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## CLUSTER AS A WAY TO ACHIEVE A COMPETITIVE ADVANTAGE

**Abstract:** In today's economic reality, when it is extremely difficult to obtain a competitive advantage, the cooperation of enterprises becomes inevitable. The economy of the future is an innovative economy, based mainly on clusters and networks of cooperation. Cooperation between actors increasingly in the modern economy functions as one of the key factors in the success of the business.

The aim of the empirical research was to identify the benefits that reach companies in the cluster, and to determine the effect of merger in clusters on their ability to achieve their competitive advantage and.

In this paper the authors present the importance of clusters for the achievement of competitive edge companies. The conclusions drawn in the development based on a study by a case study. The information was collected in the period October – November 2015.

**Key words:** cluster; network connections; competitive advantage.

**Klasyfikacja JEL:** D22; D85; L00

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## INTRODUCTION

Stimulating cooperation between economic operators, accelerate innovation processes and thus improve the competitive position is a new way of thinking about creating competitiveness, according to a concept of clusters. Observing the economic reality, the rate of change of the market environment and technological progress can be argued that in the market competitive advantage is inherent in innovation, and that the knowledge, skills and potential of the material. Hence clusters, responding to the challenges of the contemporary market, will already be in the assumptions contribute to the growth of innovation in their functioning within the organization, but also the economies and regions where the effects are apparent clusters. [Liczmańska, Wisniewska, 2014, pp. 48–56].

### 1. CLUSTER – THEORY

Brodzicki T. and S. Szultka define a cluster, as spatially concentrated cluster of businesses both cooperating and competing in selected aspects of the business and the affiliated institutions formal or informal relationships, based on the chosen specialization of development, technologies, markets, and others. [Brodzicki, Szultka, 2002, p. 54]

In the modern world co-operation between companies, understood as a joint task becomes a key element of the strategy. [Nowak, 2012, p. 263–264] In many countries, economic activity and economic focuses on areas of specialized industrial districts called clusters. Cluster by Michael Porter is defined as „geographic concentrations of interconnected companies, specialized suppliers, service providers, companies operating in related industries and associated institutions in particular fields, competing with each other but also cooperating. [Porter, 2001, p. 246] Local and regional authorities are showing interest in the presence of clusters, whereas their benefits in terms of generating greater innovation and competitiveness. [Mikołajczyk, Kurczewska, Fila, 2009, pp. 24–25]

Cluster offers excellent conditions for strengthening business cooperation, development depends first and foremost on the will of companies, their confidence and relationship. Cooperation may involve different areas of the enterprise [Coughlin, 1985, S.110] and is created in order to achieve

mutual benefits that could not be achieved by any of the suppliers acting individually [Dyer, Singh, 1998, p. 662].

Polish law defines clusters Regulation of the Minister of Economy of 2 December 2006 on the granting by the Polish Agency for Enterprise Development financial aid not related to operational programs – DzU No. 226, item. 1651 of 11 December 2006. As amended. In accordance with the above regulation cluster is a spatial and sectoral concentration actors for economic development and innovation, and at least ten businesses which in one or several neighboring provinces, competing and co-operating in the same or related industries and associated extensive network of relationships with the formal and informal nature, at least half of entities operating within the cluster are entrepreneurs.

Linking companies within the cluster is based on communication and coordination among its members [Klimczuk-Kochańska, 2012, p. 50]. Clusters occur in virtually all sectors of the economy, characterized by different levels of innovation and technological advancement [Brodzicki, Szultka, p.4]. Factors ensuring high innovation and the success of the cluster [Słomińska-Okła, 2012, p. 149; Liczmańska, Wiśniewska, 2014, pp. 48–56]:

- a high level of scientific research facilities,
- an effective system of communication between members,
- a high level of trust between members,
- active role in the development of the industry,
- effective cooperation between members,
- investments at every stage,
- specific promotion and marketing,
- the overall promotion of the benefits of the development of the industry,
- an experienced management team,
- support from the region
- internationalization of cluster initiatives.

Development policy based on clusters implies permanent improvement of the competitiveness of local, regional or national economy.

## 2. CASE STUDY – INTERIZON

In Poland one can observe more and more cooperative relations, functioning as a tool for promoting competitiveness and innovation in the regional

economy. They are based on cooperation and competition to attract regional companies providing specialized services, have a vision shared by all participants.

The project Interizon created in response to the needs of 15 enterprises operating in the wider electronics industry and information.

Actions leading to the formal incorporation of the Cluster coincided with the years 2008–2009 and are associated with the introduction of the Pomorskie voivodship “Regional Cluster Support Programme for Pomorskie Province for 2009–2015”. Then, in collaboration with the Technical University of Gdansk, a strategy Pomeranian ICT Cluster and tied a formal partnership was forming a cluster.

