

УПРАВЛІННЯ ПІДПРИЄМСТВОМ

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MECHANISM OF PROVIDING ECONOMIC DEVELOPMENT OF TRANSPORT AND LOGISTICS ENTERPRISES ON THE BASIS OF CLUSTERING

МЕХАНІЗМ ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОГО РОЗВИТКУ ТРАНСПОРТНО-ЛОГІСТИЧНИХ ПІДПРИЄМСТВ НА ЗАСАДАХ КЛАСТЕРИЗАЦІЇ

Urgency of the research. In the conditions of intensive development of the world trade and transport relations and global integration processes, the increase of efficiency of the multimodal cargo transportation between regions, countries and continents is of great importance.

Target setting. One of the reasons of inhibition of the multimodal transportation development in the domestic economy is the lack of an advanced network of transport and logistics clusters (TLCs).

Actual scientific researches and issues analysis. The most investigated are the issues of essence, economic pre-conditions and advantages of cluster formation.

Uninvestigated parts of general matters defining. However, some additional research is required on the practical issues of cluster formation in specific regions and sectors of the domestic economy taking into account their specific features.

The search objective. In the proposed research the main attention is focused on the rationale for the mechanism of providing economic development of transport and logistics enterprises on the basis of clustering.

The statement of basic materials. The article provides calculations of a localization coefficient, a focus and a size of a cluster group, based on which the practicability of creation of a transport and logistics cluster in the city of Kyiv and Kyiv region is substantiated. The list of potential participants of a cluster is provided, and the mechanism of providing economic development of transport and logistics enterprises on the basis of clustering is developed.

Conclusions. The formation and functioning of transport and logistics clusters in Ukraine will allow joining the unified European and Asian transport system with common infrastructure; as well as create conditions for the efficient functioning of a national multimodal transportation network.

Keywords: clustering of transport and logistics enterprises; transport and logistics cluster; mechanism of providing economic development; multimodal transportation.

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Актуальність теми дослідження. В умовах інтенсивного розвитку світових торговельно-транспортних відносин та глобальних інтеграційних процесів важливого значення набуває підвищення ефективності мультимодальних перевезень вантажів між регіонами, країнами та континентами.

Постановка проблеми. Однією з причин гальмування розвитку мультимодальних перевезень у вітчизняній економіці є відсутність розвинутої мережі транспортно-логістичних кластерів (ТЛК).

Аналіз останніх досліджень і публікацій. Найбільш дослідженими є питання сутності, економічних передумов та переваг формування кластерів.

Виділення недосліджених частин загальної проблеми. Однак, потребують додаткового дослідження практичні питання формування кластерів у конкретних регіонах та галузях вітчизняної економіки з врахуванням їх відмінних особливостей.

Постановка завдання. Основна увага в представленому дослідженні зосереджена на обґрунтуванні механізму забезпечення економічного розвитку транспортно-логістичних підприємств на засадах кластеризації.

Виклад основного матеріалу. У статті представлено розрахунки коефіцієнтів локалізації, фокусу та розміру кластерної групи, на основі яких обґрунтовано доцільність створення транспортно-логістичного кластера у м. Києві та Київській області. Представлено перелік потенційних учасників кластера, а також розроблено механізм забезпечення економічного розвитку транспортно-логістичних підприємств на засадах кластеризації.

Висновки. Формування та функціонування транспортно-логістичних кластерів в Україні дозволить увійти в єдину Європейсько-Азійську транспортну систему із загальною інфраструктурою; створить умови для ефективного функціонування національної мережі мультимодальних перевезень.

Ключові слова: кластеризація транспортно-логістичних підприємств; транспортно-логістичний кластер; механізм забезпечення економічного розвитку; мультимодальні перевезення.

Urgency of the research. Transport is one of the basic sectors of a national economy, the efficient functioning of which is a necessary condition for economic growth, providing competitiveness of a national economy and standards of living.

