

# IDENTIFYING REGIONAL CLUSTER MANAGEMENT POTENTIALS EMPIRICAL RESULTS FROM THREE NORTH RHINE- WESTPHALIAN REGIONS\*

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## **Abstract:**

*The development and support of clusters is an issue that became quite popular by players dealing with regional economic policy. But before a regional development agency can start to implement a cluster-oriented strategy there are two questions that have to be answered: 1. What are the regional fields of competence (cluster potentials) that fulfill the requirements for a cluster-oriented regional development policy? 2. If you find such regional fields of competence, are the enterprises willing to cooperate in a network? The present paper describes an approach used in several analyses. On the one hand fields of competence were identified by a two stage procedure. On the other hand the firms that were identified in that procedure were questioned about their willingness for networking. The results of the surveys show the interest of the firms for networking and give some additional information on the subjects and partners for networking.*

**Key words:** Cluster, networking, regional development policy, firm survey

## **1. Introduction**

Michael Porter himself, who coined the concept of clusters by his ideas points at the necessity of a cluster-oriented economic policy: “Clusters arise because they increase the productivity with which companies can compete. The development and upgrading of clusters is an *important agenda for governments*, companies, and other institutions. *Cluster development initiatives are an important new direction in economic policy*, building on earlier efforts in macroeconomic stabilization, privatization, market opening, and reducing the costs of doing business” (Porter, o.J.). For regional development agencies the hope for economic success gives reason enough to think about how to create clusters in “their” region or at least how to support their development. Beyond it the concept of clusters has an additional advantage (cp. Grote-Westrick/Muth/Rehfeld 2005, p. 153): For the regions it offers the possibility to concentrate on its strengths and competitive advantages and so to strategically concentrate the public money which becomes scarcer and scarcer.

Against this background terms like cluster, regional fields of competence and regional centres of innovation found its way into the regional development agencies’ vocabulary. Cluster-management is attached high importance within a cluster-oriented strategy; its task is to develop

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measures to support supra-regional relevant nucleuses of industry and to put them into practice. Beyond it the cluster-management can – as a controlling- and monitoring-institution – take care of benchmarking and observe the changes of markets so that the cluster can react early. But before a cluster-oriented regional policy like this can be implemented two other problems must be solved:

- As regional development agencies hardly will succeed in creating new clusters but only in activating respectively mobilising existing cluster potentials the first problem will be the identification of regional fields of competence (namely, potential clusters)<sup>1</sup>.
- As clusters cannot be ordered as an instrument of regional policy, but need the firms' assistance, the second problem is whether firms are willing to interact on the regional level and whether there is a "cluster-friendly milieu".

The present paper not only deals with some methodological questions but also describes some results and their consequences. Under methodological points of view a method for solving both sketched problems repeatedly used by the Niederrhein University of Applied Sciences will be described. The first step deals with the identification of the regional fields of competence (part 2)<sup>2</sup>. In the second step firms of the identified regional fields of competence have been addressed by surveys as to their willingness for interaction and networking: The questions dealing with co-operation in networks and with the regional orientation of such networks as well as with subjects and partners in networking (Part 3) are on the one hand side part of the methodological proceeding, on the other hand side they include results which might be of general interests. The paper ends with a summary and some hints for the regional development agencies' activities (Part 4).

## 2. Identification of Regional Fields of Competence<sup>3</sup>

If one talks about clusters in economics this means a concept shaped by Michael E. Porter. On his internet page he defines it in the following way: "Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region" (Porter, o.J.). Clusters are a co-determinant of regional economic development. For a cluster's success it is essential to obtain a competitive and innovative advantage and to improve it continuously. The concentration of successful firms, causes self-dynamic and self fortifying processes in three different ways from which finally the location of the cluster is benefitting (cp. Ketels 2003, p. 2).

- First the firms belonging to the cluster can benefit from a „pool“ of specialized location conditions and factors of production (e.g. high qualified labour force, supply of capital, capital equipment, intermediate inputs and production-oriented services) and achieve synergetic effects by this.
- Secondly they can reach a higher rate of innovation by co-operation with research facilities.
- Thirdly the number of business start-ups is increasing. Start-ups are especially depending on external suppliers and partners which they can find in a cluster.

On principle regional centres of growth and innovation are the starting-point of a cluster-oriented regional policy (cp. Rehfeld 2005, p. 5). This term indeed does not imply a precise definition but aspects as quantitative importance (measured by local shares of employment), dynamics (measured by employment growth), intensity of added value (measured by added value per employee), intensity of research and development (measured by R&D expenditures), potentials for start-ups, potentials for synergies and the ability to export (cp. Kiese 2005, p. 22) are potential criteria for selection. Meanwhile there are many studies dealing with the

<sup>1</sup> In this paper a 'field of competence' is defined as a branch respectively a complex of branches that features the necessary requirements for a cluster-oriented regional policy.

<sup>2</sup> The empirical procedure used here partly relies on L. de Propris 2005, p. 197ff.

