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MUTUAL TRUST BETWEEN COMPANIES AND CLUSTER FORMATION AND DEVELOPMENT[*]

The issue discussed in the article concerns the nature of the impact of trust on the creation and development of cluster structures. It presents the results of the research conducted at Polish enterprises that belong to the key sectors of business in Podlaskie province. In particular, the respondents' opinions are presented related to the assessment of the current level of trust and cooperation between the actors of different sectors and the prospects for their change in the near future.
Keywords: clusters, trust, cooperation.
JEL Classification: D23, L21, L22.

Анна Василюк

ВЗАЄМНА ДОВІРА МІЖ КОМПАНІЯМИ В ПРОЦЕСІ ФОРМУВАННЯ ТА РОЗВИТКУ КЛАСТЕРІВ

У статті обговорено питання довіри в процесі створення і розвитку кластерних структур. Представлено результати досліджень польських підприємств у ключових галузях бізнесу в Підляському воєводстві. Наведено оцінку респондентів щодо рівня довіри та співпраці між суб'єктами різних галузей і перспектив їх зміни в найближчому майбутньому.
Ключові слова: кластери, довіра, співпраця.
Таб. 3. Рис. 1. Літ. 26.

Анна Василюк

ВЗАИМНОЕ ДОВЕРИЕ МЕЖДУ КОМПАНИЯМИ В ПРОЦЕССЕ ФОРМИРОВАНИЯ И РАЗВИТИЯ КЛАСТЕРОВ

В статье обсужден вопрос доверия в процессе создания и развития кластерных структур. Представлены результаты исследований польских предприятий в ключевых отраслях бизнеса в Подляшском воеводстве. Приведена оценка респондентов относительно уровня доверия и сотрудничества между субъектами различных отраслей и перспектив их изменения в ближайшем будущем.
Ключевые слова: кластеры, доверие, сотрудничество.

1. The problem in its relation to the scientific and practical tasks. At the end of the past century, there already were some opinions that in the world economy neither individual companies, nor states compete (Meyer-Stamer, 1996), but the groups of companies organized in networks (Jewtuchowicz, 2000). The effectiveness of these structures depends on cooperational skills, both within the structures and with different types of entities outside them. Such an approach, however, requires the development of a strategy of networking partners that can help to take a better competitive position at a market. The adoption of such assumptions allows developing a common market offer improvements and to gain knowledge about new markets.

There is no doubt that the concept of clusters has recently gained immense popularity, especially in the context of regional competitiveness and economic development. Because in Europe relatively small number of clusters were formed and their

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scale was relatively small in comparison to the US, the creation of these initiatives and supporting their development was in recent years recognized by the European Commission as an important priority of the new industrial policy.

Clusters constitute an instrument that allows the achievement of the common objectives of scattered subjects through different benefits and synergies. Increased mutual trust and very efficient civil society are, however, necessary for this. Unfortunately, in Poland there is still a deficit felt in this respect. A lot depends on the purpose and nature of the cooperation. The cluster should ensure all its members' equal access to the knowledge and experience of other subjects, allow the implementation of joint purchasing, optimize access to skilled labor and social and technical infrastructure, allow for joint expansion, also at foreign markets etc.

High indicator of companies' concentration in a certain business gives a better chance, at least in theory, for cluster initiative formation and its further development. The actual benefits of cluster functioning can be gained only if it reaches the appropriate size. However, companies' concentration itself, even if it is very high, does not guarantee the appearance of such an initiative, followed by cluster formation. First of all, companies that could create a cluster might not be interested in such cooperation because of low level of trust towards their competitors or disbelief in the possibilities for cooperation between companies of the same sector. Widely understood openness and trust is of particular importance in clusters, as there is the motto here that working together gets more than acting alone.

2. The subject literature review. Although the concept of clusters has gained in the last 2 decades immense popularity it should be emphasized that it is not entirely new. Its basis can be traced back in the concept of the industrial district presented by British economist A. Marshall (1920). Despite the studies that appeared later relating to the advantages of location and system approach - made for example by F. Perroux, W. Sard, G. Becattini, Dahmen, Drejer, M. Storper, R. Camagni - only the works of M. Porter in the 1990s have contributed to the true prevalence of the term "cluster" (Porter, 2001).

