subject of special policies.

Trying to shape a certain definition has proven to be unsuccessful, and, in the middle of the 2000's, the concept of "cluster" was used to consider "a localized industrial configuration, such as a local or regional concentration of industrial enterprises, as well as the supporting infrastructure, which are strongly related through commercial and non-commercial interdependences" (Bathelt, 2005). Another perspective on this concept comes from the ones accusing the use of case studies that cannot be generalized and the "soft", hard to quantify features, the lack of accuracy in the definitions (Martin, Sunley, 2003), the weak explanation of the key-features, the unclear use of etiquettes and the confusing use of the previously elaborated concepts (Malmberg, Power, 2006). The cluster model has been built up by accumulating lays of interventions which have been generated through interpretation, reinterpretation, suppositions and extrapolation of certain styled facts, supported by a weak empiricism".

According to the Community Framework for State Aid for Research and Development and for Innovation (2014), clusters represent groups of independent companies (innovative start-ups, SME-s) and research organizations, which operate in a certain field and in a certain region, in order to stimulate innovative activities, by promoting intensive interactions, the access to common facilities, the experience and knowledge exchange

and through the contribution to the transfer of technology, networking and information dissemination.

The concept of „cluster” describes the geographical concentrations of companies, educational and research institutions, together with local or regional leading institutions, leading to the attraction of professional providers, thus being free to choose the work force and facilitate the access to knowledge and information. Thus, companies and regions can gain benefits by enhancing the local and innovative potential and by encouraging the entrepreneurship, thus promoting the growth of productivity, salaries and of the number of work. Clusters are characterized by a flexible organizing, where each member has many activities and a clearly defined role, according to the strategy of the cluster and the market requirements.

Clusters have been regarded as a mean of promoting and supporting competitiveness, innovation, local, regional and national growth. In most of the cases, the initiative to develop a cluster influences the strategy of companies, determines the growth of their competitiveness due to the delivered added value, and the authorities are oriented towards the reshaping of public policies and towards the analysis of the regional economy through a new perspective. Another definition which brings in front the competition-cooperation duality presents the cluster as a geographical concentration of interrelated companies, specialized providers, companies in related fields, or supporting organizations in certain fields, which compete and cooperate with each other at the same time..

One of the most important features that is given to clusters in the literature is innovation. The research and development facilities play a fundamental role in the innovation processes which finally determine the competitiveness of one economy. Practice has demonstrated the fact that innovation within several companies in a certain field leads, through competition, to the growth of productivity of the whole field (Bojar, Frejtag-Mika, 2006).

Researchers claim that the more and more enhanced global integration determines the growth of local and regional specialization, as the low transportation costs and the reduction of trade barriers allow the companies to associate with other similar companies to gain advantage from the local scale economies (Fujita, Krugman, Venables, 2000; Brackman, Garretsen, van Marrewijk, 2001), which further determine the growth of local innovation and productivity (Martin, Sunley, 1998). For these reasons, at the academic level the notion of "global economy localization" has emerged and the one of global mosaic of regional economies. Moreover, defining the post-Ford economies as "economies that teach", considering the innovation an included interactive, social and territorial learning process (Lundvall, Johnson, 1994), emphasizes the importance of localized industrial agglomerations,

thus providing the most suitable context which is to promote innovative, knowledge intensive companies.

The general thinking on clusters shows that they are essential to the economy and development. They create competitive advantages for their members, they influence the structural changes, revive the industrial sectors and provide the framework that is needed for research, innovation and regional development. Clusters, through external effects, also influence other sectors of the local and regional economy, thus causing the growth of their international competitiveness advantage. Even the cluster-like structures are regarded as stimuli of regional development, capable of significantly contributing to the growth of exports and the attraction of a significant volume of foreign investments. Cooperation within the cluster structures can produce a large variety of synergy effects, giving the participants the chance to gain even more significant benefits. Cooperation within clusters is significantly advantageous for small and medium enterprises; they can put together their innovative capabilities, they can create alliances and can apply for external funds in a more efficient manner.

Although there is not a single accepted definition in the literature, one that all authors have agreed upon, most of the debated definitions of the cluster regard several common aspects. Many countries have developed vast regional development policies based on clusters. The management of clusters and cluster initiative is years old within the existing institutions, within the auto-governing organisms or within the specially created institution in order to provide management to this kind of projects. A recognition of clusters as a modern mean of policy making, which can be exploited to stimulate and accelerate regional development, has significant ramifications on the regional landscape. Moreover, the cluster concept and the observation of clustering processes has proved to be very useful in order to explain the unequal spatial distribution of economic activities and to clear the reasons why certain regions develop in a faster manner than others. Thus, we can explain the interdependence and the complex competition and cooperation relations between the actors in the large concentration areas of economic activities.

