Attitude of Companies: Network Collaboration vs. Competition

Dacinia Crina Petrescu*, Rozalia Veronica Rus, Adina Letiția Negrușa

Abstract

In the actual knowledge-base economy, new key driven factors for businesses have appeared – innovation, know-how and customer orientation. These factors are important for all industries and generate new forms of cooperation networks, focused on competitiveness increase. The main objective of this research was to create a condensed profile of the companies interested in joining a network and sharing good practices on innovation. We started our paper with an analysis on the benefits of clusters and networks for companies. In order to identify particularities of the SMEs involved in network activities, we focused on a case study on a life sciences network from Cluj-Napoca. We pointed out their characteristics such as: stage of development, level of cooperation with other firms, their interest in developing cooperation, especially for enhance international markets, their expectations and benefits from this type of cooperation and their attitudes regarding sharing information and best practices on innovations. Firms are increasingly focused on available key competencies and try to implement new knowledge generated by other actors in their industry. A tendency of specialization of the companies in certain activities and a high potential of vertical integration application within a network or industrial cluster are more and more visible. The conclusions focus on the reinforcement of the idea that in order to obtain knowledge, know-how firms increasingly rely on collaboration relationships within the network, which currently represents the most important channel for experience transmission and exchange.

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1. Networks and clusters as sources of benefits for companies

Networks of firms are specific types of structure, created for active collaboration, which can be open-ended or focused on a specific project task. Networks are those linked organizations (e.g., firms, universities, government agencies) that create, acquire, and integrate diverse knowledge and skills required to innovate complex
technologies (e.g., aircraft, telecommunications equipment) (Rycroft, R., 2003). Cluster is a specific type of network that is concentrated in a geographical area. Clusters and networks share some common features, but also have distinctive ones:

- Conceptually, both are located between uncoordinated and organic structure and the linkage among members is beyond the price mechanism of the market.
- They are both platforms for collaboration.
- Firms within networks and clusters are linked by something more than the price mechanism of the market.
- Network and cluster members are not branches of a larger company, since they continue to be independent.
- Clusters are concentrated in a specific area. Unlike clusters, networks do not need to be concentrated in a specific area; a group of companies that cooperate in a region may decide to set up closer links with other groups in more distant areas.
- Clusters have broader objectives: to raise competitiveness, to create collective visions; networks have narrower objectives: to share common business or project goals.
- Clusters generate demand for more companies with related capabilities; networks can help companies engage in complex production.
- Networks allow access to specialized services at lower costs. Clusters attract specialized services to a region.
- Networks have restricted membership. Clusters have open “membership”. Business networks, especially those of a more formal nature, are the result of agreements among participant firms. These agreements to cooperate may be informal, or they may be specified formally through contracts and rules. Consequently, membership of a network can be restrictive, whereas membership of a cluster is open.
- Networks are based on contractual agreements. Clusters are outcomes of market dynamics.
- Networks can help firms engage in complex production. Clusters generate demand for more firms with related capabilities.
- Networks are based on cooperation. Clusters require competition.
- Networks have common business goals. Clusters may have collective visions, including public interest.
- Clusters and networks are different yet linked phenomena. They are tools to promote poverty reduction and development of competitive industries (European Union, 2012), (OECD, 2004).

The most valuable and complex technologies are increasingly innovated by networks that self-organize. Clusters and networks are seen as catalysts for accelerating industrial transformation and for developing new regional competitive advantages, speeding up the creation of firms and jobs and thereby contributing to growth and prosperity (European Union, 2012). Various factors can drive companies to form an innovation network: social capital, complementary knowledge stocks, and knowledge dynamics (Baum, J. A. C., Cowan, R., Jonard, N., 2010). At the same time, research results show the potential of open innovation for SMEs, and indicate networking can be an effective way to facilitate open innovation among SMEs (Leea, S., Parkb, G., Yoonc, B., Park, J., 2010).