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In the conditions of intensive development of the world trade and transport relations and global integration processes, the increase of efficiency of the multimodal cargo transportation between regions, countries and continents is of great importance, in particular the cargo transportation through the territory of Ukraine. Multimodal transportation is one of the most important components of the transport concept of world and national importance, which provide delivery “door-to-door” and “just-in-time”, and have a number of advantages in cost optimization, efficiency of the system of control over the passage of cargo, simplification of procedures in the supply chain, ensuring the economic safety of participants of multimodal transportation. Multimodal transportation is of particular relevance in the context of implementation of the European integration potential and development of international partnership [1].

Target setting. The promising development of a multimodal transportation network in the domestic economy today faces numerous barriers. One of the most significant is the lack of an advanced network of multimodal transport and logistics centers (MTLCs) and transport and logistics clusters (TLCs) that have not acquired the necessary development in Ukraine due to managerial and institutional problems.

Actual scientific researches and issues analysis. Problems and patterns of the formation and functioning of clusters are actively investigated in domestic [1; 3; 4; 7] and foreign [2; 5] economic science.

Uninvestigated parts of general matters defining. While paying tribute to the scientific research of the above mentioned authors, it is worth noting that some additional research is required on the practical issues of development of the mechanisms and instruments of cluster formation in specific regions and sectors of the domestic economy taking into account their specific features.

The research objective. In connection with the aforesaid, the objective of this article is to justify the mechanism of providing economic development of transport and logistics enterprises (TLEs) on the basis of clustering.

The statement of basic materials. In order to diversify the national economy, the creation of MTLCs and TLCs for the formation of a unified transport and logistics system of Ukraine should be the basis for development of the Ukrainian economy for the next – decade. In the worldwide practice MTLCs have many different definitions and differ in their functional direction of work. For example, in France – «plates-formes multimodales» – a multimodal platform; in Germany – «Güterverkehrszentrum» – a center of cargo transportation [2].

It should be noted that the basic requirements for the functioning of MTLCs should be the following organizational components: transparency, openness of relations between companies with the preservation and maintenance of competition; multifunctionality; provision of warehouses, buildings, equipment, etc.; introduction of the latest information technologies; multimodality [3].

The advantages of creating the MTLC network are the formation of zones of optimal service of regions, the operation of common border transport and distribution zones with a single communication infrastructure, consignment warehouses, and preferential treatment. In general, taking into account the level of development of the transport network in Ukraine and the transport and economic ties, it is proposed to organize about 40 supporting MTLCs, which in their specialization can be grouped into three categories [4]: 1) border; 2) internal; 3) water. MTLCs should become a launch complex, around which will be formed TLCs – the associations of companies that are links in the transport and logistics chain and through cooperation provide more efficient use of their economic potential. The success of formation and development of clusters depends on the efficiency of assessing regional economic conditions for their development.

A classic indicator for assessing the competitiveness of a regional cluster is the localization coefficient, which reflects not only the attractiveness of the sectors of the given specialization in a particular area, but also the attractiveness of the region:

$$LQ = \frac{\frac{Emp_{ig}}{Emp_g}}{\frac{Emp_i}{Emp}} \quad (1)$$

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where Emp_{ig} is the number of employees in the industry i in the region g ; Emp_g is the total number of employees in the region g ; Emp_i is the number of employees in the industry i ; Emp is the total number of people employed in the country. This methodology was adapted by the European Cluster Observatory, which proposed, in addition to the localization coefficient, in order to determine the meaningful cluster groups to use additional criteria: size and focus [5].

The size of a cluster group represents the weight of the region's sector in the given sector of the country:

$$Size = \frac{Emp_{ig}}{Emp_i} \quad (2)$$

The focus of a cluster group is the weight of the sector in the economy of the region:

$$Focus = \frac{Emp_{ig}}{Emp_g} \quad (3)$$

The localization coefficient in the range from 1.25-1.3 and above, indicates the presence of specialization in the region. The conducted research on the basis of calculation of the abovementioned coefficients revealed favorable economic conditions for the formation of a TLC in the city of Kyiv and Kyiv region (Tab. 1).

