Small Enterprise Association of Australia and New Zealand
28th Annual SEAANZ Conference Proceedings
1-3 July Melbourne 2015

Management of a cluster as a network of cooperation for small and medium-sized enterprises in Poland

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Abstract:

The paper is a theoretical discussion on the role of clusters in strengthening the market position of small and medium-sized enterprises and an empirical presentation of the chosen aspects in managing clusters that consist of small and medium-sized enterprises in the majority of cases. The principal aim is the search for the answers to the following questions: What forms of management are adopted by clusters consisting of SMEs in Poland? Does the type of model of development of a cluster have an impact on the internal organizational processes? What role is played by the coordinator in the analysed clusters? Analysis of the processes of managing clusters consisting of SMEs was carried out. The methods of critical analysis of literature and desk research were executed. The paper presents the theoretical bases of this concept, namely by presenting clusters as network organizations in the modern-day economy, while also concentrating on the various approaches to defining a cluster and describing its models and types. Likewise, there is a detailed description of the problematic issues of management in clusters.

Keywords network organizations, cluster, management, small and medium-sized enterprises.

INTRODUCTION

At the beginning of the 21st century, significant changes are taking place in the functioning of the economy. The internationalization of production is taking place as a result of which the final product is the outcome of cooperation between enterprises from various countries and various geographical regions. These enterprises create a specific network of cooperative ties. This signifies the formation of a supranational type of corporate ownership. In this new market order, the predominant position is in the hands of international corporations creating global products, which as a result of the opening up of local markets are gaining the dominant positions there. Smaller economic entities, particularly SMEs have difficulty in maintaining their position. For instance, wherever the concern IKEA operates, small enterprises have difficulty competing with it and maintaining their position on the market. Secondly, the economic globalization forces cooperation to take place among the smaller entities by means of network organizations that may compete with large international enterprises. The aim of such organizations is the creation of knowledge and its transfer to the members of such a network. An interesting proposition of creating a network within the proximity of cities was proposed by Conventz, Derudder, Thierstein and Witlox (2013), according to whom a city may become a specific hub of knowledge, or the so-called local centre of knowledge. Thirdly, the changes occurring in society, such as the aging of the population, the emergence of new trends in the behaviour of consumers, orientation towards the protection of the natural environment, the changing approach to indebtedness arouse the necessity for small enterprises to adjust to the new realities of running business activities. Fourthly, the economic crisis over the past few years gave rise to the collapse of the economic conditions which in turn gave rise to the decreasing demand for goods manufactured by small and medium-sized producers and the increased uncertainty relating to the conditions of running business activity. With relation to this, the possibilities of the development of these enterprises in the hitherto organizational form are becoming limited. One of the possible solutions that would improve their market position is the creation of network organizations based on the cooperation of a multitude of economic units. Another form of cooperation among small enterprises with the aim of restricting the uncertainty associated with the new conditions of running business activity is that of network franchising. This facilitates the rigorous and constant cooperation between an enterprise/franchisor and other enterprises/franchisees. The advantages of such a form of cooperation is the utilization of the franchising trademark and availing of the knowledge relating to management, technical knowledge, constant trading and technical assistance (Windsperger, 2004). Franchising may become a specific cluster.

A form of cooperation like this could become that of a network of SMEs that creates its own synergy effect by supporting the achievement of success by means of the economic units that form it. One of the attractive forms of networks concentrating SMEs is that of a cluster. The SMEs that form a cluster may fulfil both the role of entities that form its core, as well as being satellite organizations operating around the predominant cluster unit based on the principles of the provision of services and creation of complementary goods. Thanks to the active participation in the cluster, they have access to the knowledge that is essential in the creation of new products, new markets, a wider client base, new international partners to undertake cooperation with, as well as potential investors to increase the level of importance of the enterprise.

One of the key factors determining the development of clusters is that of management. Depending on the model of the cluster, management may take on various forms, namely it may be

distinguished as a special entity managing the cluster or management may be of a participatory nature, in which each entity co-participates in the process of taking managerial decisions. The authors stipulated the main aim of the research as the search for the answer to the following question: What forms of management are adopted by clusters consisting of SMEs in Poland? What type of model of development for clusters has an impact on the internal organizational processes? What role is played by the coordinator in the analysed clusters? Analysis of the processes of management in clusters consisting of small and medium-sized enterprises was carried out on the basis of the results of research on clusters in Poland. The method of critical analysis of literature and the method of desk research were availed of in this analysis.

