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# THE ROLE OF CLUSTERS IN THE DEVELOPMENT OF SMALL ENTREPRENEURS IN ROMANIA AND THE REPUBLIC OF MOLDOVA

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***Abstract:*** *The establishment of clusters in the Republic of Moldova (RM) is in its early stages. Concepts of cluster development emerged in Moldova's industrial sector and identified the basic elements and management tools for cluster organisations, and the evaluation of their effectiveness. Clusters are geographical concentrations of institutions and interconnected companies in a particular field. Clusters include a group of related industries and other important competition entities that cooperate formally or informally by implementing joint projects for local, regional or state benefits. The success of Romanian clusters might offer the possibility of know-how transfer to the Republic of Moldova with mutual regional benefits.*

***Key words:*** *regional clusters, association of clusters, transfer of know-how.*

## 1. Introduction

The association of manufacturing enterprises, suppliers and state and private institutions that operate in a certain sector (thus creating cluster-type networks) improves the technological performance and productivity by contributing to the competitiveness of the companies, extending the market and increasing their visibility. Studies show that 70% of the clusters worldwide have a strong or very strong competitive position on the market, out of which 60% are characterised by high levels of innovation. The clusters contribute to the development of the economic potential of various areas, the creation of new job opportunities, new products and new enterprises. The aim of the cluster is to develop the creative industry and to increase the competitiveness between the companies, with a view to generating added value for entrepreneurs.

Clusters are geographical concentrations of interconnected institutions and companies belonging to a certain field. Clusters include a group of closely-related industries and

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other entities that are important from a competitive point of view and that cooperate in a formal or informal manner, by implementing common projects for local, regional or state benefits.

The concept of "*cluster*" has a long history and various names, including: "pole of competitiveness", "industrial district", "and industrial agglomeration" (Tanțău, 2011, p. 4). From a more simplistic point of view, the cluster is based on the description of the supplier-customer relationships and the value chain. Most companies purchase "inputs" (raw materials, services, components) from other suppliers and incorporate them into their own products, which they sell to customers. The operation of the companies within an "industrial agglomeration" provides a competitive advantage due to the dense network of close suppliers and customers.

As far as the phrase "value chain" is concerned, derives from the conception of Marshall (apud Ministry of Economy - Romania, 2009, p. 6) who stated that a geographical concentration of a certain industrial sector determines the specialisation of the suppliers in that particular field. For example, in Northern Italy, there are clusters of small companies that specialise in various stages of the production process and that have created coordination relationships with one another. Marshall's well-known theory, "Marshall's third", is based on the observations made on the situation of the "industrial districts" in England, according to which there are 3 reasons why companies located in the same geographic area should form clusters in order to become more efficient: the pool of manpower, the specialisation of the suppliers and the transfer of knowledge.

Marshall noted that an "industrial agglomeration" of similar companies attracts, develops and benefits from a "pool of manpower" with a common set of qualifications. Moreover, the financial safety of the employees is much higher, as there are more potential employers that require their set of skills in the same geographic area. According to Marshall, "industrial agglomerations" create a good market for the suppliers and the proper conditions for them to improve and specialise their offer, which creates a productive advantage for their customers.

In 1990, Porter, who popularised the term "cluster", defined it as a group of associated companies and institutions (universities, research institutions, laboratories, local authorities etc.) from a specific field that are in close proximity from a geographic point of view and that are interconnected by means of common and complementary preoccupations, with a view to increasing (apud Ministry of Economy - Romania, 2009, p. 6). Another definition that brings forth the competition-cooperation duality, describes the cluster as "a geographical concentration of enterprises that are interconnected by specialised suppliers, enterprises belonging to closely-related fields or "support-type" organisations belonging to certain fields that compete with one other, but at the same time cooperate with one other" (Tanțău, 2011, p. 7).

Currently, there is a wide-range of clusters worldwide. They can differ depending on their specialisation in a certain stage of the value chain, their geographic localisation, the customer needs that they meet or the market segments that they serve. Clusters can be represented by SME (Small and Medium sized Enterprises) networks and they can be organised around large enterprises or even around universities.

In the European Union, clusters are considered the "engine" of economic development and innovation, as they represent a proper setting for business development and collaboration between companies, universities, research institutions, suppliers, clients and competitors located in the same geographic area (local, regional, national and transnational). The decisive point in redefining the policy of the European Union to ensure competitiveness among the companies of the EU member states on the global markets is represented by the revision of the Lisbon Strategy in 2005, when a new objective was set for the EU member states to allocate 3% of their GDP for research and development. It is absolutely necessary to allocate said public funds; however, that is not enough as long as the amount of private investments in this field is not put up for discussion.

