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**ЛОГИСТИЧЕСКИЕ КЛАСТЕРЫ В ПОЛЬШЕ –
УСЛОВИЯ СОЗДАНИЯ И ЭКОНОМИЧЕСКИЕ
ПОСЛЕДСТВИЯ ФУНКЦИОНИРОВАНИЯ**

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Аннотация. История появления кластеров уходит корнями в неоклассическую экономику и связана с исследованиями конца XIX века британского экономиста Альфреда Маршалла, которые спустя 100 лет были сформулированы в рамках общей теории М. Портера. В настоящее время динамичное развитие рынка логистических услуг привело к концентрации предприятий сектора TSL (логистики). Логистические кластеры стали новым элементом экономического ландшафта в Польше. Цель работы – представить условия для создания, разработки и определения местоположения логистических кластеров, а также различные преимущества, связанные с функционированием логистических кластеров. Результаты исследования выявляют значимость места и роли логистических кластеров в повышении конкурентоспособности предприятий и экономики.

Ключевые слова: кластеры, логистика, условия развития, факторы местоположения.

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LOGISTIC CLUSTERS IN POLAND – CONDITIONS FOR THE CREATION AND ECONOMIC CONSEQUENCES OF FUNCTIONING

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Abstract. The beginnings of the cluster's concept go back to neoclassical economics. These were the studies of A. Marshall, which 100 years later were formulated in the general theory of M. Porter. Nowadays, the dynamic development of the logistic services market has resulted in the concentration of enterprises in the TSL sector. Logistic clusters have become a new element of the economic landscape in Poland. The aim of the work is to present the conditions for the emergence, development and location factors of logistic clusters. In addition, various benefits resulting from the functioning of logistic clusters are presented. The results and conclusions from the considerations point the important role played by logistic clusters in improving the competitiveness of enterprises and the economy.

Keywords: clusters, logistics, development conditions, location factors.

Introduction

Logistics has been developing steadily and dynamically for the last several years in Poland and across the world. Its development has been made possible thanks to technical and technological advancement and progressing globalisation (i. e. the increase of trade and investment). These phenomena, in turn, boost the flows of material and information which reach bigger and bigger areas. Business enterprises have also changed their marketing strategies from “the seller's market” to “the buyer's market”. Nowadays, not only do they take into account the quality and price of the product, but also the process of delivery and logistics services. This rule applies to both industrial and consumer goods.

A tendency to bring together business activities in forms of clusters and to locate them within particular geographic areas is a natural effect of logistics development. Hence, logistics clusters have become part of the Polish economic landscape. The aim of the present paper is to show the processes of their formation, development and location factors, along with examples. The paper also indicates the diverse benefits of logistic clusters as seen from the perspective of a business enterprise and local economy.

Clusters – origins and premises

The origins of a cluster may be sought in the neoclassical economics. At the end of the nineteenth century, British economist, Alfred Marshall, was doing research on industrial economics. He then noticed spatial concentration of business enterprises and analysed their modes of operation and cooperation. Marshall [1] indicated that, apart from regular competition, the relationships between business enterprises were based, for example, on mutual and sustainable exchange of various services, which were of great significance on the market. Such cooperation contributed to, among others, spreading innovations. It also explains the geographic proximity observed among companies from similar branches, which created a “network” of manufacturers based on social division of labour and thus connected with the local labour market. Marshall identified such industrial areas in Great Britain and named them “industrial districts”.

A. Marshall was the first to formulate and introduce the notion of externalities into the economic literature. Externalities describe the benefits which do not result from the direct actions of a business enterprise, but from changes taking place in its surroundings. The benefits for a business enterprise, then, result from bringing its business activities into a particular area and then taking advantage of agglomeration economies. According to Marshall, these benefits stem from the proximity of other companies, which encourage new enterprises to choose this particular location to conduct business. Companies, aware of the benefits, operate within districts, taking advantage of such externalities as: specialization,

infrastructure, information, communication, qualified workforce and research available to all individual companies.

Despite the fact that Marshall's concept is one hundred years old, it remains valid; today, one may identify and observe economic zones resembling Marshall's districts. Moreover, Marshall's idea inspired further studies on clusters, which are nowadays being defined as more advanced forms of business and spatial planning. The concept of a cluster has been formulated by an American economist Michael Porter [2,3] and, in general, it is similar to Marshall's original idea. Much like Marshall, Porter argues that economies of scale, externalities and agglomeration economies are the reasons why business enterprises form clusters [2,3]. Besides, clusters enable them to reduce transaction costs (including costs of knowledge). The formation of clusters, therefore, is premised on the belief that one's ability for innovation increases as a result of working with other companies located within a given market area or within a particular geographical region.