<sup>3</sup> The following considerations only can give a short introduction into cluster-theory. For a much more comprehensive work on that subject cp. Asheim/Cooke/Martin 2006.

identification and analysis of clusters. In their analysis of East-German production-clusters Krätke and Scheuplein have tried to systematize the methods in use for cluster identification. Principally they distinguish two procedures (cp. Krätke/Scheuplein (2001), p. 198-202):

- Either global trends of development are chosen as a starting-point of cluster identification. Afterwards cluster-oriented policy tries to develop the regional potentials of the branches favoured by these global trends.
- Or the regional potentials by branches are analysed and provide the starting-point of a cluster-oriented policy. In this case one expects that the competences existing in the region are capable of development and will achieve an adequate dynamic.

The advantage of the first procedure is a comparatively small input. The disadvantage is that all studies will identify the same trends that afterwards are projected onto the regional level. The second alternative better allows for regional specifics and in particular it can reveal regional linkages between different competences. The second method is more elaborate, however, and the results do not always relate to the global trends.

The Niederrhein University of Applied Sciences meanwhile has elaborated several studies<sup>4</sup> for north rhine-westphalian regions which had the intention to identify the regions' future fields of competence (cluster potentials). The procedure chosen in all these studies uses logical-deductive and empirical-inductive elements of analysis and is a combination of both procedures described before; in doing so the advantages should be used and the disadvantages be avoided.

### 2.1. Logical- deductive identification

In a dynamically developing economy there are interdependencies between economic growth and structural change. Different branches will develop at very different growth-rates. So relative shifts of importance between the sectors will be normal and that means structural change by branches of industry. The loss of significance of shrinking branches and the increase of significance of expanding branches in turn increase the macroeconomic growth potential. The exhaustion of these growth potentials is the motor of the structural change. The reasons for structural change principally can be assigned to three groups<sup>5</sup>: Structural change can be caused by the supply side, by the demand side or by institutional aspects: In its co-action the determinants of structural change determine the long run structural development of national economies and their regions. The resulting structural changes can be analyzed by means of logical deduction. Just this is the subject of the first step. At first global trends will be elaborated – examples are the internationalization of production, the globalization of markets, the aging of the society or the stronger emphasis on quality of life and sustainability. Based on these trends branches and complexes of branches are identified by logical-deductive considerations that let expect an above-average growth in the future – e.g. bio- and gene technology, new materials or information and communication technologies. Of course such considerations are no exact prognoses, they only can provide strategical information for decision makers (e.g. for the regional development agencies) and they lead to a better understanding of those factors that determine long-run economic development. They also can be impulse for further discussions on future developments and innovations (Cp. Meyer-Krahmer 2002, p. 34).

### 2.2. Empirical-inductive identification

An empirical-inductive analysis completes the deductive analysis. Its intention is the identification of future fields of competence which can be aimed at by a cluster-oriented

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<sup>4</sup> These studies deal with the cities of Mönchengladbach, Krefeld and Leverkusen as well as the district of Viersen; cp. Hamm/Wenke 2003, Hamm/Pflipsen/Wenke 2007, Hamm/Kaldasch/Wenke 2007 and Goebel/Hamm 2007.

<sup>5</sup> For a similar systematic cp. Meißner/Fassing 1989, p. 60ff.

regional policy. In the mentioned studies a future field of competence for a region is defined as a branch or a complex of branches,

- ... that is of more than average importance on the regional level in comparison to the national or state level.
- ... where a more than average economic development can be expected so that it can become a regional motor of growth.<sup>6</sup>

In order to empirically identify the fields of competence a great number of indicators is available that all can be calculated on basis of employees, enterprises or turnovers (cp. Krätke/Scheuplein 2001, p. 38-71):

- **Importance:** Quotas by branches can give a first impression of the regional importance of branches (complexes of branches). Beyond it statistics on relative concentration as for instance location coefficients can give additional information about potential clusters. Statistics on the regional distribution of economic activity within a region (Lorenz-curve, Gini-coefficient) also might give helpful information but are less concrete and more difficult to interpret.
- **Dynamics of growth:** As the calculation of projections by branch on the regional level were not taken into consideration because of its high input regional dynamics by branches are analysed only ex-post. In doing this growth rates, regional growth-elasticities and shift-share-analysis are the usual instruments. Aside, the discussion of regional perspectives of development has to be carried out against the background of existing projections by branches on the national level.

At Niederrhein University of Applied Sciences a method has been chosen that makes use of indicators simple to interpret that all are based on employment data.<sup>7</sup> Starting with “2- digits” of the NACE-classification the method more and more goes into detail – so it could be called “top-down-approach”. Main focus is on the importance and the past development by branches:

- To identify the branches of industry that are of special importance in the analysed region the quotas by branches are calculated; they provide information as to the absolute importance of branches. Aside the location coefficients<sup>8</sup> are used as a source of information; as a relation of regional and national quotas by branches the localisation coefficients give information about the importance of a branch in the analysed region in comparison to the supra-regional level (in this case to the state of North Rhine-Westphalia).
- In addition, the analysis of employment growth by branches gives information about the dynamics of development. In this part of the analysis changes on absolute and percentage bases as well as regional growth elasticities are considered.<sup>9</sup> The regional growth elasticities show growth differences between the analysed region and the supra-regional level.