1. Common aspects of the clusters

Researches made until nowadays on the clusters have revealed the fact that the emergence and evolution of the clusters can be a long-term process, which can last for several decades, many clusters thus evolving only under the natural incentives of the market, without any external intervention. On another side, there are clusters that have developed faster, as a result of the well determined action of some regional leaders, which have understood the possible valuable growth potential for their region,

and have placed the significance on the clusters, thus acting in consequence.

Above all these circumstances, conditions, incentives, decisions etc., there is a series of common features that are relevant for the clusters and which are mainly used in order to describe them:

- The dimension – the dimension is a significant parameter of the cluster, which has been influenced by numerous factors, such as the age of the cluster, the type of the market on which it operates, the goals of the involved entrepreneurship, the specific of the business environment, etc. Although the dimension provides some suggestions regarding the cluster's potential and force, when we are talking about a large cluster, this attracts specialized work force, providers, investments and institutions which all contribute to the growth of the productivity of the companies in the cluster, and we cannot say that the size is the main determinant of the economic success of the cluster. There are global clusters which include only a low number of producing companies, and, in spite of this fact, they still play a significant role on the global market. For example, there are ham-specialized clusters in Italy that control a significant part of the global ham export, in spite of the low number of the companies in them and, at the same time, there are significant clusters in the cotton clothing industry in India which include a very large number of companies.
- The geographical delimitation – this feature also represents an extremely variable that describes the clusters, that is different from a cluster to another. The British cluster of financial services is only located in several buildings in the capital of the United Kingdom, and the advertising companies' cluster in New York is located on one single boulevard. Another example is represented by the city of Basel in Switzerland, which gathers the main medicine producers in the country, and the most significant volume of the wool manufacturing producers in Italy are concentrated in just two locations. It is interesting to notice and research the fact that, the region which is occupied by a cluster can also include areas in different countries, passing over state political and geographical limits: thus, Medicon Vallen is located in the Oresund Euro-region, which includes the southern part of Sweden and the Danish Island of Zeeland.
- The companies within and the relations between them – this feature is another factor that is relevant for the description of clusters and it also represents another field that proves the diversity of situations that can exist in the field of clusters, making it different from one cluster to another. Some clusters can be dominated by smaller companies that mutually outsource different types of activities. In other cases, outsourcing systems can be developed around one or more contractor/s, which is or are more relevant. In some cases, one or more multinational companies are present within the

structure of one cluster or even industrial conglomerates, thus having different size providers that are also part of the same cluster. In other cases, the cluster is dominated by small and medium enterprises that are specialized on niches and small segments of the market. In spite of the fact that competitive relations stand at the basis of similar companies, there is also a parallel phenomenon between them, represented by the development of a series of cooperating relations in fields that ensure everybody with a surplus of competitiveness. This takes shape in the development of consortiums, supply chains or companies' networks, which in fact include fundamental informational flows designed to create and increase the mutual trust and develop a better general coordination. The trust relationships represent the basis of a larger association capacity between the companies in one cluster, and the informational exchange and the close relations that are developed between organizations allow increased mime phenomena and copying processes of the innovation elements.

- The business relations developed outside the cluster – depending on the maturity level, it is possible that one of the companies in the cluster to depend on external companies from the perspective of the raw materials' provision, the internal commerce or the export procedures of the final products. It is also possible that the companies within one cluster to make use of external sub-contractors or to invest in activities outside the cluster, including in abroad activities or factors that might be beneficial to the cluster.

- The competitiveness of the clusters – according to some previous researches, the competitive activities of one economy are not distributed in a uniform manner within the respective economy. In general, they are vertically related (relations made between buyers and providers,), or horizontally (the use of the same technology, channels, common clients), and, not in little cases, these activities also tend to concentrate in the same regions, giving birth to clusters. Thus, clusters represent a series of competitive activities' concentrations, as their systemic feature makes a competitive activity support the development of another competitive activity, within a process of mutual support. Some of the clusters are regional or national leaders, and others are even worldwide leaders of the markets they activate on. In larger countries, the number of clusters is also larger, and, within the developed economies, clusters are usually competitive too.

- The technology and the innovational processes – As previously revealed by the literature, the simultaneous collaboration and competitive relations that are related to the relations between the companies within the same cluster, clusters also contribute in a highly significant manner to the development of optimal conditions designed for the innovation and the maintenance of the high interest regarding self-development and innovation.

Clusters are competitive concentrations of companies also due to the fact that the innovation represents a permanent concern, seen as essential for the member companies. They can be both new-technology generators and users of the technologies that have been developed by other companies.

2. Practical benefits of clustering

Clusters ensure the companies with numerous benefits they wouldn't have obtained if they had activated in isolation. These are the direct result of the advantages gained by strongly activating in relation with companies and institutions that provide complementary goods and services or other specialized services. Significant benefits also originate in the collaboration between similar companies, as it allows lower costs and the access to ideas, information, technologies, good practices etc.

The economic theory explains the benefits caused by clusters starting from the scale and concentration economies, localization economies, technological transfer, networking effects, human capital and informational availability. Though, basically, as the companies concentrate in one region, positive externalities appear, leading to the increase of the productivity and lower costs, reflected in a higher degree of competitiveness.