M. Porter defined a cluster as a network of interconnected companies and institutions located within a given area, which come from similar branches, work together, support and compete with one another. Porter [4, p. 246] claims that from an economic standpoint more emphasis should be placed on clusters, rather than on individual companies or particular sectors of economy. It allows one to identify crucial mechanisms of market competition and to understand how company's location affects its competitive advantage. Small and medium-sized business enterprises led by various manufacturers and service providers, as well as academic institutions, achieve more by working together within the cluster than by working independently. Mutual relationships developed within the cluster facilitate economic growth of a given area. They may also cause a multiplier effect and, as such, they should start replacing traditional forms of regional development support.

Despite the fact that the phenomenon of industrial districts was analysed at the beginning of the 1990s, the topic continues to inspire scholars and practitioners from various fields. Many come up with their own definition of a cluster. Most of the definitions, however, even if deviating

from Porter's original idea, put emphasis on the following four characteristics of the cluster:

1. Geographical proximity – individual members of a cluster can use common resources and benefit from being part of the network.
2. Common path of development – companies set common goals.
3. Relationships, or interaction, between companies – clusters are formed by business enterprises from similar branches, which use similar technology, have common suppliers and similar customers.
4. Cooperation – simultaneous cooperation and competition between business partners, which may contribute to the development of companies and overall success of the cluster.

Logistics clusters as providers of logistics services

Being part of the cluster guarantees advantages over other types of business ventures, namely innovation, efficiency and flexibility of production. These benefits stem from, among others, a wide scope of logistics services offered by logistics clusters to other highly specialised companies. Logistics clusters, therefore, are types of cooperative enterprises revolving around logistics operators which utilise such cooperation to shape and improve logistics services. Interestingly enough, logistic clusters form in all economic sectors.

W. Elsner defines a cluster as a set of manufacturers and service providers whose activities are connected to the 'logistics' function [5]. Such a group comprises manufacturers, suppliers, service providers, public agents and private enterprises who are gathered around logistics services provided by logistics centres and warehouses, interim carriers, freight forwarders, cargo brokers, intermodal marketing enterprises or back-office companies from TSL sector (i. e. suppliers of equipment and devices, leasing companies, transport companies). Therefore, proper infrastructure is necessary to ensure proper functioning of the cluster. It guarantees effectiveness of logistics processes on which all the companies depend.

The above interpretation of the term does not determine the type of companies' cooperation within the cluster, which may take the shape

of cooperation – cooperation alongside competition within the area of logistics. According to J. Zrobek [6, p. 7], such work may be connected with some related supporting industries, institutions and companies, which foster core business. As a result, technical and technological development takes place and traditional centres of distribution change into logistics platforms and then into logistics clusters.

A logistics cluster is not so much a collection of independent entities as a network of companies working together within particular branches. This means networking on different levels, which is a typical trait of a cluster. At this point, therefore, it is worth introducing a differentiation between a network and a cluster. E. Dobrzycska [7, p. 38] argues that logistics network is part of the logistics cluster on a lower level, characterised by unstable cooperation network and unstable relationships between business partners. A single, well-developed logistics cluster usually comprises a few logistics networks.

On the one hand, logistics clusters originate from traditional business ventures and are based on their spatial arrangements and location. On the other hand, their key feature is providing a variety of specific services, including knowledge and skills, as well as building trust and reducing costs [8]. In summary, a logistics cluster is a purposefully created set of companies and institutions located within a specific area and connected on the level of functionality and infrastructure which provide logistics services and support logistics processes. Needless to say, these functions overlap with the main tasks carried out by logistics companies. Logistics services include: transport, storage, packing, trans-shipping, and shipping, order completion, assembly, etc. Services supporting logistics processes include: repair and maintenance services, financial services, transport insurance, marketing, consulting and training, supporting innovations, etc. Working together within logistics clusters benefits business enterprises and constitutes added value.

Also, logistics clusters take part in fostering entrepreneurship, which means supporting actions that lead to discovering new opportunities offered by the environment as well as avoiding risks and reducing obstacles for business.