Despite the current, enormous popularity of the concept of cluster, or perhaps because of it, one universally accepted definition of the cluster has not been successfully developed, although also in this case many authors instead of creating their own, often close to the existing interpretations refer to the definition proposed by Porter that defines it as "geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions (e.g., universities, standards bodies and trade associations) in particular fields, competing with each other, but also cooperating" (Porter, 2001). Of course, one can point to the inadequacy of this interpretation in today's world, questioning the essence of geographical concentration of firms itself. Due to the dynamic development of ICT solutions the geographical proximity of firms in some sectors of the economy is no longer needed and opportunities for cluster structures not only international, but even intercontinental are therefore created.

Literature studies on the attempt to interpret the concept of cluster (for example: Swann, Prevezer, 1996; Rosenfeld, 1997; Padmore, Gibson, 1998; Cooke, 2001; Morosini, 2004) allow to distinguish a number of common features such as: concentration (spatial and/or sector), network connections, competition and cooperation, common development trajectory.

In the subject literature several terms are used interchangeably for a cluster such as, among other: cluster initiative, the grape (as well as bi- or multigrape), industrial district, net organizations, industrial bundle, production chains, growth pole, innovative environment, local production system etc.

Cluster development is a complex and very diverse process. It can be for certainity that there are no 2 identical clusters that would develop in the same way. Clusters vary in size (potential), area of activity, composition of subjects and diversity of the subjects' organizational culture, the sector of their operation etc. For this reason, "blind" transfer of organizational patterns from one structure to another does not have to lead, and often does not lead, to success. It should be noted that clusters can, but they definitely do not have to, be a path to success. In the subject literature, the attention is focused primarily on the benefits of cluster sructures, and the little attention, if any, is given to the risks that may arise (Wasiluk, 2012).

Polish clusters are still very new and frail structures (most of them have started to work recently, often with the funding received for their development). No doubt that in reality the greatest challenge for most of them is to build the social capital, that is the trust between their members, which may result in their real development and build them the sustainable competitive advantage.

Although the sciences that began the considerations on trust were psychology and sociology, the concept of trust is now to be found in almost all fields of science and life. It is discussed in terms of social, psychological and philosophical aspects, as well as in relation to the world of politics, economics or business. The increased interest in the problem of trust is associated with the changes that are taking place in the environment and especially with the widening uncertainty and risks occurring in the society and economy. Trust is a complex phenomenon and therefore it is scarcely measurable. The subject literature conditions the importance of trust on the situational context in which it is considered, as well as the relationships that exist between the discussed entities (Bugdol, 2010).

The conceptual range of trust is characterized by complexity and wide range of prevalence. This is related, as already mentioned, to various approaches to the issue, depending on the context and location. In many adopted definition, however, the term is defined as a kind of bond of trust in human relationships, or business ones (Sztompka, 2007; Bennis, Goleman, O'Toole, 2009; Harrison, 2008) or a pillar of the relationship (Rzycka, 2010). In the definitions the authors also refer to the credibility and integrity (Grudzewski, Hejduk, Sankowska, Wantuchowicz, 2007; Fukuyama, 1997; Shockley-Zalabak, Ellis, Cesaria, 2012). It should be noted that the phenomenon of trust is inseparably included in the category of uncertainties and risks associated with it (Sankowska, 2009; Sztompka, 2007).

The trust is no doubt desirable, not only in private life, but also in business. The subject of trust can be people and institutions, products or services for which trust affects the higher rating of quality perceived by customers (Urban, 2010). And while the literature devotes these issues a lot of attention, the situation is contrary in regard to the essence of trust in the structures of clusters, which is a very important or even determinant factor of cluster formation and development. It should be noted that in Polish subject literature the issue is regarded as a marginal one. There is much discussion on the benefits of the operation of these structures in the region. However,

there are hardly any studies which comprehensively discuss the problem taken by the author, especially in terms of real, actual possibilities of basing the policy development on cluster structures in various regions of Poland.

