

Barriers to cooperation in business networks. The case of the wielkopolska region

Pietrzykowski Maciej

▶ **To cite this version:**

Pietrzykowski Maciej. Barriers to cooperation in business networks. The case of the wielkopolska region. 10th International Conference of Territorial Intelligence, ENTI, "Sustainable economics within the new culture of development", Liège, 2011, Belgique, Belgium, Oct 2011, Liège, Belgium. 12 p. halshs-00665121

HAL Id: halshs-00665121
https://shs.hal.science/halshs-00665121

Submitted on 5 Oct 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

BARRIERS TO COOPERATION IN BUSINESS NETWORKS. THE CASE OF THE WIELKOPOLSKA REGION

Maciej Pietrzykowski, PhD.
Poznań University of Economics, Poland
Department of Strategy and Policy of International Competitiveness
maciej.pietrzykowski@ue.poznan.pl

1. Introduction

Knowledge has become one of the most important factors for the competitiveness of the globalized economy and the engine of rapid economic and social growth. Europe spends 0.8% of GDP less than the US and 1.5% less than Japan on R&D. The large European market is still not innovation-friendly enough. In reply the Innovation Union has become one of the seven flagship initiatives of the Europe 2020 strategy[European Commission, 2010].

The Innovation Union plan contains over thirty action points, all with the aim to make Europe into a world-class science performer, remove obstacles to innovation and revolutionize the way the public and private sectors work together. To achieve such cooperation between sectors, an Innovation Partnership between European Institutions, national and regional authorities as well as business is necessary. Building strong and close relationships between institutions of higher education, research institutes and the business community was already outlined in the European Commission Communication issued in 2006 on "Delivering on the modernization agenda for universities: education, research and innovation" [European Commission, 2006].

The overall data shows that Europe lags behind the United States in terms of cluster and other business network strengths [European Commission 2007a]. Business networks are key drivers of innovation and growth, and in this respect policies oriented towards supporting them are an integral part of the Growth and Jobs strategy. To exploit the full potential of existing networks, national and regional instruments of support policy have to be used, but international cooperation is also vital. The Green Paper publication on perspectives for the European Research Area [European Commission 2007b] has underlined the fragmentation of research activities and cooperation in Europe. This was repeated in Innovation Union Competitiveness Report 2011 [European Union, 2011]. According to these documents recommendations, Europe should support emerging research driven clusters and other business networks.

This can be done by a better integration of the science base with private R&D in new and existing networks. In this way Europe can face the challenge of globalization. The competitiveness of the European economy can be significantly increased by close

cooperation, and the interlinking of innovative enterprises as well as market-oriented research institutes.

The initial observations of the European Cluster Observatory show that clusters indeed play a crucial role in economic affairs. It can be assumed that roughly 40% of all European employees work in enterprises that are part of the cluster sector [European Commission, 2007a]. Further observations suggest a positive correlation between the strength of regional portfolios and regional innovation performance. Thus by linking science and business more tightly, innovative performance can be fostered; and through an increase in international cooperation the pace of European progress can be increased. Key drivers in building partnerships in business networks are people equipped with the skills for managing the process of technology and innovation transfer – technology brokers.

These people are responsible for managing business networks (including clusters) including the innovative performance within them. Such kinds of people are recruited mostly from scientific societies, but a business background is also vital.

2. **Business networks -** conceptualisation and operationalisation of the terms used in the research

Research on business networks can be embedded in the *network perspective*. The origins of this date back to the late seventies of the twentieth century when he role of business contacts with their environment, which forman extensive network ofrelationships, began to be noticed and even uncovered.On the basisof this approach allthe so-calledbusiness networks are placed at the centre, which in terms of the model generally only includes companies. An increased interest in the study of the relationships and links between firms occurred in the nineteen-nineties.

