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ЛОГІСТИЧНА ІНФРАСТРУКТУРА В УКРАЇНІ: ЦИФРИ І РЕАЛЬНІСТЬ

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Розглянуто трактування логістичної інфраструктури у сучасній науковій літературі, складові елементи такої інфраструктури та різні трактування її сутності. Продемонстровано методи оцінки логістичної інфраструктури на певній території та доведено помилковість висновків про стан логістичної інфраструктури, які зроблені лише на основі статистичних даних.

Ключові слова: логістична інфраструктура, показники логістичної інфраструктури, методи оцінки.

LOGISTIC INFRASTRUCTURE IN UKRAINE: NUMBERS AND REALITY

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The understanding of logistic infrastructure in modern scientific literature, consistent elements of this infrastructure and different interpretations of its essence are presented in the article. The methods of logistic infrastructure evaluation on the particular territory are demonstrated and the fallibility of conclusions about the state of logistic infrastructure that are made on the basis of statistic data are proved.

Key words: logistic infrastructure, indexes of logistic infrastructure, methods of evaluation.

Problem formulation. The developed logistic infrastructure is essential for the efficient functioning of the economy as an important factor in determining the location of economic activities as well as types of these activities that can be conducted in each case. Highly developed logistic infrastructure reduces the impact of distance between regions, provides integration of the national market and low cost communication with the markets of other countries and regions. Quality and development of infrastructure affect economic growth in various ways, reduce differences in income levels and contribute to poverty

reduction. Well-developed transport and communications infrastructure is a pre-condition for access of the least developed settlements to basic economic processes and services. Effective types of transport, i.e. high-quality highways and railways, ports and airports, enable for entrepreneurs to guarantee and timely supply their products and services to a market, and for workers to travel through the country in search of the most suitable jobs for them. Finally, a large and well-developed telecommunications network ensures fast and free flow of information. It enhances overall economic efficiency by allowing market players to take into account the entire amount of available information for decision making and exchange. That is why researches related to efficiency of functioning of logistic infrastructure, which is able to provide the continuous flow of all of necessary logistic operations, get actuality.

Analysis of current research outputs and publications. The term “logistic infrastructure” can be found in numerous scientific and popular publications. Nevertheless it is difficult to find the definition of this term. Problem starts from correct spelling of this term because there are as many articles with “logistic infrastructure” as with “logistics infrastructure”. A few general definition of logistic infrastructure are presented in the Table 1.

Table 1

Definitions of “logistic infrastructure”

Definition	Author
Logistic infrastructure is the system of facilities of spatial and time transformation of logistic flows (material, informational, financial, human), and also a set of enterprises of different legal and organizational forms that provide organizational and legal conditions for passing of these flows by capacity building of relevant logistic services.	Nikshych S. [4, p. 24]
Logistic infrastructure is a combination of technical, organizational and economic elements by which all of types of economic flows (material, financial, informational, energetic, labor, return) perform cyclic movement with the highest efficiency from the supplier of resources to the eventual user	Kazanska O., Gerashchenkov A. [5, p. 157]
Logistic infrastructure is a set of integrated ware-house, transport, manipulation, packaging, informational and financial infrastructures of enterprise that together provide efficient logistic services for material flow on principle “from door to door” with minimum cost in accordance with the requirements of users	Grygorak M., Kostjuchenko L. [6, p. 104]
Logistic infrastructure is a combination of technical, technological, organizational, and economic elements, which together provide efficient logistic service material flow from suppliers of resources to consumers	Myshko O. [7, p.97]
Logistic infrastructure is a system of roads, water routes, airports, ports and/or telecommunication network at the area.	http://www.logistyka.net.pl

Source: personal elaboration.

In general, specialists and ordinary people treat logistic infrastructure as a complex of infrastructure devoted to logistics functions and spheres of activities (Figure 1).