In order to classify the branches portfolio-analyses are elaborated, too. They consider the regional concentration by branch – measured by the location coefficient – and its dynamics of development – measured by absolute change of employment. Branches with employment

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<sup>6</sup> In extension of the original idea of clusters branches/complexes of branches that do not let expect an above-average development are characterised as viable for the future if they are of traditional importance for the analysed location, possess a specialised innovation potential and thus can contribute to the stabilisation of regional economic development. Examples are the textile and clothing industry at Niederrhein Area or the textile mechanical engineering industry at Mönchengladbach.

<sup>7</sup> Statistical basis are the employment data stemming from the German social insurance differentiated by branches according to the NACE-classification for the years 1999 to 2005.

<sup>8</sup> For a definition cp. e.g. Schätzl 2000, p. 63-65.

<sup>9</sup> Regional growth elasticities measure the growth differences between a region and the supraregional level, e.g. national. They are defined as:  $R_G = (1 + w_R)/(1 + w_G)$ , where  $w_R$  is the regional growth rate and  $w_G$  is the national rate of growth. If the regional growth elasticity is above one it means that the analysed region shows a better development than the national economy; the elasticity is identical to the regional factor of a shift-analysis. Cp. Schätzl 2000, p. 77-85.

growth and a location coefficient above one are called „motors of employment“, those with employment growth but a location coefficient below one are called “climbers”. “Problem branches” show a decreasing employment and a location coefficient above one. Industries with decreasing employment and a location coefficient below one are excluded from further considerations.

Based on the analysis of the “2-digits” of the NACE classification the analysis is widened to the “3-digit-branches”. This shall give confirming hints for previous conclusions and concretize them if necessary. In the analysis of the “3-digit branches” all industries are excluded from consideration, whose part of total employment is below 0,2 %. In the second step all those branches are identified that show an employment growth, a regional elasticity above 1 and a location coefficient of at least 1,2.<sup>10</sup> Finally, even information about “4-digit-branches” is used in a few cases.

As the future fields of competence identifiable on basis of logical considerations (e.g. biotechnology, information and communication technology, environmental technology, new materials) often do not exist as a branch of the official NACE classification, these cross-sectional-industries were defined using official classification in a further step<sup>11</sup> to study its regional relevance and growth-dynamics afterwards.

Clusters do not only consist of one “core industry”, but include important providers of intermediates as well. Therefore, important forward and backward linkages of the regional fields of competence are analysed in a supplementary step. As these linkages at the regional level are not known in detail, national input-output tables are used for this purpose<sup>12</sup>. Even if the national forward and backward linkages usually will not be identical to the regional ones, their analysis can give some hints about possible linkages on the regional level.

In all cases the described quantitative analysis made it possible to identify regional fields of competence and their possible regional linkages – including for example textile and clothing industry and mechanical engineering in Viersen and Mönchengladbach, materials on textile, chemical and metallic basis in Krefeld, materials on chemical basis in Leverkusen. But only the existence of competences inside of regional structures by industry does not tell too much about the firms’ willingness for co-operation in regional networks, which is necessary to realise the synergetic effects in practise that are supposed by cluster theories.

### 3. The firms’ willingness for interaction

To find out whether there is only a more or less accidental accumulation of enterprises of one value chain at a location, whether these firms are already linked with each other or rather want to build up such linkages in the future, the identified fields of competence must be subject of further qualitative analyses. Therefore, written surveys of enterprises were carried out. The surveys were limited to possible addressees of a cluster-oriented regional policy, namely to enterprises that can be assigned to the previously identified fields of competence. The main aim of these surveys was to get information about potentials for the development of regional networks. The questionnaires were sent out during the second half of 2006. The response rates in the analysed regions reached values between 12 and 15 %. For this paper responses of all analysed regions were pooled in order to find out similarities in response behaviour<sup>13</sup> that can be

<sup>10</sup> To be included branches should be represented (“noticeably”) above average in the region; it was relatively arbitrarily assumed, that this is the case if the value of the location coefficient exceeds 1,2.

<sup>11</sup> In most cases it was possible to find definitions already used in literature.