CLUSTER AS A FORM OF NETWORK ORGANIZATIONS FOR SMES

One of the significant factors determining the development of the contemporary economy is the network nature of economic organizations. Network organizations are specific forms of ties between economic units that constitute a collection of largely independent economic units realizing various economic initiatives that are coordinated by a firm/integrator that is equipped with the specified competences (Perechuda, 2005). The factor integrating this collection of economic units is that of the commonly shared aims. Simultaneously, it is assumed that they possess autonomous aims in terms of the network, thus a different system of resources for their realization. This aspect of the functioning of an organization is indicated by Castells (2007), according to whom in order for a network enterprise to function efficiently it should be featured by the ability to connect the differentiated economic units in its composition, as well as cohesion in terms of the aims of the network and the aims of its particular elements.

One of the forms of a network organization is that of a cluster, which is the geographical concentration of enterprises connected by economic ties. In terms of an economic aspect, the word cluster was first utilized by Porter (1990). In scientific literature devoted to clusters, it is possible to encounter various approaches to its definition. The first approach perceives a cluster as an agglomeration (concentration), or in other words, the concentration of mutually tied enterprises on a specific territory that are capable of synergetic processes where an important role is played by administration and local and regional authorities (Marshall, 1930, Maillat, 1991, Crouch and Farrell, 2001). The second type of definition defines a cluster as an industrial complex, namely the concentration of co-dependent enterprises on a specific area that operate in the same or related industrial sectors or services by which the mutual ties strive towards the improvement of competitiveness (Porter, 1998, Drejer, Kristensen and Laursen, 1997, Rosenfeld, 1997). The third type of definition perceives a cluster as a hub of knowledge in which cooperation takes place between the research units and the enterprises with the aim of creating new knowledge and innovative solutions (Maskell and Lorenzen 2004, Gordon and Mc Cann, 2000). In turn, the fourth type of definition perceives a cluster as a social network based on social relations, trust and social ties, sharing resources that facilitate cooperation and the creation of innovations (Vante and Taylor 2000, OECD, 1996, Morosini, 2004). A successful attempt at the synthesis of the various definitions of a cluster was undertaken by Knop (2013), who perceived it as a group of entities - enterprises, scientific units, public administration, local authorities – consciously operating in a specific eco-system concentrated on a specific territory and around a defined specialization. The effect of the

synergy of a cluster is acquired thanks to common undertakings, exchange of knowledge and improvement of competences.

Analysis of the various approaches to defining a cluster facilitates the specification of its most important features, which include among others, the territory in its environs that concentrates the entities forming the cluster, the chosen specialization, the chain of common values or horizontal ties, the synergy of cooperation, the principles of cooperation based on trust, diffusion of knowledge, creation of innovations and new competences, trust and social capital.

The concept of a cluster constitutes a new way of thinking in terms of creating the competitiveness of the enterprises that participate in them. Its essence is the ability to generate and maintain the competitive advantage (Porter, 1990, Meyer-Stamer, 1999). Clusters may become the entities that are capable of competing with international corporations for clients both on the domestic market, as well as the international market. Their strength is based on five pillars, namely the geographically separated location in the area in which the enterprises cooperate with each other; the similarity of the industrial sector or services within the framework by which they operate; the mutual ties and interactions, taking on the formal and informal forms of cooperation; cooperation and competition; the creation and management of knowledge.

Types of clusters

In subject-related literature, there is a variety of classifications of clusters. An interesting division of clusters was presented by Komor, Matras-Bolibok and Żelasko (2006), who on the basis of a type of integrator distinguished three models: Italian, Danish and Dutch. The characteristic feature of the Italian model is the lack of the existence of one entity that fulfils the institutional function of a coordinator. A cluster is formed by enterprises that are related by informal ties based on cultural factors. There is a lack of a formalized structure, capital ties and a managerial structure. The fact that relates the entities participating in a cluster is the high level of local identity. Another form is taken on by the Danish model that usually emerges on the basis of a government initiative. The government appoints an entity which is a neutral network broker. This fulfils the functions of the coordinator of the project of a cluster, its task being to make and facilitate contacts between the entities creating the cluster. In turn, the Dutch model places emphasis on the role of scientific institutions - universities, scientific and research institutes in the organization of a cluster. Its main aim is the creation of innovations and their implementation in economic practice. This model is applied in clusters of high technologies. In the context of the participation of small and medium-sized enterprises in clusters, the Italian model is interesting due to its significance in the achievement of the competitive advantage for the entities participating in it, which if operating independently would have problems with maintaining their position on the market.