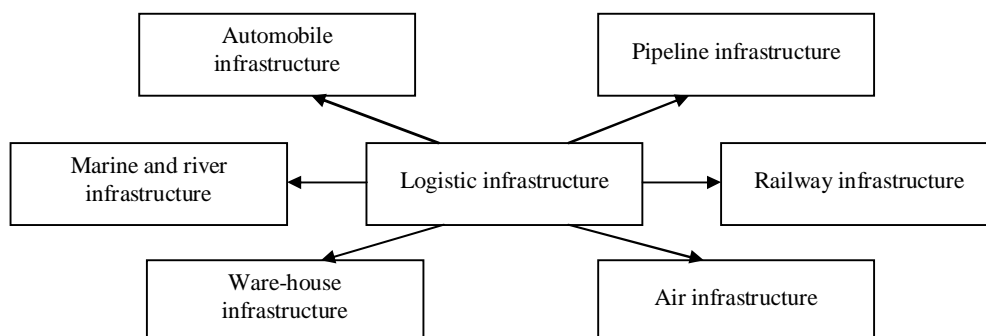


Figure 1. Components of logistic infrastructure

Source: personal elaboration

If initially an infrastructure was understood as the combination of existing facilities, buildings, networks that are not directly involved in the production of material welfares, but necessary for the manufacturing process and which can be grouped into certain homogeneous groups, i.e. production, engineering, social, transport, ecological infrastructure, now the notion “infrastructure” fits nearly the same meaning as the term “industry” [1, p.80].

Politicians and academics usually use a lot of number to describe the state and development of logistic infrastructure, but what do all these numbers mean in reality?

Article objectives. This article is devoted to show the mistakes in scientific researches of logistic infrastructure using empirical approach on the example of Ukraine.

Presentation of main materials. Logistic infrastructure consists of many heterogeneous elements so to describe it total we have to use some aggregated or indirect indexes. The example of first approach can be presented with Logistics Performance Index by the methodology of World Economic Forum for calculating countries competitiveness index (Figure 2).

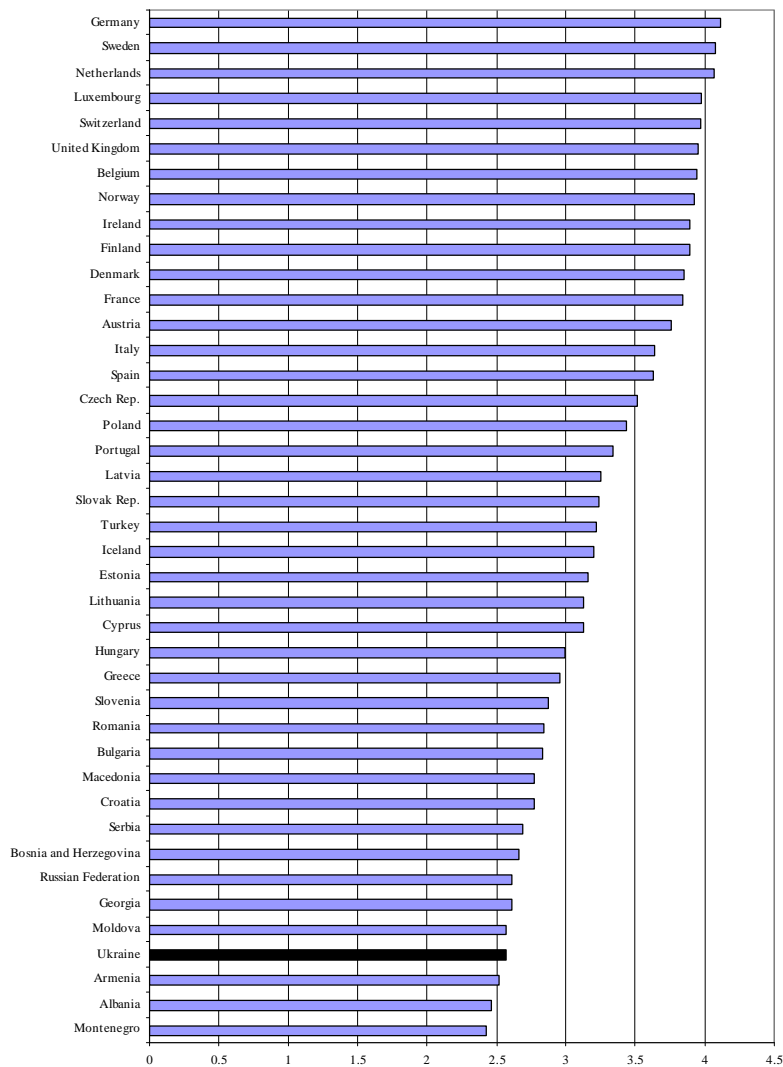


Figure 2. Logistics Performance Index
Source: personal elaboration on the basis of [19]

The second approach is connected with measuring the results of logistics performance in the country or usually with results of transport industry as the main one for logistic activities (Table 2).