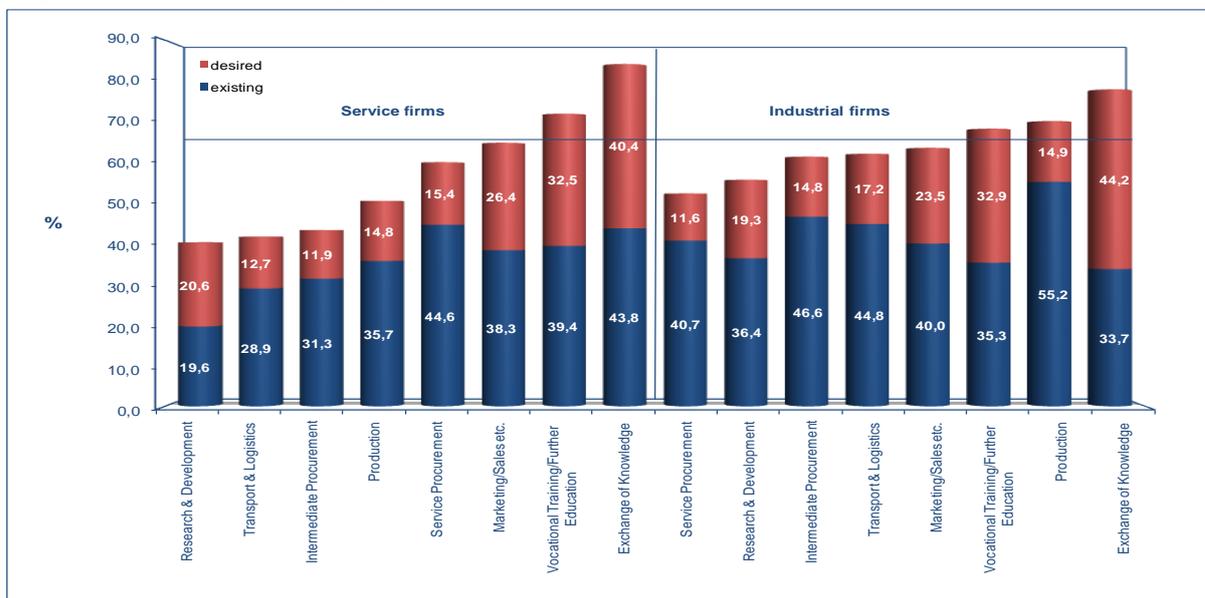
<sup>12</sup> For the keynote of this procedure cp. Feser/Bergmann 2000.

<sup>13</sup> Though the surveyed regions are situated to each other in spatial proximity, induced biases in response behaviour by this should be rather low. Biases due to the existence of large firms were not observable in the sample either. Thus, the generalisation of the results should be possible.

generalised. 300 responses make it possible to differentiate at least between production and service industries.

First question to be cleared is the level of the firms' interest in co-operation and networking. To answer this question and to get an overview of the already existing and the desired structures of co-operation and networking by spheres of action, the enterprises were firstly asked for their network contacts. Co-operations/contacts in a network are defined as formal and informal contacts that go behind pure purchase and sale of products and services. Figure 1 summarizes the firms' answers. In the diagram the sum of firms involved in networks and of those firms that wish an intensification of networking is regarded as an indicator for the firms' total interest in networking. Depending on the subject these sums are between 40% and 84% in the case of services and between 52% and 78% in the case of industrial firms. According to this, the interest in networking of the firms belonging to the fields of competence is relatively high. Apparently the exchange of knowledge is seen as the most important sphere of cooperative action by both groups of enterprises. The share of the existing plus desired co-operations in this field of action is 77.9 % (industrial firms) or rather 84.1% (service firms). In fields "production" and "vocational training and further education" more than two-thirds of the interviewed industrial enterprises already participate in existing networks or rather want to take part in it. And in the fields "transport and logistics", "marketing/sales/advertising/design /trade fairs" and "intermediate procurement" the accumulated shares of the industrial firms are barely below two-thirds. This information not only tells a lot on the firms' willingness for networking but also identifies the mentioned topics as important spheres of action for co-operation. As to service industries in addition to the exchange of knowledge "further education" and „marketing/sales/advertising/design/trade fairs" are important spheres of action for networking. The service firms' interest in co-operations in other spheres of action is recognisably less pronounced; for them co-operations in "research and development" are of little interest with a share of merely 40%.