3. Defining the fundamental issue. The fundamental issue discussed in this text is to determine the level of trust and cooperation between the companies of the industries included in the priority ones in Podlaskie Province in the perspective of cluster structures creation and development. The discussed issue is new, and the raised concerns can constitute a significant contribution to the development of the concept of regional development through cluster initiatives.

4. Characteristics of the conducted research and analyses of the results. The research included all the companies registered in the REGON system that are based in the region of Podlasie Province and which basic PKD (Polish Classification of Activities) corresponds with the industries identified as priority ones from the point of view of the province. Considered as priority were the industries included in the "Development Strategy of Podlaskie Province until 2020" and which the analysis of the ratio of subjects concentration LQ indicate a higher density than an average in Poland. Location coefficient was as:

$$LQ = \frac{E_{ij}}{E_j} \Big/ \frac{E_{in}}{E_n}, \tag{1}$$

where E_{ij} — the variable in the section i in the researched area j; E_j — the variable in all the sections in the research area j; E_{in} — the variable in the section i, in the reference area n; E_n — the variable in all the sections in the reference area n.

The research area accepted in the analyses was the area of Podlaskie Province and the reference area - the area of Poland. The number of companies was used as a variable (the data obtained from the Central Statistical Office, as of 31.12.2010). LQ indicator was calculated on the level of classes, as conducting analyses on the sector level was considered to lead to erroneous conclusions. The analyses carried out this way allowed us adding to the 3 industries identified in the Strategy (food, wood, metal and machinery) medical services and construction. At this point it should be noted that as much as including the food or wood industry to the priority sectors of the region does not raise this paper authors' objections (Daniluk, 2010; Daniluk, Wasiluk, 2011a; Daniluk, Wasiluk, 2011b), classification of metal and machinery industry to the priority sectors was repeatedly challenged by her (Wasiluk, 2010; Wasiluk, 2012). The tel-address database acquired in the Statistical Office in Bialystok included over 1200 subjects.

A questionnaire was used in the research. It was sent to the owners, in the case of companies where the legal form of the entity was different than the one-man business - to a representative of top management. The questionnaires were received back from 520 respondents. It should be noted at this point that in Poland there is no obligation of companies deregistration from the REGON system, and therefore the tel-address database acquired in the Statistical Office in Bialystok included the records of the companies which did not exist for many years, some going bankrupt or have been submitted for registration but never started business. Taking the above into consideration it is difficult to determine accurately the percentage of the questionnaires received back. The large response from the actors does not entitle the author to

"stretch" the results on the whole industry under the study (also due to the fact that the subjects classified for the research were only these that identified certain activity as their first, main one, while in Polish reality companies register several and sometimes even dozens subclasses PKD, just in case, later functioning of the company did not require to make changes). That is why further analyses and interpretations of the results will refer only to the group of respondents. No representativeness of the research does not diminish their importance. They make a significant contribution to the image creation of the real reasons of building the development pillars of Podlaskie Province. They should also provide inspiration to conduct this type of research in other regions of Poland.

As mentioned above, the research finally included 520 companies. The highest percentage constituted the companies classified in the research to medical services (36,7%) and construction (22,1%). The detailed respondents' business structure is presented on Figure 1.
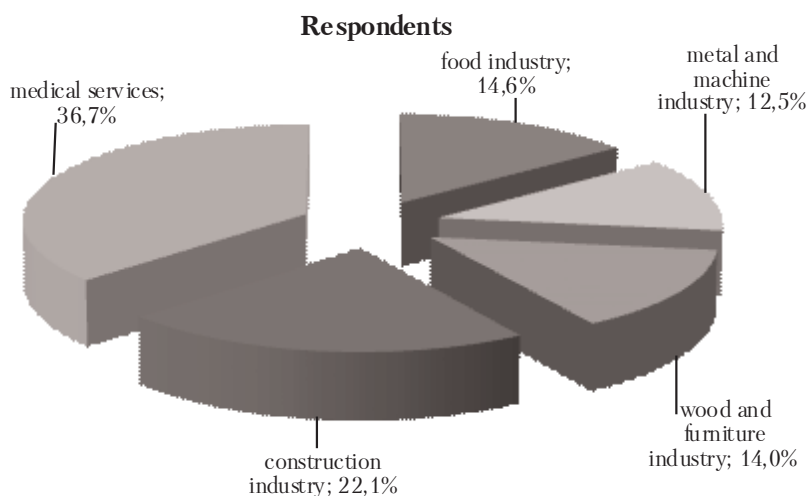
Source: Own calculations based on the conducted research.
Figure 1. **Structure of the respondents**

The research conducted by the author shows that the majority of the respondents estimated the low level of trust between companies in the same industry (Table 1). Only a slight percentage of the respondents indicated it as high or very high. The evaluations of cooperation between companies were a little more positive (a higher percentage of the respondents declared that it was good or very good) but also in this case the situation was not good.