By considering the above mentioned elements, we become able to enumerate a series of the positive effects and benefits of clustering, as follows:

- The effects on the companies' competitiveness; clusters provide companies with an economic environment leading to the increase of the productivity due to the following elements:

- a better access to work force resources and input providers, which give the companies the ability to reduce the transaction costs, to lower their raw material stock, the materials, the components and to take out the possible delays caused by the foreign providers.

- the access to specialized information, available at a local level: technical, marketing and trading, organizational and management information represent an intangible source of benefits;

- the access to public institutions and goods, which in fact represents the access to specialized services and infrastructure such as: top research, professional training programs, testing laboratories, quality control centers;

- complementarities that emerge from the beneficial effects of the clusters on other fields; the spatial proximity can lead to the development of complementary products, and the products of one company can thus influence in a higher manner the activities of other companies.

- The effects on the innovational activity – As a result of an easier access to a wide range of information, knowledge, market analysis and contacts, clusters generate an environment that eases the innovational process, at least through:

- the optimization of the companies' abilities to reach the innovational opportunities by easing the contact between customers and through the establishment of some long term relationships with them;

- the development of the ability of being in permanent contact with numerous providing companies and institutions, thus providing the companies the ability to procure the needed goods and services as fast as possible;

- the creation of a competitive environment that supports the companies to use innovation against the competitive pressure and against the comparisons that are permanently made between the companies within a cluster;

- the ease of experimenting at lower costs – compared to the situation of one isolated company that would make experiments; as a result of the collaboration between companies and of the availability of some local resources, the cluster provides more valuable conditions;

• The effects on the transaction costs

The costs that are too high can burden the companies' growth, especially of the ones that aim at becoming worldwide companies. These costs are different from the production costs, including the expenditures with the searching for trading partners and primary markets, the negotiation and the development of the agreement projects, the efficacy of doing business, the permanent pursue of the objectives regarding the innovation and research and development, the costs that are associated to the maintenance of the long term business relations, the costs caused by the efforts of being up to date with the technological changes and the changes within the business environment. Companies that activate within a cluster can reduce these costs by creating specialized consortiums, through informational changes and the participation in informational networks, by accessing specialized services provided by governmental agencies and by establishing some working relations with technical high-schools and universities.

Conclusions

Clusters represent geographical concentrations of enterprises, universities and research institutions and local or regional authorities, and, as a result, they can attract specialized providers, thus having the freedom to select the best employees and easily reach knowledge and information. Clusters have been regarded as a mean of promoting and supporting competitiveness, innovation, local, regional and national growth. In most of the cases, the initiative to develop a cluster influences the strategy of companies, determines the growth of their competitiveness due to the delivered added value, and the authorities are oriented towards the reshaping of public policies and towards the analysis of the regional economy through a new perspective.

The general thinking on clusters shows that they are essential to the economy and development. They create competitive advantages for their members, they influence the structural changes, revive the industrial sectors and provide the framework that is needed for research, innovation and regional development.

We should all be aware of the fact that the affiliation to clusters and inter-companies networks can be reflected in the increase regarding the productivity, creativity and competitive performance within the member companies, which represents an incentive for the economic growth, competitiveness and the development of the whole economy.

Positive effects of clustering can also be seen in the development of an stimulating environment for the development of new companies, either through their creation by former employees of the companies in the cluster, wanting to start an autonomous activity, either through the emergence of new activities or functions, derived from the ones that are daily practiced by the already existing companies in order to become the activity object of spin-offs, which are usually strongly innovative.

Moreover, the affiliation to a cluster can significantly ease the overpassing of economic decrease periods, as clusters are more adaptable to the changes and face these periods in a better manner than individual companies from the external economic environment.

There is already a high number of active and efficient clusters that have gained world-wide recognition and which provide both a tempting example to follow and valuable lessons for the companies, organizations, institutions or other entities that decide to develop or be a part of a cluster.

Reference list

- [1] Bathelt, H., (2005) Geographies of Production: Growth Regimes in Spatial Perspective 2 - Knowledge Creation and Growth in Clusters. In: Progress in Human Geography (Vol. 29) pp. 204-216
- [2] Bojar, E., Frejtag-Mika, E., (2006), Klastry jako narzędzia lokalnego i regionalnego rozwoju gospodarczego, Politechnika Lubelska, Lublin, (2006).
- [3] Brackman, S., Garretsen, H., van Marrewijk, C., (2001), An introduction to geographical economics: Trade, location and growth
- [4] Center for Strategy and Competitiveness, (2008) Community Framework for State Aid for Research and Development and for Innovation (2014)
- [5] Fujita, Krugman, Venables, (2000) , The spatial economy: Cities, regions, and international trade, MIT Press, 2000
- [6] Lundvall, B.-A., Johnson, B., (1994), "The learning economy", Journal of Industry Studies, Vol. 1, No. 2, December 1994, pp. 23-42.