Firms engaged in clustering usually have advantages such as: increased business productivity, more rapid innovation and knowledge transfer, better adaptation to market challenges. Networks have the power to promote economic development, in particular where SMEs are numerous and the benefits they bring are: the outcomes of collaboration may be applicable to all partners’ market, and thus may expand individual firm’s customer base; costs and risks (for major innovations) are shared; the ability to deal with complexity is improved; possibilities of learning (about new technologies, methods of creating future technologies, organizational aspects etc.) are enhanced; the internalization of positive externalities through R&D collaboration results in increased R&D efficiency and an increase of overall R&D expenditure; networks offer flexibility to hierarchies (but not in contrast to markets); efficiency of knowledge transfer is higher, because collaboration provides a mechanism to transfer whereby this kind of transfer is based on trust between the partners; speed is higher and allows firms to
take advantage of opportunities that might exist just for a short time and might require a fast response (Forfas, 2003).

2. SMEGoNET: a network of companies in Life Sciences

The study case refers to a network of companies and research institutes which was created in Cluj County, NW of Romania, between 2011-2013, within SME Go Global Networks (SMEGoNET) – a sub-project funded by the mini-program SMART+, which, at its turn, is funded by the INTERREG IVC and the European Regional Development Fund (ERDF). The goal of SMEGONET project was to increase the capacity of clusters as professional and focused network initiatives, as well as of its members to gain value from collaboration within global network (SMEs Go Global Network Brochure). The main objective of the Romanian partner was to create a life science companies network within the Cluj County area. The main factor that added value to this project was a partnership with 3 other geographical areas:

- Malopolska Region, Poland, represented by the Jagiellonian Center of Innovation Ltd Krakow, subproject’s lead partner region;
- Aragon Region, Spain, represented by the Aragonese Cluster of Biotechnology - Bioaratec Zaragoza
- West Macedonia Region, Greece, represented by the University of Western Macedonia Kozani.

This partnership ensured the experience exchange, information and knowledge transfer, and ability to collaborate in achieving the project’s objectives. The potential of the life science field provided by the Cluj County was the starting point for the formation of this network. Additionally, the cluster models of Polish partner – LifeScience Cluster Krakow – and of Spanish partner – Bioaratec – were taken into account. The LifeScience Cluster Krakow is a network of institutions from Krakow and Malopolska Region, which collaborate in order to support entrepreneurship and innovation in the field of life sciences and biotechnology. From 2006 till now the network managed to gather 71 members, divided in the following categories: enterprises (SMEs and large enterprises which represent 65% of total), universities, research institutes, healthcare institutions (clinics, hospitals, foundations, etc.), business support organizations and government and public administration units. The network is coordinated by LifeScience Krakow Klaster Foundation and is operating from Lifescience Park in Krakow. The LifeScience Cluster Krakow and Bioaratec are both part of another life science network named The Global Innovation Network (GIN), which was founded in 2009 by partners from Krakow and Aragon with the main scope to help its members to develop and compete globally.

Results of empirical research have confirmed that companies that develop collaborative relationships or are involved in networks are more innovative compared to those who do not show this interest (OECD, 2001), (OECD, 2004). Based on the above mentioned idea, the network formed in Cluj County within SMEGoNET project focused on the small and medium enterprises and research institutes in the life science field and this lead to the creation of another project objective: to identify and promote the most innovative ideas and best practices in the life science field (Negrușa, A. L., Bota, M., Petrescu, D. C., Toader, V., 2013). The creation of the network was governed by several principles (Negrușa, A. L., Bota, M., Petrescu, D. C., Toader, V., 2013):

- existing forms of cooperation among firms is a prerequisite for clusters initiatives;
- innovation must be present;
- ideas and concepts of innovation and implementation of new technologies become more and more a results external to business, due to the current intensification of globalization and competition;
- small companies depend on a much higher degree on external sources of information regarding the development of innovation capacity than the bigger ones.
In time span 2011 – 2012, the network gathered 29 active members (companies and research institutes) from the following sectors: pharmacy, biotechnology, medical devices, cosmetology, healthcare and research – technology transfer.

The result of a research conducted in the first stage of SMEGoNET sub-project (focused on identification of SMEs which may benefit from technological transfer in Cluj County) is presented hereinafter.