Small and medium-sized enterprises fulfil various functions in clusters. They may be the coordinator of the cluster, enterprises with equal rights as large enterprises and affiliated firms of large enterprises. The typology presented by Meyer-Stamer (2000) is interesting in this sphere, in which he distinguished three types of clusters, firstly a cluster related to the Italian industrial districts encompassing small and medium-sized enterprises of a strong specialization within the framework of which firms compete with each other, while simultaneously building a system of network ties based on trust. Secondly, the hub-and-spoke cluster, featured by the co-existence of large local enterprises with hierarchical ties with a group of entities from the sector of SMEs. Thirdly, the

satellite cluster, created from small and medium-sized enterprises connected with the external enterprise and strongly dependent on it (e.g. Research Triangle Park in North Carolina, or the region of Manaus in Brazil).

Clusters are practically formed in all sectors of the economy. They occur in industry and in services, while also in sectors of high technologies, as well as traditional ones (Enright, 2001).

Management of a cluster consisting of SMEs

A cluster as a configuration for the various types of enterprises is a complex organization that requires a new approach to management. The management of a cluster is not only the classic perception of its functions, but also undertaking specific decisions that are influenced by varied factors that include among others, the configuration of the entities participating in it, varied aims, insufficient resources that are usually at the disposal of the cluster, the lack of financial stability, multi-dimensional ties between the entities entering the structure of the cluster, potential occurrence of a conflict of interests of the interested entities, etc.

In order to ensure the efficient achievement of the aims set out, it is essential to prepare a model of management that would enable the overcoming of the difficulties associated with the ability to make contact in terms of the various types of entities creating the cluster. These models should take into account the specifics of the clusters arising from the occurrence of a type of "gap" associated with the functioning of clusters. Lindqvist and Sölvett defined the most significant gaps that have an impact on the manner of managing a cluster, namely: a research gap associated with the weak ties between the enterprises and the scientific and research institutes; educational gap associated with the inappropriate level of qualifications and competences of the employees of the cluster; capital gap arising out of the lack of a clearly defined source of financing the business activities of the cluster, as well as the insufficient financial support for innovative enterprises; gap in the cooperation associated with the problems of understanding the roles and place of the particular entities in the cluster; gap in the policies relating to the excessive participation of local authorities in the management of the cluster; gap "between clusters" associated with the need to combine the potential of some clusters in the area of one notion and the horizontal ties as a result of the growth in competitiveness on the market (as cited in Knop, 2013).

Apart from the identified gaps in the functioning of a cluster, the impact on management has two variables, namely the appointment of the managing entity that has influence on taking decisions and choice of action in the sphere of one specialization (sector) or several specializations. Provan and Kenis (2008) on the basis of the varying managing entity distinguished three models of management in a network organization: (1) self-managing–participatory, in which there is no distinguished managerial structure and each network participant participates in the process of taking managerial decisions; (2) based on the leader of the market that may be an enterprise, a scientific unit or some other entity appointed to fulfil the role of a manager. The leader of the network initiates the activity and takes key decisions on behalf of the cluster; (3) managed by the administration unit which as the founding entity holds the power. The task of the administration staff is to stimulate the network participants towards action on behalf of the common benefits.

The models of management prepared by Provan and Kenis may become a role model for the construction of the structure of management in clusters, whose participants are SMEs. For instance,

in a cluster with the prevalent role played by SMEs, it is possible to apply the managerial and participatory model. The most significant features of this model is the high level of cooperation between the enterprises, which in turn results in the exchange of personnel between these entities. A strong trading association exists, ensuring a common infrastructure – management, training, marketing, technical and financial aid. Leadership takes on the role of organic leadership, while social and institutional ties are prevalent. A key problem in this model is the specification of the role of the SMEs that cooperate with each other. This type of model of management occurs in among others, the textile clusters in China and in Clusterland in Austria (Knop, 2013).