The practicability of forming a TLC in the city of Kyiv and Kyiv region is also conditioned by the passage of three international transport corridors through the given region [7].

The main objectives of the formation of a TLC in Kyiv and Kyiv region are to ensure the provision of transport and logistics services at the level of requirements of the world market and its integration into the national and world transport systems; to develop and effectively use the existing geostrategic position of Kiev region, the transit potential on the path of trade and economic relations North – West – Center – East – South; to develop opportunities of transport and logistics complexes of the region for the delivery of competitive products and goods of domestic producers to the markets.

The formation of a transport and logistics cluster in Kyiv and Kyiv region will promote: increasing the level of transport infrastructure development on the basis of major transport highways, achieving the maximum efficiency of transport processes; reducing the share of transport component in the value of final product in internal, transit and export-import connection.

In addition, the clustering of TLEs and the operation of TLCs in Kyiv and Kyiv region will increase the throughput capacity of the road network through the construction of circular bypass highways, distribute the total transport load by complementing and cooperating all types of transport and accompanying services, update the rolling stock by foreign investment, raise the level of logistics and warehousing services to a new level by the "door-to-door" system, conduct timely repairs and maintenance of transport through the creation of new jobs in the field of engineering and technical maintenance of the cluster, increase the flow of state funds due to the government's interest in improving transport infrastructure.

To participate in the TLC in Kyiv and Kyiv region, it is proposed to involve the enterprises, organizations and institutions presented in Tab. 2. Successful implementation of the tasks of regional TLCs, including in Kyiv and Kyiv region, depends first of all on the progressive, modern economic development of transport and logistics enterprises in the region on the basis of clustering.

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Table 1

The results of calculating the localization coefficient for all regions of Ukraine and the city of Kyiv in 2010 and 2015

Regions	Average number of employees of enterprises of the type of economic activity "Transport, warehousing, postal and courier activity"		Employment of the population of Ukraine		Size		Focus		Localization coefficient	
	2010*	2015	2010*	2015	2010*	2015	2010*	2015	2010*	2015
Ukraine	782,9	661,4	19180,2	16443,2	1	1	0,041	0,040	0,041	0,040
Vynnytsiiregion	28,4	26,4	694,3	674,9	0,036	0,040	0,041	0,039	1,002	0,972
Volynregion	11,6	11,3	433,6	397,3	0,015	0,017	0,027	0,028	0,655	0,707
Dnipropetrovskregion	65,2	65,1	1541,9	1479,6	0,083	0,098	0,042	0,044	1,036	1,094
Donetskregion	91,5	34,6	1983,7	756,3	0,117	0,052	0,046	0,046	1,130	1,137
Zhytomyrregion	14,9	14	560,3	506,6	0,019	0,021	0,027	0,028	0,651	0,687
Zakarpattiaregion	17,4	14	531,8	519,3	0,022	0,021	0,033	0,027	0,802	0,670
Zaporizhziaregion	28,9	24,5	825,7	745,1	0,037	0,037	0,035	0,033	0,857	0,817
Ivano-Frankivskregion	15,1	12,5	530,3	558,3	0,019	0,019	0,028	0,022	0,698	0,557
Kyivregion	32,1	31,1	757,9	739,9	0,041	0,047	0,042	0,042	1,038	1,045
Kirovohradregion	19,8	19,2	431,2	386,8	0,025	0,029	0,046	0,050	1,125	1,234
Luhanskregion	34,3	11,9	1015,4	306,3	0,044	0,018	0,034	0,039	0,828	0,966
Lvivregion	46	44,5	1096,7	1042	0,059	0,067	0,042	0,043	1,028	1,062
Mykolajivregion	18,4	18	536,7	508,7	0,024	0,027	0,034	0,035	0,840	0,880
Odessa region	77,3	69	1044,5	1016,2	0,099	0,104	0,074	0,068	1,813	1,688
Poltava region	28,1	34,4	644,8	583,6	0,036	0,052	0,044	0,059	1,068	1,465
Rivne region	14,4	10,5	471,2	487,7	0,018	0,016	0,031	0,022	0,749	0,535
Sumy region	19	19,2	497	470,5	0,024	0,029	0,038	0,041	0,937	1,015
Ternopilregion	11,3	10,3	431,3	406,2	0,014	0,016	0,026	0,025	0,642	0,630
Kharkivregion	52	45,4	1267,3	1230,8	0,066	0,069	0,041	0,037	1,005	0,917
Kherson region	13,5	12,2	488,8	445,8	0,017	0,018	0,028	0,027	0,677	0,680
Khmelnytskyiregion	17	12,2	580,6	500,5	0,022	0,018	0,029	0,024	0,717	0,606
Cherkasy region	18,9	17,7	564,9	523,5	0,024	0,027	0,033	0,034	0,820	0,841
Chernivitsi region	7	6,3	382,4	367,2	0,009	0,010	0,018	0,017	0,448	0,427
Chernihiv region	12	11,8	480,1	432,3	0,015	0,018	0,025	0,027	0,612	0,679
The city of Kyiv	88,8	85,3	1387,8	1357,8	0,113	0,129	0,064	0,063	1,568	1,562
Kyiv and Kyiv region	120,9	116,4	2145,7	2097,7	0,154	0,176	0,056	0,055	1,380	1,380