3. Attitude of companies towards network membership and sharing good practices on innovation. Study case on Cluj life sciences network

The objective of the research was to create a condensed profile of the companies interested in joining a network and sharing good practices on innovation, with the purpose to use it to promote the benefits of network, to raise interest in networks, to identify SMEs, which may benefit from technological transfer in Cluj County.

In the first phase of our study we identified companies active in life science sector from Cluj and gathered information related to their activity. According to the data available on clusterobservatory.eu in Romanian life science sector there were, in 2010, 1087 enterprises: 78 in biotech, 806 in medical devices, and 203 in pharmaceuticals (Center for Strategy and Competitiveness). From Cluj County we selected 104 companies and research institutes which activate in life science and related fields and we questioned them about the attractiveness of the network membership and of sharing good practices on innovation. Of these, 25 companies answered positively, which represents 24% of the sample. The reasons why the interest is low may be:

- companies are not aware of the functions and benefits a network can provide them;
- they perceive the membership as a threat that makes them vulnerable to competitors;
- they don’t like to take the risk to embrace new opportunities;
- they don’t have time or other resources to get involved;
- they are hindered by organizational rigidity etc.

The companies that showed interest in networks were questioned about their opinions about networks and promotion of innovation. The results are presented hereinafter. Most of the respondents became members of SMEGoNET network, and also of the GIN network.

Most of the interviewed units are very small, having 10 or less employees (Fig. 1a) and a turnover below 500,000 EUR (Fig. 1b). The challenges they face on the market next to the big ones may be a factor that can make them to join a network. Regarding their presence on the market 28% are new on the market (less than 10 years of activity), 44% have between 10 and 15 years of activity, and 20% of the SMEs were founded before 1998.

![Fig. 1. (a) Companies’ distribution according to the number of employees in 2010; (b) Companies’ turnover in 2010](image-url)
The companies are almost evenly distributed in among three types of market: local and regional, national and international as seen in Fig. 2 (a). Extension of activity at international level brings new challenges for the company, which can benefit from the support offered by collaboration within a network, by sharing good practices and learning from them. Thus, intention to activate on the international market may stimulate companies to join a network. Most of the interviewed companies plan to start or continue to activate in the future at international level (Fig. 2 b).

![Fig. 2. (a) Companies distribution according to the market type; (b) Interest in international extension](image)

Innovation sustains progress and helps companies to achieve a better place on the market, so development of innovation and interest in it raise chances of the company to survive, grow and have a positive contribution in society. According to OECD and Eurostat taxonomy innovation can be seen from four perspectives: product innovation, process innovation, organizational innovation, and marketing innovation. Next we will present the definitions for each category of innovation (OECD and Eurostat, 2005):

- **Product innovation** represents the introduction of a new product or service or a significantly improved product or service with respect to its capabilities.
- **Process innovation** refers to the introduction of a new or significantly improved production process, distribution method, or support activity for goods and services. The innovated product or process could either be new to the market or new to the firm.
- **Marketing innovation** represents a new or significantly improved: packaging methods, means of distribution, promotion methods as well as pricing methods.
- **Organisational innovation** represents the implementation of new or significant changes in firm structure or management methods that are intended to improve the firms’ use of knowledge, the quality of goods and services offered or the efficiency of work flows.

All of the interviewed companies innovated in the last three years in one of more areas. The most frequent type of innovation is related to product (or services) followed by processes innovation then by the organizational and marketing (Fig. 3).

![Fig. 3. Types of innovation implemented by the companies](image)
Collaboration is usual among the companies: 92% of them declared that collaborated with other companies for their activity (Fig. 4a). This is a positive aspect, because it means at least two things which can ease the acceptance of network participation:

- companies acknowledge the existence of collaboration in their activity,
- it is more probable to get involved in an action that was done before that in a new one (because people prefer certainty to uncertainty, new things, change).

![Fig. 4 (a) Existence of previous collaboration; (b) Respondents’ opinion on the network capacity to provide benefits to the company](image)

Opinion on the network capacity to provide benefits to the company is the first step towards joining a network with the purpose to share good practices on innovation. Most of the questioned companies believe that participation in a network where members share good practices on innovation will bring benefits to them and only a few thinks that no effect will be generated and none on them rejects (partially or totally) the possibility of obtaining benefits (Fig. 4b).

