

FORMATION OF LOGISTICS CLUSTERS AS A KEY FACTOR IN TRANSPORT INFRASTRUCTURE DEVELOPMENT

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ABSTRACT

Improving the volume and quality of logistics services in the republic at the level of international standards is urgent. One of the main ways of achieving this goal is the formation and development of transport and logistics clusters. Transport and logistics clusters are effective for business units, which provide all logistic services in the Republic, and it is desirable to define clearly their structure and efficiency boundaries.

KEYWORDS: *Cluster, Logistics Services, Synergy, Export Potential, Quality Standard, Competitiveness, Innovation, Infrastructure.*

INTRODUCTION

Expanding and strengthening Uzbekistan's foreign economic positions and consolidating and expanding its global competitive advantages require significant improvements in the competitiveness of the national transport and logistics system in the international market. The mismatch between logistics infrastructure and the needs of foreign trade is manifested, in particular, in the low technical characteristics of the ITC on the territory of Uzbekistan. Problems persist with transportation through land border crossing points. Opportunities to increase the gross national product through the export of logistics services are not fully realized.

In order to increase the volume and quality of logistics services in the Republic, several measures have been implemented.

In 2015-2019, a programme for the development and modernisation of engineering, communications and road transport infrastructure was implemented, and the programme provided for the development of a unified strategy for the development of a national transport network meeting high international requirements and standards, ensuring its large-scale integration into international transport communications, taking into account the requirements of international legislation.

Within the framework of this programme, several projects in the development of railway infrastructure and air transport were implemented at a total cost of more than USD 1,580

million, and 695 km of roads were rehabilitated and reconstructed with a total length of 695 km.

In 2017, a presidential decree on measures to improve transport infrastructure and diversify foreign trade freight routes in 2018-2022 was adopted.

It sets the objective in the field of transport infrastructure development - to further develop rail, road and air transport and strengthen their material and technical base, improve the level and quality of their transport services, establish international logistics centres, increase the capacity of freight transport, create a transparent and competitive environment, expand the vehicle fleet and ensure conditions for the safest possible operation of the state border crossing points.

Methodology

Clustering can be seen as one of the ways to develop a country's transport and logistics infrastructure. It is known from international experience that in whichever area logistics clusters are organised, a certain level of development has been achieved in that area. A lot of research work has been done on this issue.

The analysis of literary sources allows us to highlight a number of classic advantages of using this method in the economy, characteristic also of the transport industry.

The Russian author Y.A. Achenbach understands clusters as "a simple form of uniting enterprises into a certain group located in a particular territory and being basic in determining the level and directions for effective development of territories, both in the field of economy and in related areas". This approach, from his point of view, is also characteristic of the whole country.

A.E. Boiko refers to clusters as "a specific set of firms united by a single criterion, as a rule, a sectorial one, and complementing each other if necessary". From his point of view, this approach promotes the competitiveness of goods and services irrespective of the geographical scope of operation of such companies. The use of other approaches, in his view, makes it possible to identify the so-called points of economic and production growth of industries in the agricultural and industrial sectors of the modern market.

In V. A. Agafonov's scientific works "cluster" is interpreted from the point of view of concentration in a certain territory the group of interrelated enterprises, and organizations, strengthening the competitive advantages of each of them, and the integration structure - cluster as a whole. The benefits of such concentration result from the sharing of costs of maintaining shared resources

From our point of view, the cluster is considered as coordination of business units with several activities on the basis of one common purpose, in which each participant has a certain interest

Comparative and benchmarking analysis and economic-statistical methods were used in the research.

Analysis and results

Raising the volume and quality of logistics services in the republic to world-class standards is an urgent priority. One of the main ways to achieve this goal is the formation and development of transport and logistics clusters. The increase in exports of logistics services can be achieved through the formation of transport and logistics clusters.