**Figure 1: Co-operations by Spheres of Action (Industry and Services)**

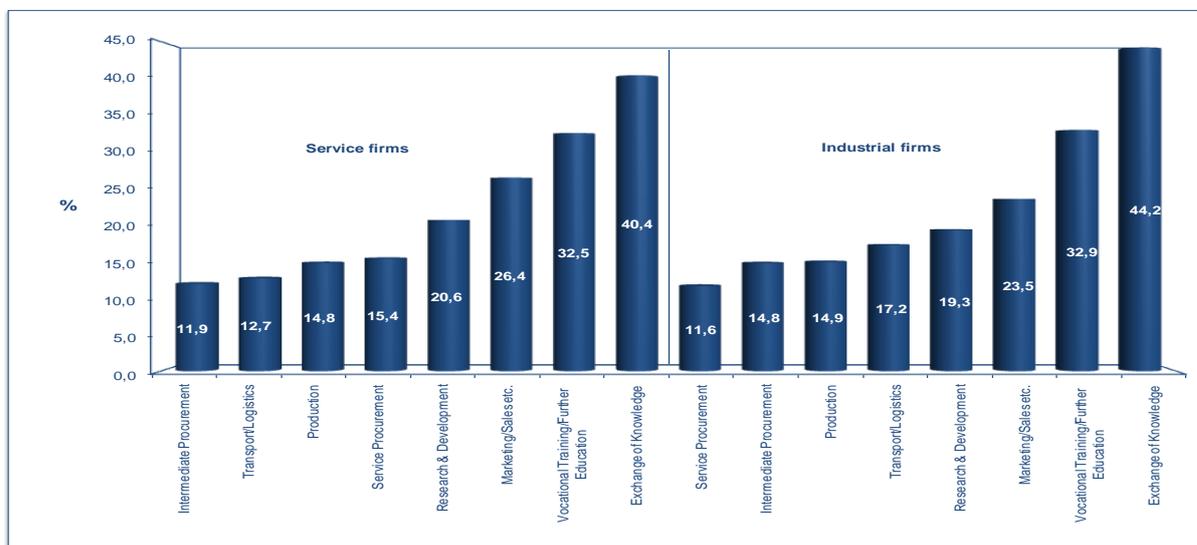


If in the next step one differentiates between already existing and additionally desired co-operations, one can notice that the intensity of the industrial firms' co-operation in the field of production is the highest – more than 55 % of the firms already make use of such possibilities. The shares of the firms already involved in co-operations are anyway around 45 % in the fields of "intermediate procurement" as well as in the field "transport/logistics". All in all, in none of the subjects the share of firms cooperating with others is below one third. Service enterprises are involved in co-operations to a comparable extent. This especially applies to "procurement of

services” (44.6%) and the exchange of knowledge (43.8%). But also in the areas of “further education” (39.4 %), “marketing/sales/advertising/design/trade fairs” (38.3%) and “production” (35.7%), more than one third of the firms already work on co-operations. These figures explicitly prove that firms see benefits of co-operation and the setting up of networks; the figures also show that they already make use of these advantages.

Figure 2 shows which spheres of action additional potentials of co-operation can be found. For industrial firms, the topics “exchange of knowledge”, “further education” and “marketing/sales/advertising/design/trade fairs” belong to the subjects with the highest additional potentials for co-operation. In these spheres of action, between 23.5% and 44.2% of the firms wish for additional possibilities of co-operation and/or networks. For service companies, a very similar result can be seen: Between 26.4% and 40.4% of the service providers wish for further possibilities of co-operation in these spheres. The wish for co-operation in “research and development” is worth mentioning; for industrial firms and service industries as well the potential of co-operation reaches about 20%. As to all other spheres of action there is indeed a smaller interest in additional co-operation, but the shares lie between 10% and 20% after all. The smaller interest can partly be due to a high grade of already realised co-operations. Generally, the results show that the enterprises want to take advantage of networking and co-operation more intensively. It remains unexplained here, whether public authorities (e.g. municipal development agencies) should intervene and support networking. If this question deserves an affirmative answer, the support of knowledge exchange will be a reasonable starting point for building up or strengthening firm networks. The firms’ statements also indicate “further education” as a possible departure for action. Because of the already existing co-operations it would be possible in both cases to build upon experiences at hand and to integrate firms into already established networks.

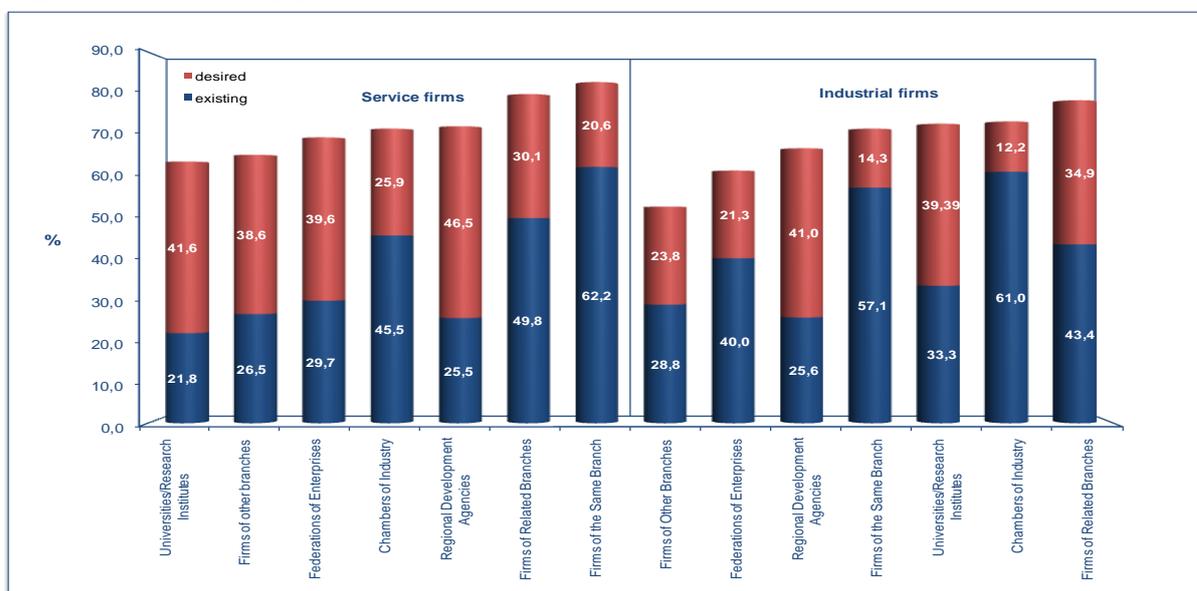
**Figure 2: Desired Co-operations by Spheres of Action (Industry and Services)**