The interest in finding out information about certain innovation best practices is another incentive towards joining a collaborative network. A best practice is a result of benchmarking, a comparison made between subjects/competitors in order to better manage the business operations of the company. Best practices are defined as processes and/or methods that have been successfully carried out and adjusted, leading to increased productivity and efficiency (Negrușă, A. L., Petrescu, D. C., Gică, O. A., Bota, M., Rus, R. V., 2013).

Best practices on innovation related to products is the most appealing one (for 68% of the companies), followed closely by best practices related to innovation concerning processes (60% of the companies questioned) and organization (56% of the companies questioned).

Sharing best practices, even with competitors on the market, is a very good idea, because other companies can adapt and develop some best practices according to the industry in which they operate. It's a win-win situation, in which each involved part, according to its field and competencies, will adapt the best practice and further improve its competitiveness. Sharing is beneficial especially if companies are interested in developing at international level or if they compete against international organizations (Negrușă, A. L., Petrescu, D. C., Gică, O. A., Bota, M., Rus, R. V., 2013). Promoting a best practice-specific activity is an important tool to ensure increased competitiveness and a source of inspiration in the innovation process of companies. Nevertheless sharing best practices is seen by the companies as a two ways action: to receive and to give. The latter is the most sensitive part because it may bring issues related to disclosure of information, loss of competitive advantages, increase of vulnerability etc.

We tested the openness to share best practices and observed that 96% of the interviewed companies declared they are open to collaborate in a network and to share such information, and only 4% declared that they are not sure about the benefits offered by being part of a network. Such a high percentage is a positive fact, but it has to be accompanied by the real action of joining the network and sharing the best practices on innovation.
4. Conclusions

Almost all large firms are involved in innovation cooperation, while only 11% of EU27 SMEs collaborate with others (European Commission, 2012). The European Commission statistics show that in Belgium, Cyprus, Denmark, Estonia and the UK 1 out 5 SMEs collaborate, whilst in Bulgaria, Latvia, Serbia and Romania (on the last place) less than 1 out of 20 SMEs are involved in innovation cooperation (European Commission, 2012). According to the same source almost 35% of SMEs from European Union (EU27) have innovated by introducing a new product or a new process and nearly 40% have innovated by introducing a new marketing or new organizational innovation. Romanian SMEs are below the EU27 average – less than 20% of SMEs have introduced product and process innovation and less than 30% have introduced marketing or organizational innovations.

Our study case shows that the SMEs’ interest in joining a network is low: only 24% of the questioned units were interested to collaborate with other companies in order to share good practices on innovation. More than a half of the companies, which are interested in networking are small, with maximum 10 employees and a turnover below 500,000 euro. Around one third activate at international level and 80% of the interviewed companies plan to start or continue to work in the future at international level. The units in our study are involved in cooperation: 92% of them declared that collaborated with other companies for their activity. The most frequent types of innovation already implemented are related to products and processes and the good practices on innovation they want to receive information about concern mainly products, processes and organization.

An important advantage of networks is that they enhance the dialogue based on professional information (SMEs Go Global Network Brochure). 96% of the companies in our case study believe that participation in a network where members share good practices on innovation will bring benefits to companies and also are open to share information on innovation good practices with other network members. Also, they are willing to participate in innovative networks organized at international level.

SMEs depend on a much higher degree on external sources of information regarding the development of innovation capacity than the bigger ones. Therefore, they should be interested in forming links with public research institutions, with universities, and other private firms. Also, SMEs have to adopt innovative thinking to all aspects of activity: product development, organization and process management and marketing. Engaging in cluster activities is the good example of organization innovation (SMEs Go Global Network Brochure). When managers decide to become members in a business network or cluster they should take into consideration the following aspects: companies that develop collaborative relationships or are involved in networks are more innovative, the actual transition from project-based organization to more membership-based organization, the relationship with other companies or research institutes to boost collaborative work within the network through joint projects is a strength that can be developed and development of a scientific, and finally, technological culture increase of community awareness on science and innovation.

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References


SMEs Go Global Network Brochure, available at