The choice of the model of management is also dependent on the type of sector in which the cluster operates. In the case of the cluster that focuses on one branch, it frequently appears as the leader coordinating the activities of the entities functioning within its framework. The function of the leader supports the partnership model structure, featured by close ties between the firms. Nevertheless, in the situation of grouping the enterprises, many sectors are complementary with regard to each other, it is necessary to appoint an entity that shall coordinate the cooperation between them without the dominating entities. Due to the complexity of the problems arising out of the specifics of the various sectors, the managing entity usually avails of the expanded infrastructure for the provision of advisory services that support its activities.

Chosen aspects of managing clusters of SMEs in Poland

In Polish literature, there are few publications relating to the problematic issues of the management of clusters, which SMEs are part of. The authors of the herein paper took on the task of highlighting these issues. The following formulated research questions are helpful in this case: What forms of management are adopted by clusters consisting of SMEs in Poland? What type of model for the development of a cluster has an impact on the internal organizational processes? What role is played by a coordinator in the analysed clusters? In the search for the answers to these questions, the method of desk research was availed of. The data was acquired from the reports on the state of the development of clusters in Poland in the period 2010-2012. One of the significant stages of research was the definition of what small and medium-sized enterprises are. In research on clusters, the criteria of the division of enterprises was deemed to be the number of workers employed. In accordance with the definition of the EU, micro-sized enterprises were deemed to be those employing less than 10 employees, while up to 50 employees in the case of small enterprises and less than 250 employees in medium-sized enterprises[1].

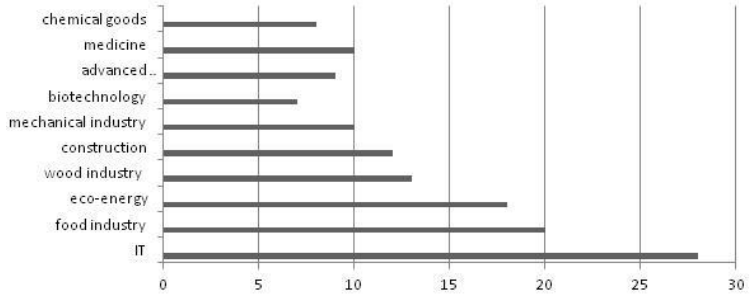
In Poland, a growth in the level of interest is being observed in the cluster initiatives on the part of enterprises. In 2010, a total of 212 operating clusters were noted[2]. They are most frequently formed from the initiatives of enterprises, which certifies to the degree of self-organization and cooperation in the business environment. They undertake differentiated activities by availing of the synergy effect by among other aspects, preparing joint offers, submitting joint orders, running sales by common distribution channels, running lobbying activity with regard to the authorities

[1] Art. 2 in: New definition of SMEs. Guide for users and sample statement. European Community, 2006, p. 14 http://europa.eu.int/com/enterprise_policy/sme_definition/index_pl.htm

[2] In Poland there are difficulties with establishing the number of clusters that are currently in operation as their registration is voluntary. Coordinators make entries in the Map of Clusters PARP, by transferring the basic data relating to the cluster in operation. On the basis of this database, research is carried out on clusters.

(Benchmarking of clusters in Poland, 2010). Analysis of the sectoral structure of Polish clusters indicates that they operate both in innovative branches and in traditional branches (see Fig. 1 for more details). The majority of clusters operate in the sectors of modern technologies - 28 cluster initiatives, while subsequently running activities in the following sectors: food (20), eco-energy (18) and wood industry (13), etc. (Clusters in Poland, 2012). In Poland, the largest clusters are as follows: Dolina Lotnicza – 80 firms that employ approximately 22,000 people; Life Science – 30 firms, 77,000 people; Neutribiomed – 35 firms, 3,500 people and the Małopolski Klaster Technologii Informacyjnych – 20 firms, 23,000 people (Górska, Łukasik 2013).

Figure 1. Structure of sector of clusters in Poland in 2012



Source: Self-analysis on the basis of "Klastry w Polsce. Katalog. Polska Agencja Rozwoju Przedsiębiorczości" (Clusters in Poland. Catalogue. Polish Agency for Development of Entrepreneurship) Warsaw 2012.