* Excluding the Autonomous Republic of Crimea and the city of Sevastopol for ensuring the comparability of data

Source: calculated by the authors on the basis of statistical data [6]

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Table 2

Potential participants of the transport and logistics cluster in Kyiv and Kyiv region

Direction of activity	Name of the enterprise, organization, institution
Cluster operator	1) "5PL" LLC
Transport And Logistics Enterprises	2) "Center of Transport Service "LISKI" branch of the Public Joint Stock Company "Ukrainian Railways" 3) "ECOL LOGISTICS" LLC 4) "Zammler Ukraine" LLC 5) "Trans Rail Ukraine" LLC 6) "Spetswagon Transleasing" LLC 7) Transport and Expedition Company "MG-Trans" LLC
Associations	8) Association "Ukrainian Logistic Alliance" 9) Association of International Car Carriers of Ukraine 10) Association of Transport Forwarding and Logistics Organizations of Ukraine "UKRZOVNISHTRANS"
Information Technologies	11) TM Soft LLC
State support	12) Ministry of Infrastructure of Ukraine 13) Local authorities
Educational institutions	14) National Aviation University 15) National Transport University 16) State University of Infrastructure and Technologies 18) State University of Telecommunications 19) "Logistics workshop" LLC

Source: compiled by the authors

The mechanism of providing economic development of TLEs on the basis of clustering is presented in Fig. 1. Implementation of the mechanism of providing economic development of TLEs on the basis of clustering involves the use of such means and methods of influence as legal regulation; administrative management; budget financing, investment support, organizational and information support.

However, despite the existing practical experience, the cluster formation in Ukraine is hampered by: the lack of scientific and methodological, information and consulting, educational support for the development of clusters at the regional and sectoral levels; the weak coordination of associations of entrepreneurs by the state and regional authorities on the implementation of cluster policy; the insufficient development of a mechanism of financial support of cluster projects at the state and regional levels.