The most unfavorable situation in assessing the trust level can be seen in the construction and food industry (the average results 2.56 and 2.58 respectively), while the best situation is in metal and machine industry (2.78). Interestingly, respondents critically evaluating trust between construction companies, at the same time relatively high, in comparison to the respondents from other surveyed areas, assessed higher the cooperation between these companies. The average of the ratings allowed to allocate the construction industry as the second, after the metal and machine industry. It should be noted that the respondents assessed higher the level of cooperation than the

level of trust, though, and so should be regarded as relatively low. If the region's development was to be based on cluster structures this should raise concerns of policy makers. The average results of the ratings in none of the branches exceed 3, although the median and dominant of both trust and cooperation reached this very value (Table 2).

Table 1. **Composition of the respondents' rating of the level of trust and cooperation in various industries**

Specification		Respondents											
		Total (N = 520)		Food industry (N = 76)		Metal and machine industry (N = 65)		Wood and furniture industry (N = 73)		Const-ruction industry (N = 115)		Medical services (N = 191)	
		N	%	N	%	N	%	N	%	N	%	N	%
Level of trust between companies in the industry	1	58	11,15	12	15,79	2	3,08	9	12,33	15	13,04	20	10,47
	2	140	26,92	16	21,05	19	29,23	21	28,77	30	26,09	54	28,27
	3	262	50,38	40	52,63	36	55,38	37	50,68	66	57,39	83	43,46
	4	55	10,58	8	10,53	7	10,77	5	6,85	4	3,48	31	16,23
	5	5	0,96	0	0	1	1,54	1	1,37	0	0	3	1,57
Level of cooperation between companies in the industry	1	44	8,46	12	15,79	3	4,62	6	8,22	5	4,35	18	9,42
	2	132	25,38	14	18,42	18	27,69	20	27,40	28	24,35	52	27,23
	3	218	41,92	28	36,84	23	35,38	31	42,47	55	47,83	81	42,41
	4	114	21,92	21	27,63	20	30,77	14	19,18	26	22,61	33	17,28
	5	12	2,31	1	1,32	1	1,54	2	2,74	1	0,87	7	3,66

Table 2. **Summary of statistical ratios in the assessment of the respondents on the level of trust and cooperation in various industries**

Specification		Respondents					
		Total (N = 520)	Food industry (N = 76)	Metal and machine industry (N = 65)	Wood and furniture industry (N = 73)	Const-ruction industry (N = 115)	Medical services (N = 191)
Level of trust between companies in the industry	mean	2,63	2,58	2,78	2,56	2,51	2,70
	median	3	3	3	3	3	3
	mode	3	3	3	3	3	3
	cardinality of mode	262	40	36	37	66	83
	standard deviation	0,85	0,88	0,74	0,85	0,77	0,92
	coefficient of variation	32,37	34,25	26,55	33,17	30,44	33,97
	Skewness	-0,21	-0,48	0,13	-0,13	-0,70	-0,07
Level of cooperation between companies in the industry	mean	2,84	2,80	2,97	2,81	2,91	2,79
	median	3	3	3	3	3	3
	mode	3	3	3	3	3	3
	cardinality of mode	218	28	23	31	55	81
	standard deviation	0,94	1,06	0,92	0,94	0,82	0,96
	coefficient of variation	33,02	37,77	30,92	33,39	28,24	34,57
	skewness	-1,13	-0,35	-0,19	-0,02	-0,22	0,05

Source: Own calculations based on the conducted research.