Analysis of the processes of management in clusters consisting of small and medium-sized enterprises was carried out on the basis of the results of the research on clusters in Poland presented in the report entitled „Benchmarking klastrów w Polsce – sedycja 2012" (Benchmarking of clusters in Poland– edition 2012). The research was realized In July and August of 2012 and was participated in by 35 clusters. The selection of clusters for research was based on the purposive and quota method. They represented all the provinces and various sectors of the economy. The research tools were built from questions that facilitated the identification of the processes of management, resources in terms of the disposition of the clusters, the results and perspectives of the development of the cluster initiatives. During the course of research, various research methods were availed of as follows: questionnaire-based interviews, analysis based on documents of desk research and direct observation executed by experts that met the coordinators and leaders in the clusters. In each of the clusters analysed, questionnaire-based interviews were executed with at least two respondents, together with the coordinator and cluster leader.

One of the key factors influencing the functioning of a cluster is the type of economic units creating its structure. Research on clusters in Poland (Benchmarking of clusters in Poland, 2012) reveals that they are most frequently created by enterprises (74%). In the majority of cases these are micro-scale and small enterprises which constitute a total of 71% of all the enterprises to be found in a cluster, whereas 45% constitute micro-scale enterprises (employing fewer than 10 people), while 26% of small enterprises (employing between 10 and 49 employees). Medium-sized enterprises (employing between 50 and 249 people) constitute 21% of all the enterprises in a cluster. Nevertheless, large enterprises that employ 250 employees or more, constitute a mere 8% of all producers in the clusters under analysis. The second group of entities creating clusters are entities from the R&B sector (scientific and research institutes), which are currently present in 9% of clusters. The situation

looks familiar in the case of other entities: units of territorial self-government and single entity (10%), support institutes, constitute a significantly lower percentage of members of clusters (7%). Most frequently the members of clusters amount to one or two, or a maximum of three support institutes.

While analysing the data presented with relation to the entities creating the clusters, it is possible to draw the conclusion that membership of them is a source of interest for mainly micro-scale and small enterprises, which due to participation in this type of structure perceive the possibility of achieving benefits. The weakness of these network organizations is usually the lack of a large enterprise of a stronger position, which could become the driving force of its development on the market. Small and medium-sized enterprises do not have great development potential, which translates into the limited possibilities of investing financial resources in the search for new technological solutions or the creation of a new product.

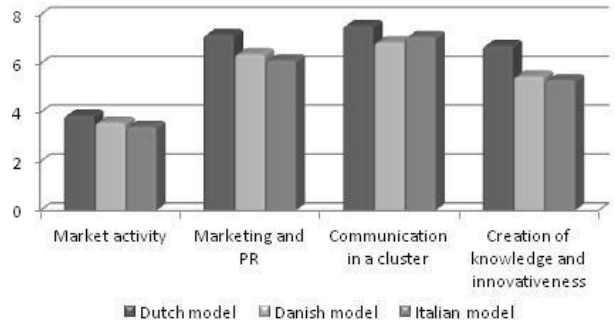
The success of a cluster on the market is decided on to a great extent by the quality of management. It is associated with the choice of a specific model, according to which it shall function on the market, the definition of the authorization for an entity to continue its operations and adopt a long-term strategy of development. One of the significant issues associated with the functioning of the cluster is the choice of the specific model. In the clusters analysed, the Danish model occurred most frequently (58%). The characteristic feature of this model is the role of the coordinator who undertakes initiatives that are directed towards building and expansion of cooperation within the structure of a cluster. The success of the cluster depends to a great extent on his level of involvement. The Danish model is a dominant type in the case of the newest clusters taking part in the research created in the period of 2010–2011. The Dutch model is ranked in the subsequent position (35% of clusters function on the basis of this model). The feature of this model is the role of the coordinator in initiating cooperation with scientific and research and development institutes. The Italian model appears relatively more seldom in clusters (27%), in which there is a lack of a formalized organizational structure and separate managerial structure. The ties between enterprises frequently take on an informalized nature. This model of management is often chosen by clusters composed of small and medium-sized firms of the same or similar type of production (Benchmarking of clusters in Poland, 2012).