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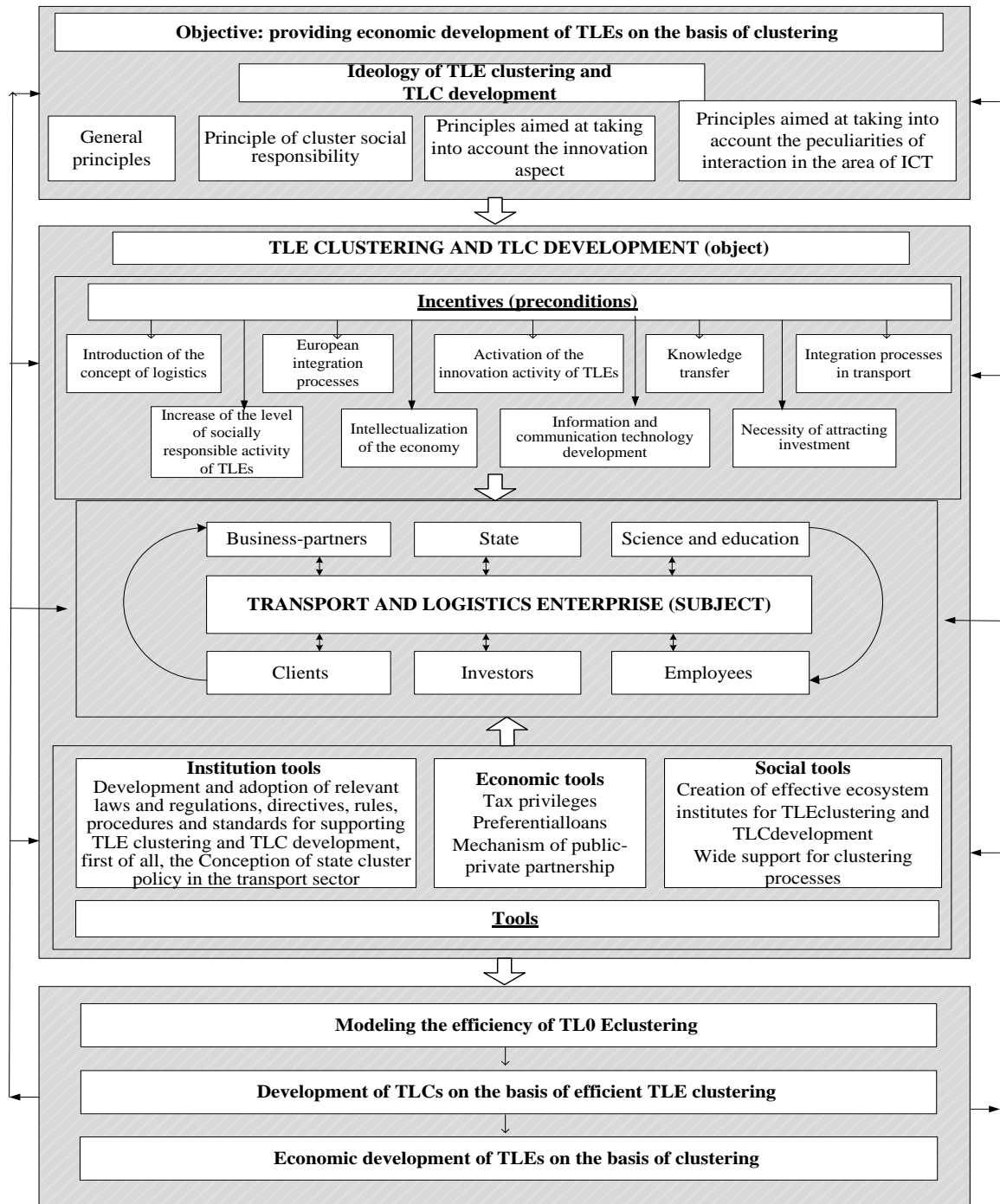


Fig. 1. Mechanism of providing economic development of TLEs on the basis of clustering
 Source: compiled by the authors

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Conclusions. Clustering of transport and logistics enterprises and the operation of transport and logistic clusters in Ukraine will allow, in the long term and taking into account the regional peculiarities: to enter a unified European and Asian transport system with a common infrastructure; to provide the free movement of vehicles and goods; to create conditions for the efficient development of multimodal transportation on a mutually beneficial and equitable basis; to form a tariff policy for transport and logistics services in accordance with the world standards of integrated transport and logistics services.

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