Logistics clusters – formation and development conditions

Logistics clusters may be formed and developed in various ways. Their origin may be initiated by the private sector (business) and the public sector (administration), research and development organizations (i. e., universities), regional development agencies or non-governmental organisations being business stakeholders i. e., associations, foundations, grassroots organizations etc.

According to Knop [9], there are two basic approaches to creating logistics clusters – bottom up initiative and top-down initiative. The example of Polish clusters shows that the top-down initiative is more effective. It means that the development of the cluster depends on the quality of cooperation between business, local administration (of the city or region) and science (local universities both public and private). Usually, such cooperation starts from single projects, but, with time, it evolves into a technologically complex network.

The main advantage of this approach is flexibility with which the companies may choose their business partners, determine common goals, and coordinate their work. However, securing financing for future projects, as well as coordinating and promoting the services of the cluster, is more difficult.

The role of the public sector (local and regional authorities) in developing and fostering logistics clusters is significant*. According to M. Porter [4, p. 310], the state should support the existing and emerging enterprises rather than create new ones from scratch. New sectors and new clusters emerge most effectively if based on those already in place. The role of local authorities, whose aim is to stimulate the creation of the cluster and to foster its further development, may be best explained on a diagram whose four parts stand for four interrelated determinants (fields), which overlap and support one another. This diagram is known as the Porter Diamond. In Porter's opinion, the public sector may, or even should, act in all four of these areas (*Fig. 3.1*).

* Not all logistics clusters are started by the public sector, e. g. SpediGo Polish Group is a private business enterprise comprising 9 companies.

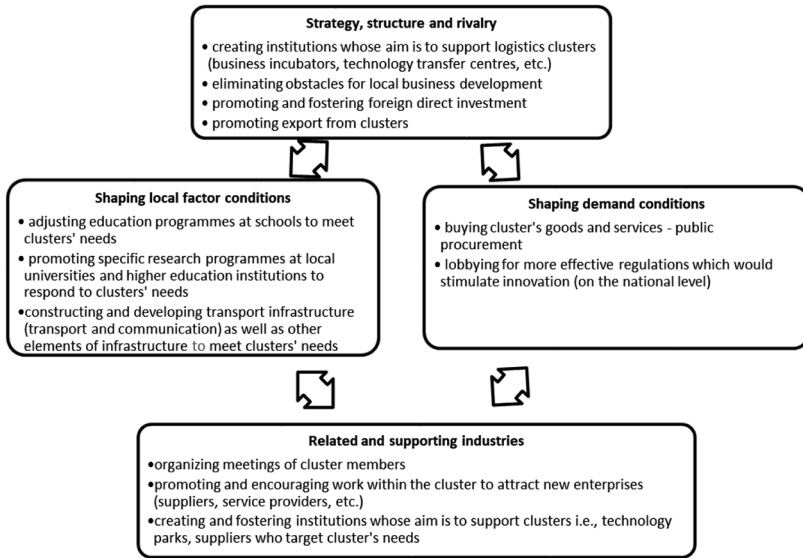


Fig. 3.1. The actions of public authorities which aid cluster development in four areas of competition

Source: based on Porter M. [4, p. 317]; Brodzicki T., Szultka S. [11]

A cluster, then, is an example of a horizontal cooperation between three groups of bodies acting within the same segment of the market i. e. companies, research and development centres and public authorities. The nature of their mutual relationships resembles a triple helix – a DNA structure with three intertwining strands and strong binds. The triple helix concept was conceived by H. Etzkowitz and L. Leydesdorf [10]. At its core, there are relationships and benefits resulting from cooperation between key entities such as: public administration, business, and scientific institutions. As the role of knowledge in economy is constantly growing, logistics clusters (and other types of clusters as well), contribute to the competitive advantage of the areas in which they operate (cities, regions) by fostering innovation. What is more, logistics clusters enhance business flexibility and thus reduce risk connected with conducting business.

Conclusion

In light of the above, it seems that logistics clusters constitute an important and promising branch of economy with great potential for future development. However, further research in the field is still needed. One may nonetheless argue that clusters increase business competition, have a positive impact on local economy (the development of cities) and play an important role in shaping local policies. They are especially important for those regions which see in them the source of their own competitive advantage. The most significant reasons why the development of clusters should be supported (including transportation policies) are: the increasing role of transport in the economy, improving the quality of our everyday life and decreasing negative effects of transportation on the natural environment.

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