The respondents were optimistic about the future when it comes to the development of cooperation between competitors in the nearest perspective (Table 3). The most skeptical in this regard were the respondents from the wood and furniture indus-

try. Only slightly more than half of them believed that the situation could change in a positive way. However, this position was backed up by nearly 70% in the metal and machine industries, but it should also be noted that this group highest of all the respondents assessed the situation.

Summing up the results presented above clearly shows that companies of the analyzed industries are not ready to interact in cluster structures, in which trust and cooperation is essential. This does not mean they will not be formed, but their development will be very limited. As mentioned earlier in this paper, in order to achieve the real benefits of clusters, it is necessary to achieve its specific range. The low level of trust will not for sure serve that purpose. Lack of trust affects the size of cooperation and lack of cooperation prevents the raising of confidence.

The low level of trust between companies in the same industry is not characteristic only for the companies in Podlaskie Province. Many studies indicate the lack of trust in Polish society (Social trust in the years..., 2008; Trust..., 2010). The reasons for this should be traced in historical grudges. Changing attitudes to others, however, will require time. We need to see for ourselves that in today's economic realities a subject alone achieves far less than a group. In today's business reality is not so much a case of blind and ruthless war against competitors as the ability to both compete on the same field and cooperate on the other.

Table 3. **Prospects for cooperation development in various industries in the respondents' opinion**

Specification		Respondents										
		Total (N = 520)		Food industry (N = 76)		Metal and machine industry (N = 65)		Wood and furniture industry (N = 73)		Construction industry (N = 115)		Medical services (N = 191)	
		N	%	N	%	N	%	N	%	N	%	N	%
Assessment of prospects for improvement of the cooperation level in the industry in future	1	17	3,27	2	2,63	2	3,08	4	5,48	2	1,74	7	3,66
	2	190	36,54	32	42,11	18	27,69	32	43,84	40	34,78	68	35,60
	3	261	50,19	34	44,74	37	56,92	31	42,47	65	56,52	94	49,21
	4	52	10	8	10,53	8	12,31	6	8,22	8	6,96	22	11,52

Grades: 1 — would definitely not improve; 2 — would rather not improve; 3 — would rather improve; 4 — would definitely improve.
Source: Own calculations based on the conducted research.

5. Conclusions and prospects for further research. The current Polish policy of basing the development of various regions on clusters is indeed consistent with the guidelines of the European Union, but only the provisions in the strategy, policy documents will not contribute to the implementation of its objectives. Easy opportunity to raise money for the formation of the cluster resulted in a "flood" of clusters. In 2006 in Poland, as it was said, existed less than 50 clusters, now their number is measured in hundreds. In Podlaskie Province only there are about 20 initiatives that in their name have the word cluster, however many of them have only a few members and were formed only because of the opportunity to receive the EU funding. Awareness of such actions being taken led many businessmen to perceive them with great skepti-

cism and they do not consider clusters a true method of improving their competitiveness. Therefore, it is worth noting that, despite many reasons to the fact that the area could develop and expand the cluster initiative, benefitial to both its member subjects and the whole community of the region, the negative attitude of the subjects to such projects could cause that they have no real chance for actual, not just seeming development.

The real problem of the cluster structures development is the low level of trust between the subjects that may created them. Lack of confidence, or its low level, has an impact on the scale of cooperation, and the lack of cooperation is not conducive to change negative attitudes towards others. No interest of regional decision-makers in research on the level of mutual trust between companies and towards other institutions in business environment, education, local government etc. result in wrong assumptions as to the direction and tools used for development. Cluster initiatives in themselves are not bad. As shown in many examples they can raise the competitiveness of regions. However, they are not a golden mean that will work in every situation, regardless the existing conditions, cultural background or historical legacy.

Cluster development is desirable from the point of view of regional policy and increasing the regional economies competitiveness. For the development of these structures extremely important is not only to include them in the strategic document records but most of all a climate of mutual trust and willingness to work together. Because the current state leaves much to be desired, it appears that its improvement in the future may in many respects depend on regional decision-makers. It is extremely important that they were aware of the fact. Conducting extensive research, in the context of improving cooperation between actors in the region, with the participation of entrepreneurs, scientists, public administration representatives, NGOs, social organizations and politicians, would help to develop the best solutions and adapt them to the needs of a particular region.

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