Transport and Logistics Cluster (TLC) is an inter-sectoral voluntary association of business entities, transport and logistics infrastructure, public and other organizations specializing in cargo transportation, storage and cargo handling, forwarding, logistics services and management of commodity and related flows, working closely with scientific, educational institutions, public and regional authorities in order to increase their competitiveness on the market.

The clusters are aimed at achieving the following objectives

- increasing the competitiveness of cluster members through the introduction of modern logistics technologies
- optimisation of costs through the introduction of resource-saving technologies
- synergy effects and unification of approaches in quality, logistics, engineering, IT, etc;
- providing employment in the context of large enterprise reform and outsourcing;
- provision of a skilled workforce in cooperation with higher education institutions, research institutes and training and retraining organisations.

Research in economics and practice shows that clusters have been shown to stimulate significant productivity gains and innovation. Companies benefit by being able to share positive experiences and reduce costs by using the same services and suppliers. At the level of public policy, the formation, support and development of transport and logistics clusters increase the export potential of various enterprises along with improving the quality of logistics services.

In world practice, the best-known instruments for supporting the development of clusters are the following:

- direct financing (subsidies, loans), which reaches 50% of the costs of new products and technologies (France, USA, Russia and other countries);
- tax incentives for enterprises, including exemption from taxation of R&D costs and write-off of R&D investments, and preferential tax treatment for universities and research institutes (Japan)
- Legislative protection of intellectual property and copyrights;
- Loans and loan facilities, including interest-free loans (Sweden);
- Targeted R&D subsidies (almost in all developed countries);
- creation of innovation funds, taking into account possible commercial risks (England, Germany, France, Switzerland, the Netherlands, Russia);
- non-reimbursable loans of up to 50% of innovation costs
- (Germany);
- Reduction of government fees for individual inventors and provision of tax incentives (Austria, Germany, USA, Japan, etc.), as well as the creation of special infrastructure to support them and provide economic insurance (Japan);
- deferring or exempting the payment of fees if the invention relates to the economy of energy (Austria);

- Free filing of applications by individual inventors, pro bono services from patent attorneys and exemption from payment of fees (Netherlands, Germany).

Attracting investment into the transport sector of the Republic of Uzbekistan will help to increase productivity by upgrading the transport infrastructure and by introducing new technologies.