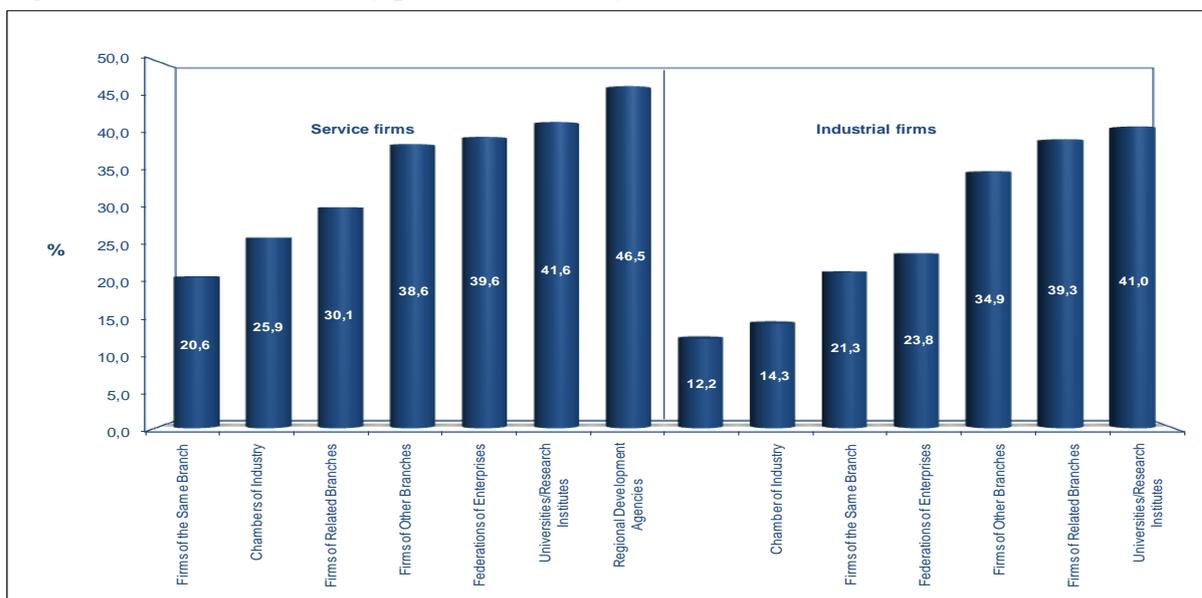
Beside the spheres of action the firms’ potential partners for networking and co-operation are of interest, too. Figure 3 gives an overview of the firms’ existing network partners and their wishes for intensifying these contacts. Again, the sum of the existing and desired co-operations can give an impression of how the importance of networks and co-operations is judged by the enterprises: The lowest percentage shown in the figure is 52.5% (networks of industrial firms with firms of other branches). This value again underlines the importance of co-operation for the enterprises. A look into the details shows that at least two third of industrial firms desire companies from related branches, the chambers of industry and commerce or rather the chambers of handicrafts, universities and research institutes, companies of the same branch and

the regional development agencies as partners for networking. Furthermore, the service industries similar often mention federations of enterprises and firms of other branches as partners of choice in networks.

**Figure 3: Networks by partners (Industry and Services)**



**Figure 4: Desired networks by partners (Industry and Services)**



To identify more properly the potential for an expansion of co-operations and networks, the additionally by the firms desired partners are again dealt with separately. Figure 4 shows that in principle this potential is higher for service industries than in manufacturing. For both groups of enterprises additional co-operations with regional development agencies are of special importance. This indicates that the firms regard the representation of regional interests within functioning networks as relatively important. As to universities and research institutes both groups of enterprises wish a higher degree of co-operation. Beside this, firms from related branches are most interesting for manufacturing firms; for the service industries additional

potentials for co-operation exist with federations of enterprises and with firms of other branches.

Regarding the desired partners of co-operation the results complete the previous picture. According to this, networks with other firms (of the same, of related, but also of other branches) are most important for enterprises, if the exchange of knowledge moves into focus. Regional development agencies could take the task of moderating and co-ordinating, because the wish for intensifying contacts with them is definitely recognizable by both groups of firms. In contrast, universities and research institutes could be important networking partners in areas as “further education” or “research and development”.