Following the revision of the Lisbon Strategy, the European Union launched a set of initiatives for the 2007-2013 period that target research and innovation, global competitiveness among universities and research institutions, the development of entrepreneurial skills and the transfer of knowledge about products and services. The majority of the EU member states have drawn-up various programs and policies to escape the crisis, considering the CDI field to be a priority; therefore, hey have tried to avoid cutting down financing in this field and have drawn-up coherent economic, financial and fiscal policies for that purpose. The economic literature distinguishes between various types of clusters that are dependent on company agglomerations. The first classification of such agglomerations was made in 1996 by Markusen (apud Stamer & Harmes, 2005, p. 9) who identified the following types of clusters:

- The Marshallian cluster – agglomerations of small and medium-sized enterprises, with strong bonds that are dependent on the synergies generated by the cluster;
- The hub-and-spoke cluster – an alliance between a large company and multiple small companies that provide support services, whereas the large company is in charge of setting the cooperation conditions;
- The satellite platform cluster – the members of this alliance are subsidiaries of large and medium-sized enterprises and they have minimum cooperation with one another;
- The state-anchored cluster – an agglomeration of state companies that have commercial relationships strictly with specialised suppliers, as they are dependent on the financing of the public services.

Most of the definitions focus mainly on the companies on which the clusters and the interactions thereof are based (Stamer & Harmes, 2005, p. 8). In an age of globalisation and economic competition as the defining trait of the globalisation phenomenon, the concept of "cluster", as defined by Michael Porter, seems to be a paradox as long as the clusters are described as geographical concentrations of interconnected institutions and companies. The phrase "geographical concentration" appears to clash with the new rules dictated by the globalisation phenomenon in what concerns the current economic competitiveness. According to these new rules of globalisation, the opening offered by the global markets, the fast and easy transport and the effective and high-speed communication offer, hypothetically, the possibility for companies worldwide to access global resources and markets at any time. Nevertheless, this theory is contradicted by

real life, which shows that globalisation has favoured large international concerns to the detriment of local companies that struggle to cope with competition through their own efforts.

The experience of the last 20 years shows that a large number of small and medium-sized enterprises have managed to face the challenges of globalisation by adhering to cluster-type groups with a similar profile that are concentrated in a certain geographic area. In his article "Clusters and the New Economics of Competition", Porter (1998) concludes that the cluster effect can be observed in three ways:

- Increase of productivity in the companies that specialise in the same field in a well determined area;
- Channelling and directing the research and innovation development activities in a specific field;
- Stimulation of the development of new businesses in the cluster's area of activity and influence.

Institutional, geographical and cultural proximity offers cluster companies palpable advantages, such as the access to information and resources, the interaction with the other members of the cluster and outside the cluster, commercial advantages, but most importantly, it puts the company on the external market as a group member. To sum up, belonging to a cluster makes a company stronger, as underlined by an African proverb that William Ury (2009, p. 64), expert negotiator, often uses in his lectures: "When spider webs unite, they can tie up a lion". In a world led by the rules of globalisation, competitive advantages are given by the power of the local "spider webs", i.e. those clusters that can assert themselves if they manage to combine the know-how, information, resources, interrelation, cooperation and motivation in a manner that competition, regardless of its whereabouts, cannot replicate.

Porter continues his theory on the benefits of clusters and in his article "Clusters, Convergence and Economic Performance" (Delgado, Porter, & Stern, 2012, p. 12) he brings irrefutable proof that the industries that participate in strong clusters register growth in their employment rate, profit and range of new products. The study indicates that the said industries have benefited from a powerful development within the clustered environment. The authors have concluded that the presence of strong clusters in a well-defined area increases the development opportunities of the industries and other clusters and that the regional economic performance is closely linked to the power of the agglomerations that include sustainable clusters.

The greatest advantage of the clusters is the fact that their members can benefit from this cooperation environment without being formally subordinated and without giving up the flexibility that is absolutely required to adapt to a constantly changing market. Furthermore, we also want to emphasize other advantages that the companies that are part of a cluster have. Firstly, in the European Union, including Romania and the Republic of Moldova, the main problem, besides financing the development of some businesses, is the assurance of human resource. In this regard, in a cluster, companies can use the existing human resource in the cluster, specialized and experienced, without harming the human resource policy of any of the members. Moreover, as the cluster gains notoriety by proving real economic performance, it will attract skilled labour from

the external environment. Secondly, the same thing happens with the suppliers of raw materials and services, taking into account that the critical mass of the cluster is clearly higher than any of the members, from the perspective of suppliers of raw materials and services.