Table 2

Capital investments and costs of transport industry maintenance comparing to gross additional value of transport industry

Country	Capital investments and costs of transport industry maintenance, % of GDP	Gross additional value of transport industry, % of GDP
Bangladesh	1.2	9.7
India	2.3	4.8
Iran	1.6	6.7
Kazakhstan	2	11
Cambodia	1	7
China	4	5.7
Mongolia	2.1	13
Singapore	0.9	6.3
Thailand	3.9	8
Japan	2	6.4
Russia	4.1	8.3
Ukraine	2.1	9.1

Source: [9, p.66].

In both cases we have to compare the state of logistic infrastructure in one country, region with another. Only in this way we can say whether existing logistic infrastructure is good or not. Taking this idea into consideration it is necessary to find comparative data that describes the same phenomena with the same numbers in different countries, regions.

In our case (Figure 2 and Table 2) we can draw the conclusion that logistic infrastructure in Ukraine is one of the worst in Europe but our transport industry is doing well. Most of the cargo are transported by roads in Ukraine, so it's necessary to know roads provision of a territory. It is possible to do with different indexes (Table 3).

Table 3

Indexes that describe level of roads provision in a country or a region

Name	Formula	Description
Roads on the territory	$d = L / S$	L – total length of roads of an area, km; S – area, km ² or 1000 km ²
Roads to population	$d = L / P$	P – number of people living in the area, 10000 persons
Engel index	$d_e = L / \sqrt{S \times P}$	S – area, 100 km ²
Uspensky index	$d_u = L / \sqrt[3]{S \times P \times Q}$	Q – quantity of transported cargo, thousand ton
Holtz index	$d_h = L / \sqrt{S \times N}$	N – number of settlements on the area; S – area, km ²
Romantsova index	$d_r = L / \sqrt[4]{S \times P \times Q \times N}$	S – area, km ²

Source: personal elaboration

State transportation routes are one of the basic factors for the investment process. Where the lack of roads exists, the economy usually develops poorly, and vice versa, well-developed network of roads with satisfactory quality helps to attract investments into the country [8, p.318]. That is why the bigger indexes a country/region has from the Table 3 – the better, but it's not the whole truth.

Provision with public roads in Ukraine is rather arbitrary index, because it does not take into account the quality of the roads. In Ukraine nobody will be surprised by a situation when several trucking companies refuse to deliver cargo or passengers from one regional center to another nearby regional center because they do not want to destroy their vehicles, though the delivery market is highly competitive.

97% of roads in Ukraine need major repairing [16]. Most of the roads were built in 1960-70-es. The level of road maintenance financing is about 30 % of the necessity. There are only 1.6% of 1 class roads (the highest class on national classification) in the country. It's mean that there are practically no up-to-date highways in Ukraine.

The poor condition of roads leads to geographical and technological inaccessibility of logistics services in a certain areas that substantially impairs their economic and social development. This is primarily due to rising transportation costs. The cost of transportation of goods is added to their final price, which in turn affects the competitiveness of products. Accordingly, local businesses are forced to purchase raw materials and components at higher prices than their competitors, and the products of local businesses will also be more expensive due to the high cost of transportation. Prices grow also on consumer goods for households. In addition, the increase in the cost of transportation on passenger transport limits the ability of the population to travel and does these journeys in general inaccessible for poor.

Furthermore, 274 traffic accidents have happened because of bad quality of roads only during half of 2013 in Ukraine [17]. Even the President of Ukraine admitted as insufferable the state of national and municipal roads [18]. This is happening in a country that has big transit potential and made huge investments into automobile infrastructure during last several years.