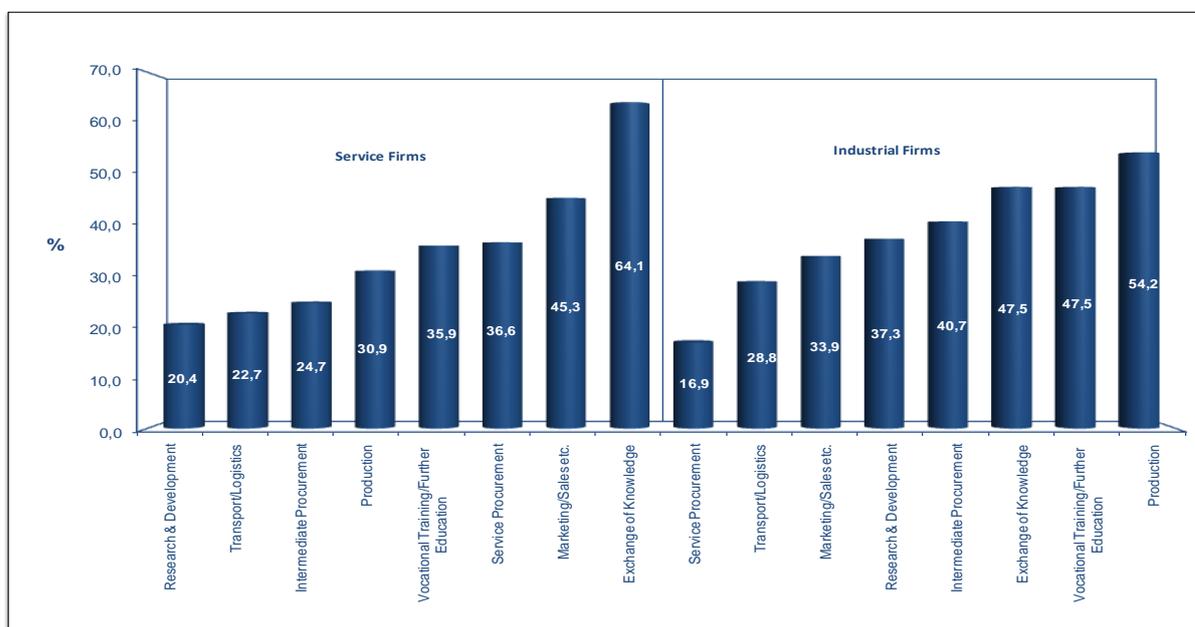
**Table 1:** The role of spatial proximity for networking contacts

	Service Firms - %			
	very important	important	less important	unimportant
Firms of the Same Branch	18,1	25,9	40,4	15,5
Firms of Related Branches	11,9	37,8	35,7	14,6
Firms of Other Branches	12,0	34,8	34,8	18,5
Universities and Research Institutes	15,5	36,5	27,6	20,4
Federations of Enterprises	14,4	42,8	25,7	17,1
	Industrial firms - %			
	very important	important	less important	unimportant
Firms of the Same Branch	11,8	14,1	49,4	24,7
Firms of Related Branches	9,4	36,5	32,9	21,2
Firms of Other Branches	6,1	26,8	37,8	29,3
Universities and Research Institutes	17,6	42,4	24,7	15,3
Federations of Enterprises	11,9	36,9	31,0	20,2

Finally, the question of the networks’ spatial dimension arises. Therefore, the enterprises were asked to evaluate the importance of spatial proximity to their networking partners. In doing so a four-stage-scale of evaluation (very important, important, less important, and unimportant) was used; the results of the survey are presented in table 1. If one only looks upon the average evaluations, this could give the impression that the relevance of spatial proximity should not be overestimated: Average evaluations in the range between 2.4 and 2.9 on a scale going up to 4 indicate that the firms consider spatial proximity as desirable, but not as urgently necessary. The details listed in the table give some more insight than the average evaluations. They firstly show that the relevance of spatial proximity is evaluated in different ways depending on the co-operation partners. Spatial proximity is most important in case of industrial firms’ co-operations with universities and research institutes; 60% of all firms consider spatial proximity as important or even very important in this case. These figures demonstrate a remarkable potential for co-operations between industry and universities in the nearby region. Spatial proximity plays a minor role for co-operations between industrial firms of the same branch – only 26% of the industrial firms think this to be important and very important. In case of the other potential co-operation partners, 33% (firms of other branches), 47% (firms of related branches) and 49% (federations of enterprises) of the industrial firms state that spatial proximity is very important or important for co-operation. In case of service companies, similar evaluations of spatial proximity can be found for all potential co-operation partners – the average evaluations only show a very small variation. Depending on the co-operation partners, between 47% (firms of other branches) and 57% (federations of enterprises) of service companies consider spatial proximity as important or very important. So – if one does not take into account universities and research institutes – spatial proximity of the co-operation partners appears to be of less importance for service companies than for industrial firms. In principle, the results confirm the conclusion, which was pointed out for small firms by Arndt and Sternberg, namely that the

benefits of co-operations on the regional level might be quite high in spite of numerous networks on national and international level (cp. Arndt/Sternberg 2000, p. 465).<sup>14</sup>