Changes in the market necessitated a new approach towards cooperation between enterprises, which is regarded by researchers as characteristic of a network[Håkansson, Snehota1993, p.526]. However,it must be emphasizedthat though the elementsof cooperation arewidelyrecognized, they are not always identical to the formal relation ships between actors resulting from agreements and contracts concluded. A networkalso includes relationshipswithin a specificverticalvalue chain as well ashorizontalrelations, i.e. relations with competitors. It is assumed that network system sin the industrial dimension include companies engaged in the production, distribution and use of goods and services. The primary dimension of interest in network analysis is the relation ship between seller and buyer. Ina broader sense it alsoincludes theconcept ofnetworkrelationshipswith individualssupportingdiagonalbusiness activities;such asgovernment, financial institutions, advertising agencies, etc. [Axelsson, Easton 1992].

In the context of the findings, it can be concluded that business networks may include companies united through vertical and horizontal relationships which are real, associated with the movement of goods and services, but also associated with them usual interaction between these entities; and in addition, these networks also include entities supporting business activities. Rosenfeld notesinhis article[Rosenfeld 1997] that networks are characterized by an exclusive membership and close cooperation between companies, guaranteed by contracts and agreements.In addition, he indicates that networkoperatorshave the same goals.

This view is indeed quite narrow and debatable, but draws attention to the teleological nature of a network. This feature can actually be seen in various forms of business network. However,one of thePolish expertsin the field ofnetworking andcompetitiveness in the region, L. Palmen, defines networking as a specific form of linkage betweeneconomicactorsbased oninterdependencies, cooperation and trust; noting that it does not have to be spatially concentrated

[Palmen 2007]. Exposingthe nature ofcooperativenetworksmaygive the impression thatthe actorsin business networks justcooperate with each otherandcompetewith entitiesoutside the network. This canoccur, but it can also create a situation in whichcooperationis accompanied byrivalry, a characteristic ofclusters, which are also considered as kinds of businessnetwork. The basic differencebetween groups primarily defined as business networksandclusters is the factthatwithinthe firstthere is onlycooperationbetweentheactors, while in a cluster there still existsrivalryamong its participants. One other important remark is that the participants in a clusteroperate ingeographic proximity. Both cases alsodiffer from each other with regard to the level offormalties, which is associatedwith the impact ofparticipation in the network onthestrategies of the firms.

For this research business networks have been considered in the form of clusters and cluster initiatives. The most popular concept of a cluster was developed by Porter (Porter, 1998), according to which a cluster is "a group of companies existing in a geographical neighbourhood along with the institutions which are related to them and deal with a particular activity, connected by similarities and competing with one another". According to Ketels and Memedovic (Ketels and Memedovic, 2008) the definition of clusters is based on three pillars: geography, value creation and business environment. Geography refers to proximity – clusters as groupings of entities are concentrated in one region within a larger nation or in one town.

Creating value means that clusters include different industries, and are networks of supportive and related industries engaged in bringing value to the customers. The functioning of clusters is connected with creating a specific business environment which is developed through cooperation between the business sector, R&D institutions and the public sector. Researchers have been trying to identify the most typical attributes of clusters. The above mentioned Christian Ketels (2004) defined the following attributes of clusters:

-
-
- Proximity: the entities need to be sufficiently close spatially to allow any positive spill overs and the sharing of common resources to occur,
- Linkages: their activities need to share a common goal for them to be able to profit from proximity and interaction,
- Interactions: being close and working on related issues seems not to be enough - some level of interaction is essential,
- Critical mass: a sufficient number of participants present are required for the interaction to have a meaningful impact on companies.

Quite a similar set of attributes was defined by the experts group working on a cluster project for the European Commission. It uses Porter's concept but adding to it a few finer points (European Commission, 2003):

"Clusters are groups of independent companies and associated institutions that are:

- *Collaborating and competing,*
- *Geographically concentrated in one or several regions, even though the cluster may have global extensions,*
- *Specialized in a particular field, linked by common technologies and skills;*
- *Either science-based or traditional,*

Clusters can be either institutionalized (they have a proper cluster manager) or non-institutionalized."