Business processes are run in varying degrees within the analysed clusters depending on their model (see Fig. 2 for more details). The most important process is deemed to be the market activity associated with the creation of joint purchases of raw materials that are necessary for production, as well as building joint distribution channels and creating a joint market offer. In the analysed clusters, the market activity was most highly rated by respondents from the Dutch model (3,89), while the lowest in terms of the Italian model (3,60) [3]. A further important process within a cluster is that of marketing and PR. This relates to joint activities in the sphere of promotion and advertising, the system of individual identification, while also exhibition activity. The highest rated in this sphere was the activity of the Dutch model (7,19). The lowest rating was attributed to the clusters of the Italian model (6,14). The effective functioning of the cluster is dependent on the efficient internal communication, both in formal and in informal terms. In the analysed clusters, the highest rating

[3] In questions about opinions, the responses were gauged on a ten-degree scale, where value 1 signifies very weak, while the value of ten very good.

was attributed to the system of communication in the Dutch model (7,56). However, the lowest was attributed to the Danish model (6,88). The final process assessed is the creation of knowledge and innovation, which relate to the joint work on innovations, joint training and study trips. This process was assessed the highest in clusters of the Dutch model (6,54), while the lowest in the Italian model (5,49).

Figure 2. Values of average assessment of internal processes depending on the model of development of a cluster



Source: Prepared on the basis of „Benchmarking klastrów w Polsce "(Benchmarking of clusters in Poland) (2012)

By way of conclusion, the highest ratings for the internal organizational processes of clusters were acquired by the clusters consisting of research institutions, public administration and enterprises. This certifies to the professional approach towards the creation of the processes that determine the success of cluster initiatives. Nevertheless, the lowest ratings in terms of the sphere of market activity and creation of knowledge were attributed to the clusters of the Italian model that consist of small and medium-sized enterprises. This is a significant barrier to their further development.

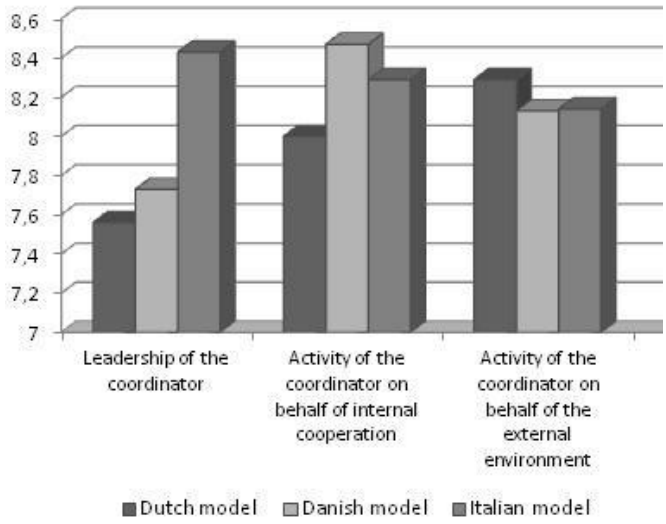
In the structure of a cluster, a key position is usually held by the managing entity (coordinator). In research on clusters in Poland, analysis was carried out on the factors associated with the leadership of the coordinator (Benchmarking of clusters in Poland, 2012):

- strength and position in a cluster (the scope of motivating towards common undertakings, realization of a common vision, creation and realization of a common strategy of development),
- activity on behalf of internal animation of the cluster (activity on behalf of the following: creation of vision, mission, aims, organization of meetings, motivation to cooperation, creation of ideas for joint projects and activity, promotion of the strategies of a cluster, edition of internal communiqués, care of the efficient flow of information in a cluster),
- activity with regard to the environs (promotion of the cluster, lobbying on behalf of the cluster, representing the cluster in internal bodies, the acquisition of new business partners, the search for the resources for the needs of the cluster, entering international cooperation).

Detailed results of the research on leadership in clusters indicate (see Fig. 3 for more details) that the coordinators of the clusters functioning according to the Italian model were ranked the highest with regard to the strength and position at their disposal (8.45%), whereas the lowest rating for

coordinators of clusters operating in accordance with the Dutch model (7.56%). Research reveals that 32% of coordinators had a very big impact on the behaviour of the members of the cluster, whereas in the case of 37% of clusters their strength was significant. The remaining coordinators had a limited impact on the functioning of the cluster.

Figure 3. Values of average evaluation of leadership depending on the model of development of a cluster



Source: Prepared on the basis of „Benchmarking klastrów w Polsce" (Benchmarking of clusters in Poland) - edition 2012.