Another advantage of being part of a cluster, is that the members can handle much more easily the challenges of the respective sector, the company's adaptability being sustained by a group in a market that is constantly changing. In addition, clusters in the European Union benefit from the financial exercise 2014-2020, and it is foreseeable that in the financial exercise 2020-2027 they will also benefit from European grants made available by the European Commission through dedicated programs.

## 2. Clusters in the Republic of Moldova

The SME sector represents the nucleus of contemporary economy. It contributes both to the development of the local economy and to maintaining fair competition on the market. SMEs are an essential source of entrepreneurial skills, innovation and creation of new job opportunities. By associating or concentrating their activities, with a view to ensuring the value chain, SMEs can consolidate their capacities by forming clusters.

An annual analysis of the status of the SME sector enables us to determine the degree of development thereof, the most demanded fields of entrepreneurial activity and their contribution to the state economy. According to the records of the National Office of Statistics, in the last 3 years, the Republic of Moldova has registered an increase in the SME sector, with a weight of 98.6%, thus approaching the weight of SMEs within the European Union area, i.e. 99.8% (European Commission, 2017, p. 6).

Even though SMEs in the Republic of Moldova have a significant share the sales income for the last 2 years have barely exceeded the quota of 41.5%, whereas in the EU area, the quota has been of 56.8%. By analysing the fields of activity of SMEs, we find that commercial, professional, scientific and technical activities and the manufacturing industry are the most demanded fields of activity of SMEs. In the last 3 years, no significant changes have occurred in the field of activity. Thus, trade remains the most sought after type of activity, with a hare around 39% of the total SME sector. Basically, every 4$^{th}$ company in the SME sector operates in trade. This is due to the entrepreneurs' desire to generate quick profit at low costs. A reason for this can be the lack of knowledge or skills to manufacture or provide certain types of products or services.

The capital of the Republic of Moldova has always been the main attraction for both local and foreign entrepreneurs. This is mainly due to the infrastructure and the larger number of potential customers, i.e. the density of SMEs for 1,000 citizens is five or six times greater in Chisinau City (41.9 enterprises for 1,000 citizens) than in other geographic areas of the country. In 2017, there was an increase in the density of SMEs of approximately 2 enterprises for 1,000 citizens in the South and in the Autonomous Territorial Unit of Gagauzia, whereas in the centre and Northern parts there have been no significant changes.

From all of the above, we can conclude that there's a need for essential changes in the SME sector with a view to increasing the volume of sales, increasing the quality of

finished products, introducing competitive products on the market and concentrating manpower in order to put a stop to the exodus. For purpose, the formation of clusters in certain areas would be beneficial, as it would contribute to the acceleration of the economic processes that are based on innovation and it would support the development of priority branches of the national economy, which have the potential to generate high added value, such as: the electronics industry, the equipment industry, the textile and innovation industry. Furthermore, it would attract foreign investments and it would stimulate technological exchange, the emergence of new entrepreneurial activities and the access to new markets.

In order to create a corporation-type cluster, you need precaution and the gradual performance of several actions. To begin with, one could organise telephone interviews with and provide printed questionnaires to the local and regional development officers and/or the regional offices of the Trade Register Office. The aim would be to obtain an overview of the types of geographical concentrations of potential clusters and to make sure that the respective areas are actively involved. Companies have several choices in the areas that offer them the best business environment for their specific needs. Thus, the more globalised the market, the more resources shall be attracted particularly the human and financial ones, to the more attractive regions, which underlines the role of clusters and regional specialisation.

The direct investment flow in the last few years has been concentrated on regions with qualified manpower, capital, experience, business traditions, specialised suppliers, financial institutions and competitive research institutions and adequate infrastructure. Because of the fast development of clusters, a paradox occurs in practice, i.e. the long-term competitive advantages of the global economy have become more and more linked to local aspects (knowledge, relationships, bonds, and motivation), which are not available to competitors that are geographically dispersed.

Although the cluster phenomenon occurs spontaneously, as a reaction to the market demand and better use of company interconnections, its evolution is strongly influenced by the policies promoted by the governments.

Between September and October 2018, 2 clusters were created in the southern and northern part of the Republic of Moldova. They are located in Cahul and Soroca and they give companies in the creative and textile industry the possibility to associate in order to develop common projects. The formation of clusters in key industries with high growth potential – the textile and creative industries in Soroca and Cahul – shall give a new boost to the development of small and medium sized eenterprises in these areas. The association models applied in the Cahul and Soroca clusters could be replicated in other industries and shall serve as an example for any new initiatives.