In December 2009, the Pomeranian ICT Cluster earned Cluster Key Kujawsko-Pomorskie. For the development of a significant cluster was the participation of the largest companies in the ICT industry in the region, among others, Thomson Reuters, Flextronics, Vector, Radmor, Telekom-Telmor, Jabil Circuit, DGT, Compuware, Sprint, Kainos Software, Zensar Technologies, Technical University of Gdansk, Gdansk University, Invest-GDA, Institute for Market Economics, the City Hall in Gdansk, Gdansk Development Foundation Enterprise, Pomeranian Science and Technology Park, Marine Science Center, and others, as well as innovative small and medium-sized companies in the region as well as micro-enterprises.

Companies from the ICT sector must constantly adapt to the conditions and expectations of customers but also to overtake them. The cluster is open at any time, they may accede to the new members.

They were formed cluster mission: “ICT cluster creates particularly favorable conditions for the development of enterprises of the ICT industry in the region by providing knowledge, encouraging innovation, stimulating cooperation between companies and institutions, and promote common objectives of the cluster members.”

As part of the Strategy for Development of ICT Cluster has defined four strategic goals

Objective 1: Facilitate access to new knowledge and stimulate innovation

Objective 2: To ensure the availability of qualified human resources

Objective 3: Development of cooperation between the participants of the cluster and support enterprise development

Objective 4: To promote the cluster as an attractive and innovative ICT center.

Cluster Administrator selected the Electronics Department of the Telekom-communication and Gdansk University of Technology. Members

of the Pomeranian ICT Cluster Interizon operate both on the national and international markets, the offer includes a number of industries, as illustrated in Figure 1.

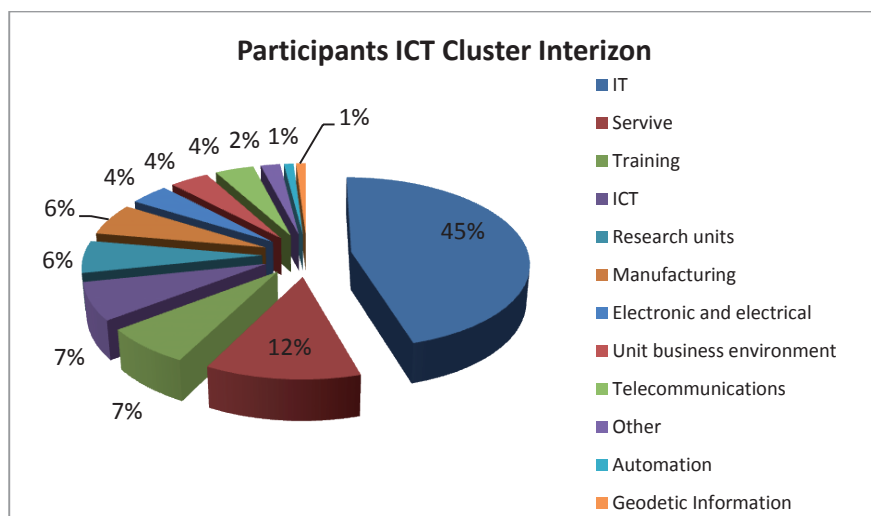


Figure 1. Structure of the ICT cluster members Interizon be broken down industry

Source: <http://interizon.pl/index.php/pl>

Key industries in which businesses operate Cluster include: information technology, service, training, ICT, research units and electronic, together account for 83% of the Cluster.

### 3. GENERALIZED BENEFITS WITH CLUSTER FUNCTIONING

With the participation in the cluster due to a number of benefits both for all participants, as well as for the region in which it is located. They contribute to the development of regional areas in which they operate. These advantages indicate almost all of the analyzed clusters operating in Poland.<sup>1</sup> Reviewing the literature and the results of research clusters in Poland in terms

<sup>1</sup> Analysis of web sites and information materials 27 clusters operating in Poland, the analysis was carried out in October 2015.

of the benefits they provide their members, these benefits can organize and divide into three main areas [Rapacz, 2008, p. 108, Dobrowolska, 2015, pp. 92–93]:

1. Increase operational efficiency by:
  - a. The possibility of obtaining grants from the EU or other funds in projects for companies associated in the cluster,
  - b. The common representation of members of the Cluster on the market,
  - c. Joint marketing activities,
  - d. Facilitate the search for new partners,
  - e. The creation of a distribution network,
  - f. Building a common brand cluster,
  - g. The real impact on development trends in the industry,
  - h. The possibility of obtaining qualified personnel,
  - i. Internship programs for researchers,
  - j. Participation in trade fairs and economic missions,
  - k. Reducing barriers to entry,
  - l. The organization of meetings and conferences presenting the offer of the cluster.
2. Increase the level of innovation of enterprises by:
  - a. The transfer of knowledge, cooperation with R & D centers,
  - b. The exchange of experiences, access to expert industry knowledge,
  - c. Creation of joint teams of experts to develop specific projects,
  - d. Using a common technical infrastructure,
  - e. Increased pressure on innovation,
  - f. The possibility of obtaining support from local authorities to support innovation.
3. Reduce costs through:
  - a. Lower transaction costs
  - b. Joint logistics, lower transport costs,
  - c. The ability to use a flexible division of labor,
  - d. Reducing operating costs in the administration,
  - e. Purchase of goods and services on preferential terms,
  - f. The joint purchase of equipment and raw materials.