Another element in the role of the coordinator is that of the creation of the activity of the cluster with regard to the external environment. In this area, the coordinators in the clusters functioning in accordance with the Dutch model were rated at a higher level (8.84) than those that managed clusters functioning in accordance with the remaining models (approximately 8). The differences in the evaluation of the coordinators may arise from the fact that in the Dutch model, R&D entities support the coordinator in terms of operations on behalf of cooperation with the external environment. Operations associated with this form of activity in the clusters under analysis are executed at a very high level (47%) a high level (38%), whereas relatively more seldom at a medium level (12%), or low level (3%).

The subsequent element of the activities of a coordinator is his activity on behalf of the instigation of cooperation in the cluster. In the analysed clusters, there is almost unanimity in terms of the assessment of their activities regardless of what model of cluster is being developed. These assessments oscillate around 8.0. Detailed analysis of this form of activity indicates the various levels of their realization, namely, a very high level is witnessed in 54% of clusters, whereas a high level in 31% of clusters, a medium level in 9% of clusters and a low level in 6% of clusters.

The analysed data facilitates the formulation of the conclusion that the position of the coordinator to a large extent depends on the model of the network organization. A strong position is held by the coordinator in a cluster that is characteristic of the Italian model, in which small and medium-sized enterprises are prevalent. A relatively weaker position is held by the coordinator in a cluster operating in accordance with the Danish model.

The analysis of the panel discussion on the perspectives of the development of clusters in Poland that was participated in by the coordinators of clusters, the representatives of public administration, as well as scientific institutions reveals that one of the significant barriers is the lack of professionalism of coordinators in undertaking pro-development activities. The coordinator should initially focus on building trust between the entities participating in the cluster initiative. The subsequent step in his/her activities is to initiate undertakings of a business nature, e.g. joint promotions, building common distribution channels, etc. In order for the coordinator to be able to operate effectively in these areas, he/she should have the appropriate competences. According to one of the participants of the panel discussion - "The c*oordinator should be a visionary and should know more than is visible today"* (Klastry w Polsce – raport z cyklu paneli dyskusyjnych [Clusters in Poland- report from cycle of panel discussions], 2012).

One of the key elements of managing a cluster is the building of the strategy of operations. Out of the various types of strategy that are described in subject-related literature (e.g. Lorange and Roos, 1993, Doz and Hamel, 1998), in practice they are most frequently applied in the strategies of development that concentrate on the following aims: business aims associated with gaining control of new markets; scientific and innovational ones relating to the cooperation between science and business; infrastructural ones associated with the expansion of the material and innovational infrastructure; network ones relating to building the image and identity of a cluster and social aims associated with the development of human capital and social capital (Knop, 2013).

Research on clusters in Poland (Benchmarking of clusters in Poland, 2012) reveals that the vast majority of the clusters taking part in the research declares having strategy of development (approximately 89%). In most cases, this is a formalized strategy, namely written on paper. The lack of a strategy of development was declared by a mere 11% of the clusters under analysis. This group included both clusters of a relatively long period of functioning (created in the years 2006, 2007 and 2009), as well as in a short term of functioning, or in other words formed in 2010. In the analysed strategies of clusters, the main strategic aims were as follows: common projects oriented towards the creation of innovative solutions and new technologies (this aim exists in the strategies of 83% of clusters); the acquisition of external financial resources for a cluster (68%); the growth in the market significance of a cluster and trademark of the region (60%); the growth in the position of a cluster as a partner with relation to the environment (e.g. with regard to public authorities, institutions of the market environment- 57%), as well as improvement of the flow of information and knowledge (also market level- 54%). In summing up the analysis of the strategic aims, it is possible to note that one of the most significant determinants of development is that of financial resources that are necessary to acquire in order to ensure joint activity. A further important aim is the creation of innovative solutions and technologies within the framework of cluster structures. Likewise, the aims of improving the position of a cluster on the market with regard to institutional partners, as well as other enterprises functioning outside of the environs of a cluster are important.