One of the latest phenomena in the economy is, that despite the low transaction costs of data and information, industries still tend to cluster and form industrial agglomerations. The explanations for the cluster phenomena given by Michael Porter in his well-known "diamond of advantage" [Porter M. 1990] are not enough. Henry and Pinch emphasize the role that gaining rapid access to knowledge concerning innovations, as well as techniques and strategies of competitor firms for competitive advantage is crucial [Henry N., Pinch S., 2006]. But even this has not explained why web techniques and distant communication tools are not used. H.D. Evers added some very important remarks and noticed that the conversion from implicit to explicit knowledge is very difficult and still requires experience, face to face contact and learning by doing [Evers H.D. 2008]. The basic condition for fruitful knowledge transfer in networks is unlimited cooperation between the various actors.

3. Methodology of the study

In the period from September to December 2009 field research [1] was conducted on the subject of the potential of regional and local networks in Wielkopolska to develop in the future. In this paper only that part of the results is presented which focuses on barriers to cooperation within the business networks under research. It should be mentioned that according to research by the European Cluster Observatory since the year 2007, three of the biggest fifteen clusters in Poland are located in this region. The clusters are concentrated around food, garments and textiles, and furniture. In the cases of the above mentioned three clusters, they are active and characterized by the attributes mentioned by Ketels. These clusters are economically strong and deliver innovative products onto the market.

3.1. Research population and research sample

The general population of the research consists of networks operating in the Wielkopolska Region. Various forms were taken into account; from institutionalized, formalized ones up to non-institutionalized networks.

They have different legal and organizational forms, specific to Poland. In the first phase of the preparations for the research a list of the entities by population had to be completed. It was prepared on the basis of an in-depth critical analysis of reports on the subject of networking in Wielkopolska, Internet web-sites presenting data about regional and local networks, as well as telephone interviews with representatives of fourteen business environment organizations engaged in fostering the innovativeness of companies. Having the list of entities by population, it was found there were altogether 164 different networks. In the second phase of the research the list was discussed with four regional experts from the Poznan University of Economics, the leading University in the region in the field of clustering, competitiveness and innovativeness. After the discussion twelve networks were selected for the research sample. The experts selected those networks which were perceived as real operating objects, performing real task and activities not just existing as artificial arrangements, such as existing due to EU structural funds. In the research sample there were regional and local networks. There were 10 formalized, institutionalized clusters with dedicated cluster initiatives and operating cluster organizations, one institutionalized network in tourism and one network in the food industry, which can be treated as a cluster but without a cluster organization.

[1] Research was conducted in the framework of renewing a regional strategy of innovation for the Wielkopolska region in 2010, requested by the Marshal Office of the Wielkopolska Region. That part of the research described in this article was carried out under the supervision of dr Barbara Jankowska from the Poznań University of Economics. The author of the paper was a member of the research team.

Table 1. Particulars of the research sample

Local economic networks	Regional economic networks
Boiler-making Cluster	Wielkopolska Telecommunication and Information Cluster
Printing and Advertising Cluster	Wielkopolska Automotive Cluster
North-Wielkopolska Cluster in Tourism	Wielkopolska Network in Food and Agriculture
Wielkopolska Renewable Energy Cluster	
South-Wielkopolska Food Cluster	
Aviation Cluster in Wielkopolska	
Wielkopolska Horses and Carriages	
Wielkopolska Advanced Automation Technique Cluster – ELPROTECH	
Poznan Local Tourist Organisation	

Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp.35.

The division in local and regional networks depends on the geographical scope of the network. In the region of Wielkopolska there are four sub-regions plus the city of Poznan. The business networks investigated covered almost the whole of the Wielkopolska Region excluding the following districts[2]: the city of Konin, as well as the districts of Konin, Koło, Słupca and Turek. In 8 out of the 12, R&D institutions were active participants; only in 3 were local government units involved.

3.2. **Research method**

For this research two methods of collecting data were used. Firstly, a questionnaire was used which was sent to either the formal or non-formal coordinators of the networks. The questionnaire consisted of various sections: the screening part, the research-specific part, the demographic part, and the archive part. The second method was a direct in-depth interview. For assessment the respondents opinions were rated on a binary scale (1 - the quality exists, and 0 - the quality does not exist), and in some cases a five-point ordinal scale was used (Greek et. al., 1988, p. 305-308), where 1 meant – "definitely not important"; 2 – "rather not important"; 3 – "difficult to say"; 4 – "rather important"; 5 - "definitely important". The style and meaning of the scale were conformed appropriately to the style and meaning of particular questions so that the respondents did not feel inconvenienced while responding to questions and marking values on the scale.