Based on all of the above, we can conclude that, as far as our country is concerned the creation of clusters can assure a sustainable economic development and the concentration of activities in certain fields or processes that provide a finite cycle of production within SMEs. The creation and development of clusters in the Republic of Moldova and the concentration thereof in various regions is beneficial both for the companies and for the national economy as a whole.

## 3. Clusters in Romania

In Romania, the cluster phenomenon has been initially observed in the western part of the country, which was mainly due to the Italian investors present in that region. In the article" The Role and Importance of Clusters in the Context of the Knowledge Economy" (Dină, 2012, p. 7) states that "in this area (Timis and Arad counties), the preponderance of Italian investments has generated the emergence of clusters based on the model of "industrial districts" (the Italian model of the cluster). Basically, the internationalisation of the Italian companies was also accompanied by the relocation of the clusters in Italy. In Romania, those clusters found a system of well-defined relationships that enabled the transfer of knowledge within the network."

In February 2010, the Ministry of the Economy, Trade and Business Environment in Romania and GTZ – Germany, with the support of Zenit – Germany and Inno Consult – Romania published a report, according to which 55 potential clusters from various economic sectors were identified. However, after applying the assessment criteria (concentration, number of research and development units, manpower, cooperation and third party suppliers of services), only 22 regional clusters met all of the criteria (Guth & Cosnita, 2010, p. 25).

The main branches of the economy that were represented were: agriculture and the food industry, tourism and the automotive industry. The report recommends a three-way approach to the development of clusters in Romania, i.e. the selection of some national clusters, the selection of the clusters that are representative at regional level and the initiation of some support programs for the creation of new clusters. Moreover, it recommends that the state policy and the policy on financial support measures should include the allocation of funds to provide financial support for cluster management, the training of management teams, PR activities and internationalisation activities. The authors particularly recommend that the Romanian clusters should submit applications for non-refundable financing from the European Commission for research, training and infrastructure investment activities. In April 2011, the Management Authority of the Sectoral Operational Programme "Increase of the Economic Competitiveness" made a new mapping of the clusters in Romania and identified 35 clusters in various stages of development.

Ever since 2010, the phenomenon of clustering has evolved in Romania and nowadays we can cite several examples of Romanian clusters. According to the European Secretariat for Cluster Analysis (2019), currently there are two Romanian clusters that have received the ESCA Gold Label of Cluster Management Excellence": Cluster Mobilier Transilvan and Itech Transilvania Cluster.

The "Silver Label of Cluster Management Excellence" has been received by 11 Romanian clusters: *Agro Transilvania Cluster, Cluj IT, Cluster Mobilier Transilvan, ELINCLUS – Electronic Innovation Cluster, Green Energy - Romanian Innovative Biomass Cluster, IND-AGRO-POL, iTech Transilvania Cluster, PROWOOD Regional Cluster, Romanian Textile Concept, RosenC - The Romanian Sustainable Energy Cluster and TREC Transylvanian Energy Cluster.*

The "Bronze Label of Cluster Management Excellence" has been received by 58 Romanian clusters: *AgroFood Regional Cluster, AGROPRO Oltenia Cluster, AgroTransilvania Cluster, Alt Brasov - Cluster for Innovation and Technology, ASTRICO NORD-EST Textile Cluster, Automotivest, Banat Software, BioDanubius, CLEMS – Cluster Ecoinovativ pentru un Mediu Sustenabil, Cluj IT, Cluster APP- Advertising, Printing and Packacking, Cluster Banat, Cluster International AGROFOOD, Cluster Metal Manufacturing Transilvania (PrelMet Transilvania), Cluster Mobilier Transilvan, Construct Cluster Oltenia, Control & IT Cluster, Creative Transsylvania, Danube Cyber Security Alliance – DACSA, Danube Engineering Hub, DOROTHY - Urban Logistics Cluster, ELINCLUS - Electronic Innovation Cluster, ETREC - Electro-Technical Regional Cluster, Euronest ICT Cluster, GREEN ENERGY - Romanian Innovative Biomass Cluster, Health in South West Oltenia Region, Health Romania, Health Tourism in The South West Oltenia Region, Holzbox, ICT Oltenia Cluster, IMAGO-MOL, IND-AGRO-POL Competitiveness Pole, IND AGRO VEST, INOMAR, IT Plus Cluster, iTechSylvania Cluster, Magurele High Tech Cluster/ELI – NP Cluster Inovativ, Magurele KET Cluster – Clara, MECHATREC - Regional Innovation Cluster for Mechatronics Bucharest – Ilfov, Oltenia Tourism competitiveness Pole, Open Hub Creative Cluster, PrelMet Transilvania, Pro Wood, ROHealth, Romanian New Materials Cluster, Romanian River Transport, Romanian Textile Concept, ROSENC - Romanian Sustainable Energy, Cluster Smart Alliance, Smurd Galati, South West Oltenia Automotive Competitiveness Pole, Sprint Acarom, Start Inovare, TMV - ASOCIATIA TRADITII MANUFACTURA VIITOR, Transylvania Lands Cluster, Transylvania Textile & Fashion and TREC - Transylvania Energy Cluster.*