In today's economic reality, where the key to success is to find competitive advantages, the above benefits of functioning in clusters seem to confirm the assumption that the grouping gives more opportunities to achieve success in the market than individual action.

#### 4. BENEFITS FOR THE PARTICIPANTS FROM PARTICIPATION IN CLUSTER INTERIZON

The benefits of the participants in the functioning of the cluster can be defined in different planes, members of the cluster Interizon represent them in five areas: collaboration, business benefits, investment in human capital, innovation and development, and promotion.

Analyzing the first area – cooperation, the participants of the cluster INTERIZON show especially for establishing new contracts, the purchase of goods services on preferential terms. Inquiry directed to directed to the entire cluster allow attracting new customers, especially in a situation where one company alone can not accomplish the task. Interizon provide members access to facilities and infrastructure on favorable terms. In addition, in order to support the development of young companies has been created Incubator Cluster in Gdansk Science and Technology Park.

Within the next section on the business benefits, the cluster members Interizon, as a key point of both the benefits branding brand and increase its awareness. Organizations associated in the cluster benefit from identifying their brand with the idea of the cluster and build brand image to support the idea of sharing and deepening knowledge and developing in line with the latest trends in business. Among the key business benefits of the cluster members Interizon indicate the acquisition of new business, reach new customers, the possibility of cooperation, as well as contact with a wide range of industry experts. In addition, participants appreciate the opportunity to perform an assessment of the market its product in explicit target group and access to interesting training on preferential terms.

In another area of benefits, which are investments in human capital, the cluster members Interizon appreciate the most: the possibility of obtaining high-skilled workers and trainees, participation on preferential terms in job fairs and training for employees.

In the area of innovation and development of cluster members indicate participation in projects financed by the EU – international consortia budgets worth even a few million. Individually the company could not participate in such large-scale projects and membership in a cluster allows. Another indicated in this area benefits include: cooperation with universities and research institutions, meeting with authorities in the industry, access to specialized studies and analysis, as well as the real impact on development trends in the industry and regional development policy.

The last area of the benefits of participation in relation to that point, the cluster members Interizon this promotion. For organizations are extremely important benefits of branding, they show a combined promotion and organization of meetings and conferences presenting the offer and the possibility of cluster participants in the market.

## SUMMARY

Perfectly managed cluster meets the needs of both the participants and the needs of the area in which it operates, so that a great part in the development strategy of the region, as well as the strategies of individual organizations. A study and information gathered indicates that the clusters operating in the market well aware of both the potential and the expectations of companies are able to provide them with the benefits they expect and which have the ability to contribute to the growth of their competitive position.

In today's economic reality, where competitive advantage is inextricably linked to innovation, knowledge and skills, the answer to the challenges of the market are the clusters and cooperative ties that contribute to the growth of innovation, both member companies and the entire region.

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## KLASTER JAKO SPOSÓB NA OSIĄGANIE PRZEWAGI KONKURENCYJNEJ

**Streszczenie:** W dzisiejszej rzeczywistości gospodarczej, kiedy niezwykle trudno o uzyskanie przewagi konkurencyjnej, współpraca przedsiębiorstw staje się nieunikniona. Gospodarka przyszłości to gospodarka innowacyjna, opierająca się przede wszystkim na klastrach i sieciach współpracy. Kooperacja pomiędzy podmiotami coraz częściej we współczesnej gospodarce spełnia funkcję jednego z kluczowych czynników sukcesu biznesowego.

Celem prowadzonych badań empirycznych było wskazanie korzyści, jakie osiągną przedsiębiorstwa zrzeszone w klastrach, oraz określenie wpływu łączenia się przedsiębiorstw w klasy na możliwości osiągnięcia przez nie przewagi konkurencyjnej.

W artykule autorki przedstawiają znaczenie klastrów dla osiągnięcia przewagi konkurencyjnej przedsiębiorstw. Wnioski zawarte w opracowaniu wyciągnięto na podstawie badań metodą case study. Informacje zostały zebrane w okresie październik – listopad 2015 roku.

**Słowa kluczowe:** klaster; powiązania sieciowe; przewaga konkurencyjna.