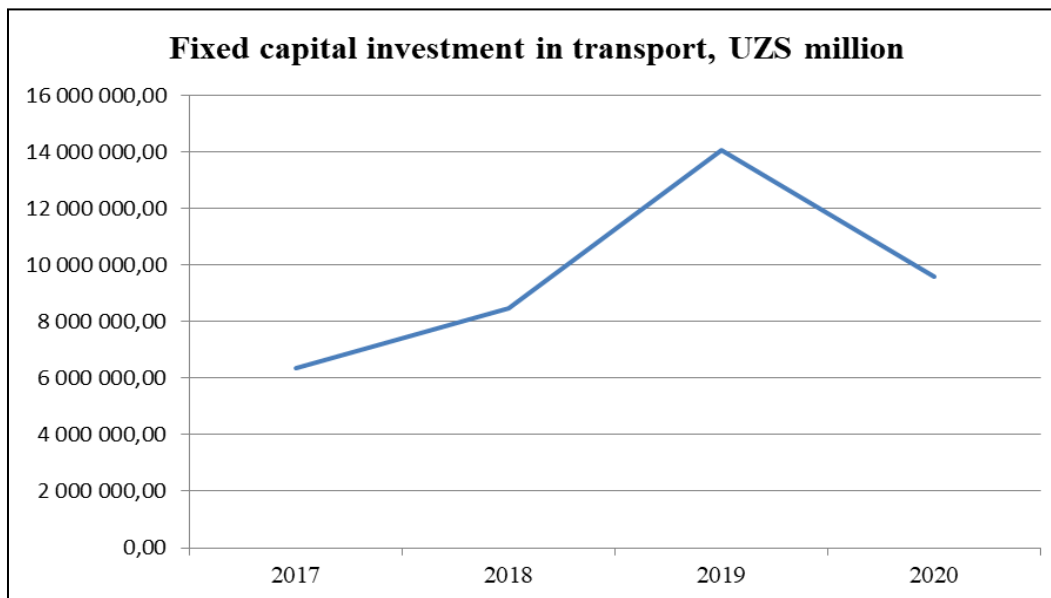


Figure 1. Fixed capital investment in transport, UZS million

The development of Uzbekistan's transport and logistics infrastructure, accompanied by the growth of industrial production, the accelerated development of tourism activities and the expansion of the trade network, has logically been reflected in the positive dynamics of freight turnover and the transport services sector as a whole.

In 2020, transport services amounted to SUM 53,772.5 bn, accounting for 24.5% of total services.

Analysis of the dynamics of the main transport indicators for 2017-2020 shows stability in the performance of the volume of transportation

TABLE 1. MAIN TRANSPORT INDICATORS FOR 2017-2020

<i>N^o</i>	<i>Index</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
1.	Cargo turnover, million tonne-km (including				
	air transport)	156,9	123,5	119,0	219
	railway transport	22 939,5	22 941,6	23 444,6	23 632,0
	road transport	13 607,7	14 640,8	15 879,3	16233,41705
2.	Freight transport, million tonnes, (including)				
	air transport	0,0264	0,0131	0,0104	0,0053
	railway transport	67,9	68,4	70,1	70,6
	road transport	1013,1	1102,2	1177,7	1238,188551

During 2020, considerable work was done on the formation of modern road transport infrastructure, reconstruction and construction of new bus terminals, and the introduction of information and communication technologies in transport.

Having learned from foreign experience, a great deal of attention has been paid to clustering in Uzbekistan. Comprehensive measures aimed at expanding production, storage, processing and exports are being implemented in the Republic.

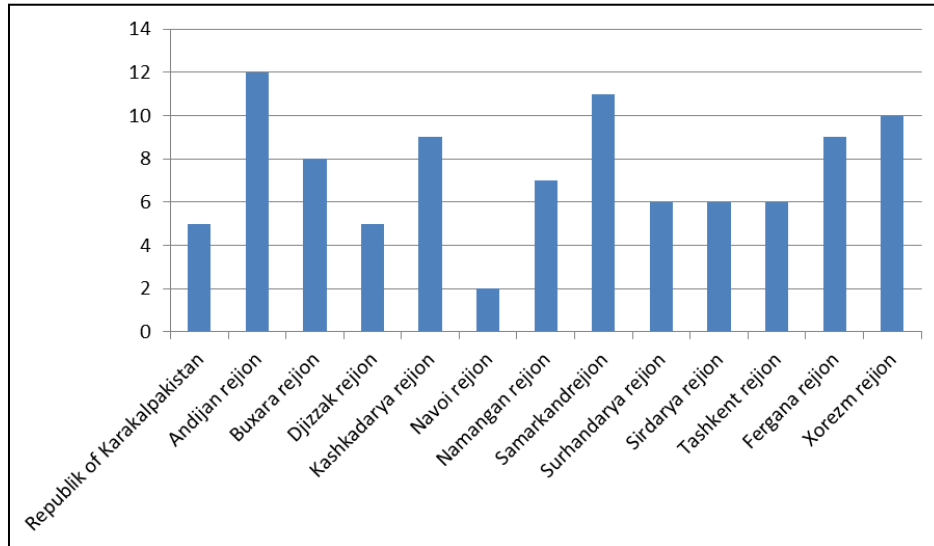


Figure 2. Number of clusters in Rep.Uzb

The combination of enterprises into transport and logistics clusters allows several crucial factors of competitiveness to be exploited at the same time:

- the deep specialisation of the companies in the clusters (each member is professionally engaged in one or a small number of activities, which allows for improvement in a narrow direction and increased productivity);
- economies of scale, achieved through higher production volumes (which lead to lower unit costs), resulting from higher sales volumes of final products;
- lower unit costs and higher product quality due to the synergy effect achieved through exchange of experience, direct interaction, involvement of the scientific community in clusters, unification of approaches in quality, logistics, engineering, information technology, etc.