This is why the researchers used a questionnaire too. However, the questions were asked in order to give the respondents the possibility of commenting on any problems and explain some matters in a more natural, unrestricted way. The data gathered through the use of the questionnaire and sent to the coordinators were used to diagnose the situation in the networks regarding the subject of barriers towards cooperation in the business networks, among other things. The results of the in-depth interviews enabled the drawing of certain conclusions and crucial recommendations for regional authorities to encourage cooperation and diminish existing barriers within the networks for the benefit of the whole region. A SWOT analysis was the main tool used to describe problems that have occurred in recent years and problems that need to be overcome to ensure effective and fruitful cooperation within the networks that contribute to innovative performance and knowledge transfer.

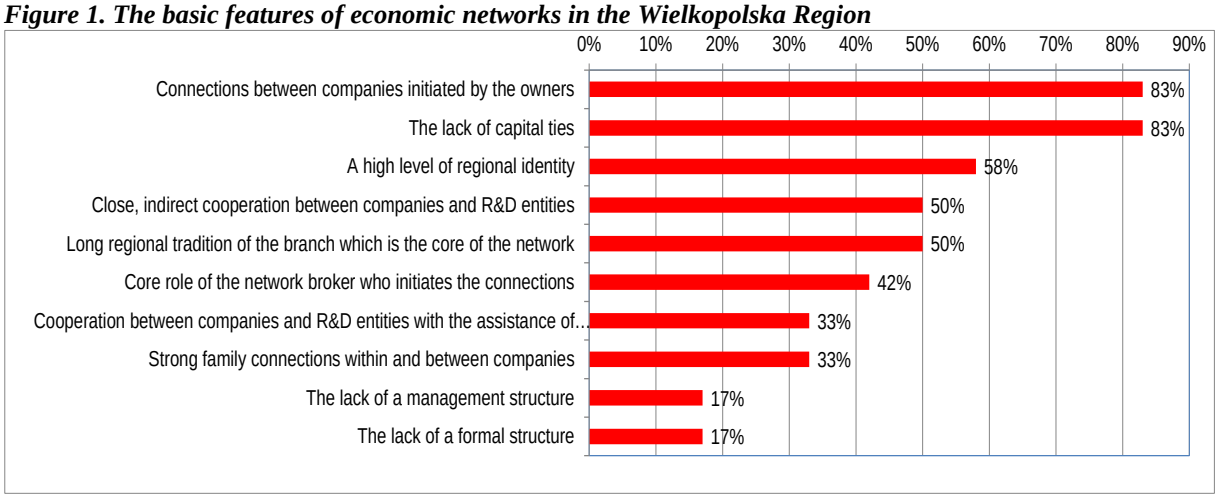
4. **Results of the research**

4.1. **Cooperation in business networks**

As first it is important to indicate what are the basic features of business networks in the Wielkopolska region. We can notice from an analysis of Figure 1 that the basic connections between companies within networks were initiated by their owners. There is also a lack of capital ties and a high level of regional identity.

[2] Powiat" in the Polish nomenclature of territorial division.