DELIBERATIONS

Cluster initiatives are one of the attractive forms of the networks of SMEs. They bring a multitude of benefits for the entities participating in them. The most important ones include among others, ensuring access to new technologies, the increase in the productivity of SMEs, supporting innovativeness, creating new workplaces, reducing the costs of operations by means of running joint

promotions, sales, supplies of raw materials, increasing the quality of human capital, cooperation with scientific institutions and research and development centres (Gorynia and Jankowska, 2008). Firms operating within the framework of clusters achieve financial benefits, namely lower costs of credit, better financial relations with banks, while also being less restricted by credit loans than firms located outside the cluster (Russo and Rossi, 2001). A further benefit of participating in clusters is the possibility of making business contacts with partners from Europe. The European Union supports cluster initiatives as innovative activity in the area of small and medium-sized enterprises. For instance, within the framework of the Seventh Framework Program in the section devoted to research and development, the initiative entitled *Regions of Knowledge* is stipulated, which is to arouse the building of ties between the regional clusters that is both science and research-driven. (Jankowska, 2010). Attaining added value in the case of entities operating within a network organization is associated with effective management. Management of the cluster of SMEs is not an easy task, which is due to its complexity. On the one hand, a cluster is created in order to facilitate the exchange of knowledge, information, while also create new solutions in the sphere of technologies, products etc. As an independent entity, it possesses its own policies associated with strategic aims. On the other hand, a cluster is formed by independent entities that have their own aims, which are not always completely in line with the aims of the cluster. SMEs are most frequently family-owned firms, which does not facilitate mutual cooperation. There is no transparency in their process of management and they are geared towards the attainment of individual benefits. A key role in the development of a cluster is played by the managing entity. This is usually the coordinator who manages this. The success of a network organization depends on the quality of leadership, namely the competences and activities of the manager. This should be a manager who has the abilities to recognise the future trends and the appropriate adjustment of the activities of the cluster to them. An interesting proposition for the coordinator may become the application of the solutions of social physics proposed by Pentland (2014), which could indeed become a tool for the creation of a more efficient network organization that is capable of greater adaptation. Nevertheless, the coordinator has a difficult task as he must not only focus on the realization of the policies of the cluster, but must also skillfully build up trust between the entities forming the cluster. The success of a network organization depends to a large degree on the level of trust. One of the key elements of managing a cluster is the long-term strategy of development. The research presented on clusters in Poland reveals that the majority of them have a strategy of development, which however does not have a direct impact on their everyday activity. In the majority of cases, they concentrate on resolving current problems and undertakings. They are geared towards the achievement of short-term aims. In spite of the fact that they are beneficial from the viewpoint that they strengthen motivation and confirm the sense of mutual action, they do not however ensure the growth in the level of the competitiveness of the cluster. The lack of an attractive strategy reduces the level of involvement of SMEs in cluster initiatives. As noted by Polish experts, the achievement of a consensus with regard to the aims of cooperation in clusters consisting of SMEs is a very difficult task, the more so as the more partners there are, the more diverse they are (with reference to among others, the market sector, area of business activities, size of entities etc.). *„Dopóki partnerzy nie zrozumieją, co wnoszą i co zyskują, inicjatywa klastrowa nie będzie działać"* (Until partners understand what they contribute and what they gain, the cluster initiative shall not work- Clusters in Poland – report from the cycle of the discussion panel, 2012).

CONCLUSIONS

From the perspective of SMEs, clusters may become an interesting alternative for their development. Despite the fact that there is not a very high number of clusters in Poland, their significance is ever-increasing. Further development of this form of organization not only depends on the readiness of enterprises to participate in them, but also on the policies geared towards stimulating the development of clusters. In Poland, despite the instruments prepared to arouse cluster initiatives, there is no policy of supporting this form of activity. There is a lack of the narrow perception of the cluster policy which would be directly or indirectly aimed at stimulating the development of clusters (Dierżanowski, 2012). This is the result of among other things, the lack of knowledge associated with the potential benefits for the economy and the particular entities. Hence, analysis of clusters on a wide scale is essential. The existing fragmentary analysis proves that such structures are also burdened with a multitude of problems that hinder their development. One of these is the lack of thorough knowledge relating to the management of clusters. The application of the methods of management that are effective in enterprises do not always bring the expected effects in terms of clusters due to their specifics. Thus, research work on the preparation of the methods and techniques of managing clusters is becoming necessary. The practical implication of the herein paper is the proposition of deliberations on the issue of the effective management of clusters, in which both researchers and practitioners may both participate.

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