**Figure 5: Spheres of action for an intensification of co-operations**



The firms' answers to the question, whether and in which spheres of action they can imagine an intensified co-operation with other enterprises on the regional or local level, further confirm the importance of spatial proximity. For altogether about half of the industrial firms and even 80 % of the service companies show interest in intensified co-operation on regional level. The differences between industry and service companies are quite comprehensible – in spite of an increasingly supra-regional orientation, service procurement still has a higher degree of regional orientation than industrial production. Figure 5 illustrates on which spheres of action local or rather regional networks should concentrate from the firms' point of view. First of all, it can be noticed that the ideas of industrial firms and service companies are partly identical and partly different. Both groups have a high interest in a general exchange of knowledge on the regional level. This can also be explained by the fact that the exchange of knowledge is a sort of essential pre-stage of an intensified co-operation. In addition to this, service companies have the highest interest in an intensification of local networks in the areas of “marketing/sales/advertising/design/trade fairs” and “service procurement” as well as in the field of “further education”, while industrial firms mention “production”, “further education”, “intermediate procurement” as well as “research and development” as the most important spheres of action.

#### 4. Concluding Remarks

More and more regional and municipal economic development agencies think about reorienting their activities in terms of cluster-oriented approaches or already have realised this. Before cluster-oriented concepts can be realised, the regional fields of competence have to be identified (as potential clusters), however, and the willingness to interact of regional firms belonging to the identified fields of competence has to be ensured.

On the one hand, this article describes a solution for these both problem fields. In doing so, the potential clusters of a region (fields of competence) are identified by combining logical-

<sup>14</sup> For a theoretical discussion of the role of spatial proximity cp. Boschma 2005, p. 61ff.

deductive and empirical-inductive elements of analysis. This rather quantitative analysis for the identification of fields of competence is complemented by qualitative analyses based on a firm-survey. The main aim of these qualitative analyses is to get information about the general willingness for interaction in (regional) networks and about possible fields for co-operations. As a result of this procedure, the regional development agencies not only get information about the regional “strengths to be strengthened”, but also about the questions whether firms assigned to the fields of competence are interested in regional networks and which field of action is most important for them.

On the other hand – based on the results of the firm-survey – this article also allows (or rather confirms) some conclusions that can be generalised and that might be helpful for development agencies:

- The interest of the firms in co-operations and networking can be classified as being high up to very high. On the one hand, this is due to the fact that firms are to a noticeable extent already integrated in networks; but on the other hand this is also due to the fact that the firms wish for additional co-operations and networks. Apparently, the firms see advantages of co-operation and the creation of networks; they already make intensive use of these advantages, but they want to benefit from these advantages still more intensively in the future.
- Other firms – from the same branch or from related branches – are the most important partners in networking and co-operations. Both from the industrial firms’ perspective and from the service companies’ perspective, an increased involvement of regional development agencies in networks is of special importance. The reason for this can be that the development agencies only play a subordinated role in existing networks up to now. But the result is also a clear indication of the fact that the firms consider representation of regional interests within an efficient network as comparatively important.
- With respect to universities and research institutes, firms wish for more co-operations and networks. Those networks could make a contribution to the strengthening of regional competitiveness by increasing innovation as well.
- For the already existing networks as well as for additional desired networks, the mere exchange of knowledge is considered as the most important sphere of action by the enterprises. Beside this the main focus of existing co-operations is rather on areas such as “production” and “procurement of services and intermediates”, while “vocational training and further education” as well as “marketing” still offer remarkable potentials for additional network co-operations.
- A relatively high part of the firms apparently consider regional networks and spatial proximity as not urgently necessary, but nevertheless the firms see clear benefits from them. From the region’s point of view, this can be a chance; if it is not used, there is the risk that the firms indeed utilise the synergies of co-operation in their own interest, but this will at best coincidentally benefit the regional economic development.

While to take advantage of the “regional opportunity”, the development agencies could take over important functions: After the identification of regional fields of competence (cluster potentials) by an accurate analysis, development agencies could care for the cluster-management and by their activities, they could contribute to lead a field of competence to an efficiently working cluster. For this, it would apparently be helpful to initiate and to intensify the exchange of knowledge between the firms within a field of competence; something that starts with the exchange of knowledge, can definitely give way to further co-operations in other subject areas. The involvement of regional universities and research institutes in networks seems to be particularly important, because firstly it is desired by the firms and secondly improves the position and the development perspectives of the respective university/institution which again can contribute to the increase the regional innovation potentials.

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