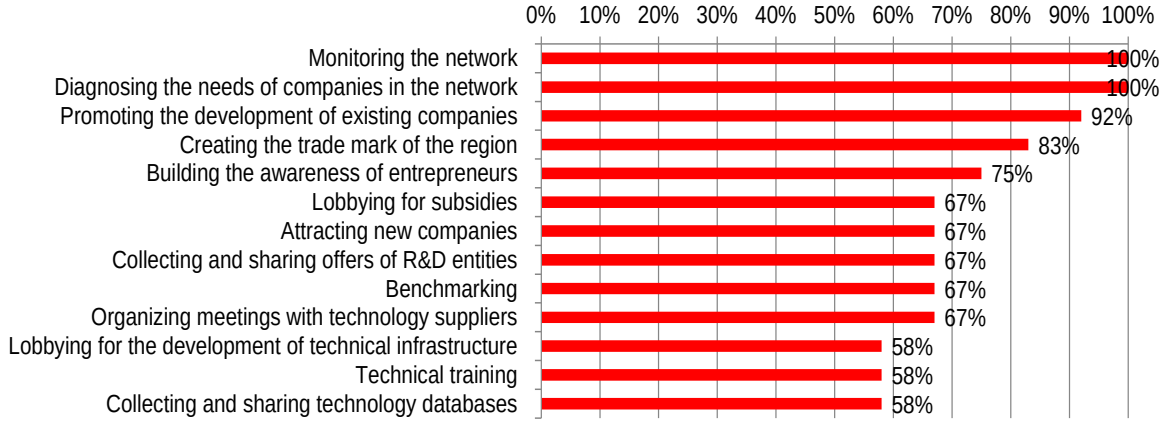
Figure 1. The basic features of economic networks in the Wielkopolska Region



Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp. 41

An important developmental factorfor the networks investigated were thecoordinators, who through their activitiesinfluenced theintensity, quality and innovativeorientation ofinteractionwithin the network(Figure2).For each of thenetworks studied, the coordinators made effortsaimed atmonitoring theperformance of the networkand diagnosingthe needs ofthe network enterprises. An equallyimportant figurein business networksshouldbe technology brokers,who combineskills inbusiness and law, toensurethe development ofinnovative performance within the network, as well as oversee patent protection and the process of commercialising research. Unfortunately, in the Wielkopolska region, technology brokers arerareand are notpart ofthe institutional business network environment.

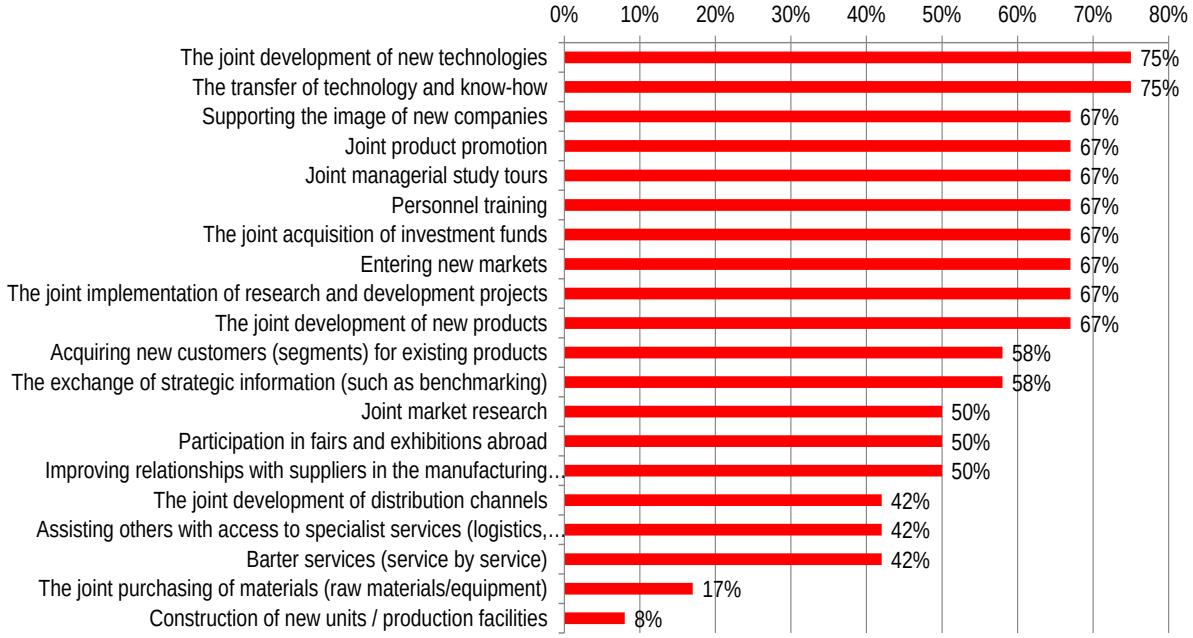
Figure 2. Activities of the network animator



Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp. 42

One of the most important features is what forms of cooperation are performed in networks. According to the research results (Figure 3), the most important form of cooperation is the creation of new technologies. Very rare are joint purchasing and the construction of new business facilities.