The creation of transport and logistics clusters is beneficial for all economic entities of the Republic and can become an effective tool contributing to the socio-economic development of the Republic and its regions

The transport and logistics cluster concentrates on different market entities.

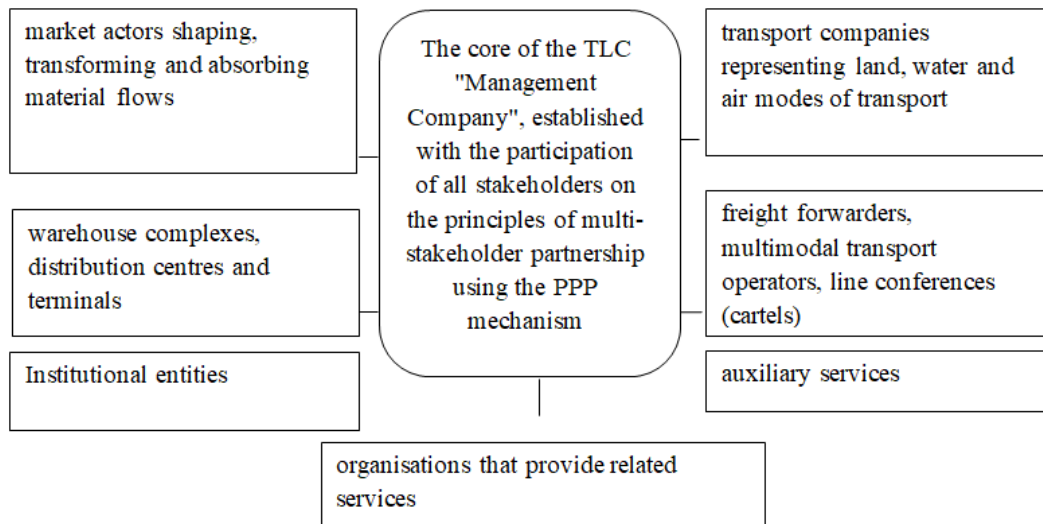


Figure 3. Structure of transport and logistics cluster (TLC)

The generalizing efficiency criterion defines the final goals and future directions of development of the transport and logistics cluster can be calculated according to the formula

$$\mathfrak{E}_{tlk} = \sum_{i=1}^n \mathfrak{E}_i = \max$$

Where:

\mathfrak{E}_{tlk} - total effect of the transport and logistics cluster;

\mathfrak{E}_i - effect of the i-th cluster participant;

n - the number of interaction participants.

The effects of the cluster approach on the participants of the transport and logistics cluster are :

- increase in the volume of transport services provided;
- growth in the volume of logistics services;
- growth in transport and logistics services and their varieties;
- increase in the innovativeness of transport and logistics services provided;
- reducing the cost of transport and logistics services, which is possible due to the scale of operations;
- effective distribution of risks between the cluster members;
- improving the qualifications of the staff of the companies participating in the cluster on a systematic basis;
- obtaining regular material and financial support from members of the transport and logistics cluster;
- gaining economic advantages when acquiring material resources;

- Increasing the degree of adaptability to the transport and logistics services market, including international markets;
- increasing the competitiveness of enterprises in the cluster

The formation of transport and logistics clusters provides an implementation of the transit potential of the country in the global system of Euro-Asian international transport corridors and will be accompanied by a significant multiplier effect, which will affect other sectors of the economy, the development of regional markets for goods and services and, ultimately, an increase in the gross regional product (GRP) and gross domestic product (GDP) of the country.

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