What is remarkable is the diversification of the economic branches that are currently represented by Romanian clusters: IT, agriculture, the food industry, the textile industry, wood processing, energy, electronics, mechatronics, nanotechnology, medicine, tourism, the automotive industry etc. This dynamics of Romanian clusters can be supported in the near future mainly due to the interest that the European Commission shows in this field and to the UE's financing instruments from structural funds.

In Romania, one efficient instrument for the promotion of cluster development policies was the establishment of a specialized associative structure. Thus, the setting-up of the Romanian Clusters' Association on the 1st of July 2011 was an important step in the evolution of the clustering phenomenon in Romania. The Association was founded by 15 founding clusters (Romania Clusters Association, no year). The purpose of the association is Romania's economic promotion, revival and development through the creation, development and cooperation among the regional, national and international clusters.

The activity of the Romanian Clusters' Association runs on 3 levels:

- The level of the association, involving activities of representation and lobby, support for the generation of clusters and for their internationalisation;
- The level of the institution that ensures the management of the cluster, involving activities of training and consulting;
- The level of the members, especially SMEs, involving activities of support for the internationalisation of the clusters through participation in international fairs and

exhibitions, economic missions; consultancy for the accessing of public funds for the development of SMEs and management consultancy.

Moreover, according to the Association, it is mandatory for a cluster to contain:

- An economic pillar: (industry and services), a significant number of enterprises in the domain in which the cluster operates. In addition, the cluster may include organizations representing enterprise groups;
- An educational pillar: research-development: universities, research institutes, ( or any other institutions that carry out research and development activities);
- The pillar of public authority: at national level (Ministries), regionally (ADR's, county councils), local (local councils, city councils) In this regard, it is considered very useful to complement the classic model with catalyst organizations: technology transfer and innovation entities, chambers of commerce or consulting firms.

At the end of 2016, the Romanian Clusters' Association had already promoted 70 initiatives at the decision-making level of the Ministry of Economy, thus becoming the main national promoter of the development of clusters in Romania. Nowadays, it has 42 members, respectively some of the most active clusters in Romania.

**4. Conclusions:**

The Romanian experience has revealed the fact that a large part of the small and medium-sized enterprises have managed to cope with the challenges of globalization by adhering to groups with a similar profile that were concentrated in certain geographic areas and had a "cluster"-like organization. The institutional, geographic and cultural proximity offers the member organizations of the cluster some palpable advantages in terms of access to information and resources, networking with the members of the cluster and the external environment, some commercial advantages and, most importantly, the positioning of the company as a member of the group on the foreign market. The proximity of the companies in a cluster, the sectorial cooperation, especially vertically, contribute to the development of a climate of trust and power in the relation with third competitors, finally leading to increased chances of penetration of the global markets.

The presence of powerful clusters in a defined region increases the development opportunities of the industries and of other clusters. At the same time, the regional economic performance tightly correlates with the power of the agglomerations in which viable clusters emerge.

Bearing in mind the stage of evolution of the clusters in the Republic of Moldova, on the one hand, and the experience of the Romanian clusters, on the other hand, I believe it is necessary to use the Romanian experience and to transfer know-how from Romania to the Republic of Moldova in this field. Taking into account the fact that the Romanian Clusters' Association has had 70 legislative initiatives in this field, it might be useful to establish a similar structure in the Republic of Moldova that would benefit from the expertise of the Romanian association in the attempt to improve the specific Moldavian law towards supporting and developing clusters in the Republic of Moldova.

To conclude, we believe it is not uninteresting to initiate a study of the opportunity and possibility to support some regional clusters that would comprise some geographic areas in Romania and Moldova following the example of the cross-border cooperation projects and using shared marketing policies and common infrastructures in the specific fields for the purpose of increasing the competitiveness of the companies from both countries on the international markets.

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