Figure 3. Types of networking in the Wielkopolska region

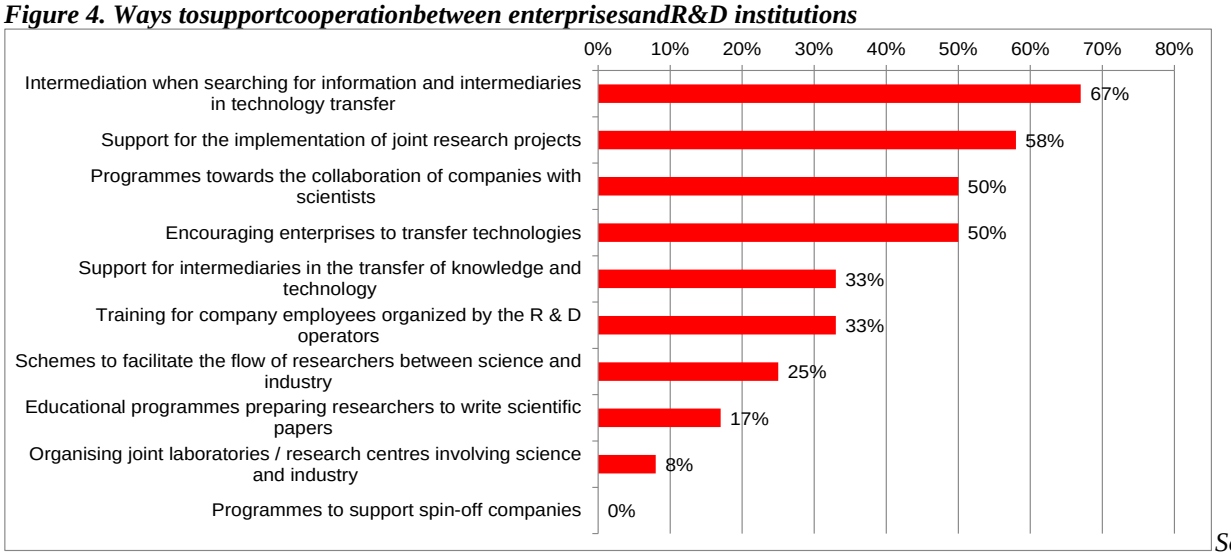


Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp. 42

4.2. **Main barriers to cooperation**

Cooperation in business networks faces many barriers. These barriers decrease the innovative potential of the networks, hence lowering the production output. An assessment of innovative capacity requires looking at the relationships between companies and R&D institutions. The support thatis provided to networks with regard to linking companies with scientists and R&D institutions is also very important. In the Wielkopolska region, the most important method of support was intermediationin searchof information andintermediariesin technology transfer. There are some still very rare cases of conducting joint research laboratories. This can mean that companies are still not aware of the benefits of such cooperation, or R&D institutions do not deliver market value or their offers are not appreciated. There was no case of supporting a spin off company. The answers have been collated in Figure 4.

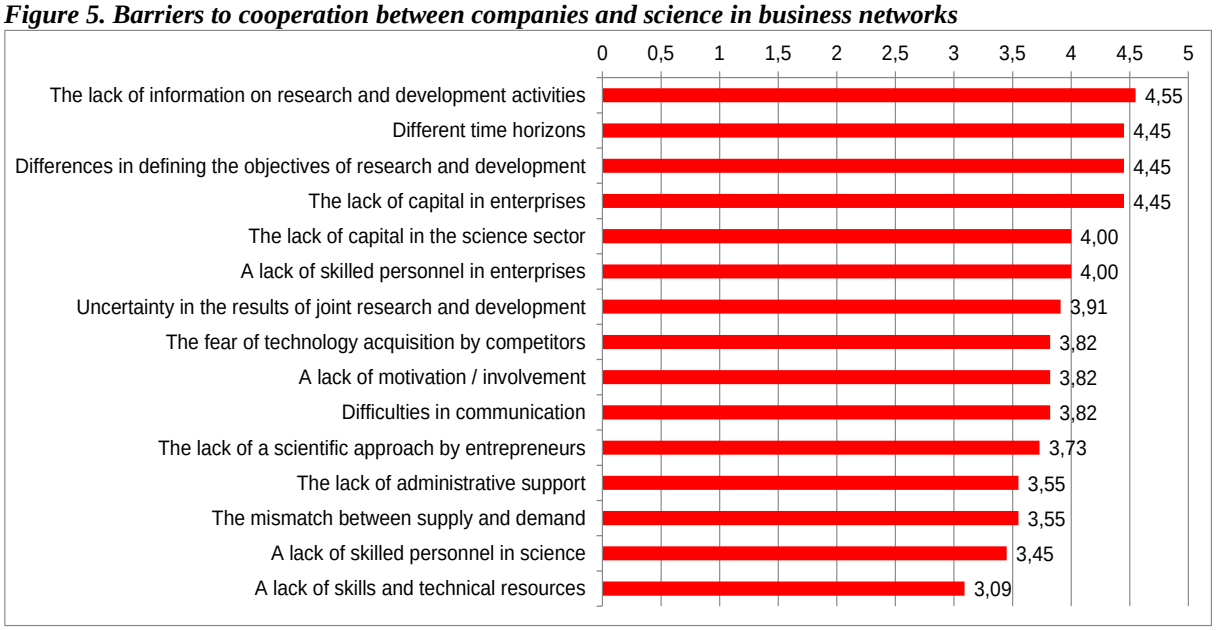
Figure 4. Ways tosupportcooperationbetween enterprisesandR&D institutions



Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp. 49

Keybarriers tocooperation are thelack of information onresearch and developmentactivities, different time horizons, differencesindefining the objectives ofresearch and development,and a lackof capitalin enterprises. The importance of particular barriers has been shown in Figure 5 (a 5 point Likert scale has been used; where 5 means definitely important, and 1 definitely not important).

Figure 5. Barriers to cooperation between companies and science in business networks



Source: Jankowska B. (edit.) Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski, UEP, raport końcowy, pp. 51

5. Conclusions

An analysis of the research resultshelped toidentify the most importantfactors hinderingandpromoting the development ofbusiness networks in the Wielkopolska region. The biggest problem is the issue of financing network activity. The development of the network is alsohamperedby psychological barriers that still existin the mentalityof entrepreneurs with regards to research co-operation. The business community does not perceive science and knowledge as a market commodity. According to this research, many entrepreneurs did not know that they can cooperate with research institutions. However, knowledge can and should be perceived as a commodity which can be sold and easily transferred between countries and sectors and then applied. Research institutes and universities should set up a kind of "knowledge shop" where companies can buy specific technological or innovative solutions. Such "knowledge shops" would be mutually beneficial – for science it would be an additional source of income; for industry, on-demand access to specific solutions. Specific benefits would be on-demand access to specialized expertise, staffing and resource flexibility for better cost management, efficient cost-effective solutions, responsiveness to changing needs and security – in brief, specific requirements with multidisciplinary solutions. These shops have to be market oriented; this means they have to be flexible and adaptable to a changing environment. These shops will be focused on delivering innovative scientific and technological solutions to multidisciplinary problems in government and industry. From basic analysis to modelling and hardware prototyping, staff should work in partnership with clients to deliver custom processes and product life-cycle solutions. Within a scientific network, "knowledge shops" could leverage the diverse experience of science and industry and take an interdisciplinary approach to problem solving that could transcend organizational boundaries. A good way to cut across existing barriers is also the creation of a "business network toolbox". This toolbox is meant to be a set of recommendations for public authorities regarding how to create and shape business networks, what kind of advantages will be gained and how to support research cooperation. This kind of guidebook would include case studies of successful cooperation between science and business and ways to duplicate these examples at a local or regional level. As the European Cluster Observatory is aiming to complete its database by performing a number of case studies of cluster initiatives across Europe, such a publication will support the process. Increased cross-regional and cross-border interaction between science and business networks will enable benchmarking as well as learning how to establish and manage networks, which will otherwise probably remain unnoticed.

References

1. ADB, Asian Development Bank. 2005. *Technical Assistance. Establishment of Regional Knowledge Hubs*, Manila: ADB.
2. AxelssonB., Easton G. [1992], red., Industrial Networks. A New View of Reality, Routledge, London and New York.
3. Brown, J. S., and P. Duguid., 2002. *Local knowledge - Innovation in the networked age*.

4. Enright, Michael J. 2003. *Regional Clusters: What we know and what we should know* in *Innovation Clusters and Interregional Competition*, edited by J. Bröcker, D. Dohse, and R. Soltwedel. Berlin, Heidelberg, New York: Springer-Verlag.
5. European Commission, Enterprise Directorate General (2003), *Final report of the expert group on enterprise clusters and networks*, European Commission, Enterprise Directorate General, Brussels, 2003, available at (accessed 14 September 2010).
6. European Commission 2006, *Delivering on the modernization agenda for universities: education, research and innovation*, Brussels.
7. European Commission 2007a, *Innovation Clusters in Europe: a Statistical analysis and overview of current policy support*, Brussels.
8. European Commission 2007b, *Green Paper The European Research Area: New Perspectives*, Brussels.
9. European Commission 2010, Europe 2020, A strategy for smart, sustainable and inclusive growth, Brussels.
10. European Union 2011, Innovation Union Competitiveness Report 2011, Brussels.
11. Evers H.D. 2008, *Knowledge Hubs and Knowledge Cluster. Designing a Knowledge Architecture for Development*, ZEF Working Paper Series, Bonn.
12. Giuliani, Elisa. 2007. *The selective nature of knowledge networks in clusters: evidence from the wine industry*, *Journal of Economic Geography* 7.
13. Håkansson H., Snehota I. [1993], *No business is an island: the network concept of business strategy, w: Understanding business markets: interaction, relationships and networks*, D. Ford (edit.), Academic Press Harcourt Brace & Company Publishers, London.
14. Håkanson, Lars. 2005, *Epistemic Communities and Cluster Dynamics: On the Role of Knowledge in Industrial Districts*, *Industry & Innovation* 12.
15. Henry, Nick, and Steven Pinch. 2006. *Knowledge and Clusters*, in *Clusters and Globalization*, edited by Christos Pitelis, Roger Sugden, and James R. Wilson. Cheltenham: Edgar Elgar.
16. Iammarino, S., P. McCann. 2006., *The structure and evolution of industrial clusters: Transactions, technology and knowledge spillovers*, *Research Policy* 35, *Management Learning* 33.
17. *J*ankowska B. (edit.) *Badanie potencjału rozwoju gospodarczych sieci powiązań, w tym inicjatyw klastrowych Wielkopolski*, Poznań University of Economics, final report, pp.35.
18. Ketels, C., Memedovic O. (2008), "From clusters to cluster-based economic development." International *Journal of Technological Learning, Innovation and Development*, Vol. 1 No.. 3, 375-392.
19. Palmen L., Baron M. [2008], *Guide for the animators of cluster initiatives in Poland*, PARP, Warszawa.
20. Pinch, Steven, Nick Henry, Mark Jenkins, and Stephen Tallman. 2003. *From 'industrial districts' to 'knowledge clusters': a model of knowledge dissemination and competitive advantage in industrial agglomerations*, *Journal of Economic Geography* 3.
21. Polanyi, Michael 1967. *The Tacit Dimension*, New York: Anchor Books.
22. Porter, M.E. 1990, , Free Press, New York, 1990.
23. Porter M. (1998), *Clusters and the New Economics of Competition*, „*Harvard BusinessReview*" Vol. 76, nr 6, pp. 77-90.
24. Rosenfeld S. [1997], Bringing Business Clusters into the Mainstream of Economic Development, „ European Planning Studies", Vol. 5, nr 1, s. 3-23.