Ukraine is also participating in many infrastructural projects with EU. In July 2011 the European Commission adopted a plan for the development of transport links with the countries of the European Neighborhood. According to this plan, in the prospects of cooperation between the EU and the countries of the European Neighborhood it is expected further development of transcontinental transport corridors, achievement of safe and reliable transport connection between the EU and neighboring countries, the deepening of transport markets integration, reforms in various types of transport, union of the Trans-European transport network with the infrastructure of neighboring countries, the expansion of the EU internal aviation market and a common airspace to neighboring regions, inclusion of countries into the neighborhood "Blue belt" of free maritime movement in Europe and the European borders, and so on. The implementation of this plan suggests financial support to all EU's neighboring countries [14, p.4].

Ukraine is also trying to integrate into European and international transport networks. The special attention is paid to the development of four international transport corridors that run through our country [15]:

- Corridor #3: Berlin (Dresden) – Wrocław – Lviv – Kyiv;
- Corridor # 5: Trieste – Ljubljana – Budapest (Bratislava) – Lviv;
- Corridor # 7: Danubian (water);
- Corridor # 9: Helsinki – Sankt-Petersburg – Minsk (Moscow) – Kyiv – Kishinev (Odessa) –

Dimitrovgrad – Alexandroupolis.

Nevertheless, most Ukrainian regions has good on the world level indexes from the Table 3, but only by statistic data. The positive impact on transport infrastructure in Ukraine was made by the European Football Championship in 2012. As noted by M. Grigorak [12, p. 36], the positive consequences of this event for the development of infrastructure in Ukraine were:

- realization of large investments is in development of a transport, tourist and sporting infrastructure;
- reconstruction and update of transport systems;
- solving of ecological problems.

On the modern stage it is needed to think not about expansion of network of highways, not about building of new and even not about the increase of their class, but about taking of them to the normal state by major and current repairs. Modernization of transport ways will improve the quality of life and level of business activities, strengthen the territorial integrity of the country and create favorable conditions for the realization of potential economic opportunities of Ukrainian regions.

Ukraine has all types of logistic infrastructure and it looks like sufficiently developed, but it is not work good except some regions.

As the country's main transportation hub, Kyiv has retained 1st place in infrastructure for several years in a row (34th globally). Kyiv can also boast the quality of its air transport infrastructure, while other regions are not even among the top 50 economies in the field. The business community notes good railway infrastructure in all Ukrainian regions (within a range of 11th to 29th in the global ranking). On the other

hand, the quality of roads in the country leaves much to be desired. For example, Kyiv Oblast (one of the best performing regions) ranks 62nd in this sphere globally [2, p. 55].

Since high-speed Hyundai trains were introduced into Intercity+ lines, more than 7 thousands passengers have received the compensation for disability to get to the destination station [3]. These trains are simply not suitable for the current railway infrastructure and Ukrainian climate.

The list of infrastructure troubles can be continued.

In the interests of the state and society it is necessary to develop an optimal cost-benefit ratio for the entire cycle from production to final consumption, not only in the interests of the individual shipper (recipient) of cargo. In order to reconcile the interests of all users, subjects and owners of logistics infrastructure it is necessary to establish a logistic concept that would take into account the long-term interests of every region and its integration with national and global logistics systems.

Conclusions and perspectives for further research. The term “logistic infrastructure” is widely used but rarely precisely defined. The lack of general definition creates opportunities for its different measurement. The scientific problem is also laying in mistreating of empirical data caused by incorrect functioning of logistic infrastructure elements. It is necessary to check whether elements of logistic infrastructure can be used and with what efficiency before calculation of indexes and comparing them.

The existence of well-developed logistic infrastructure is an essential part of the infrastructure development of regions and the country as a whole. Logistics infrastructure should complement accordingly developed production, credit and financial, market, social, informational, sport, and tourism infrastructures. The efficient use of existing infrastructure is also impossible without the proper institutional support. The issues of balancing the various subsystems of infrastructure in the region and the country, improvement of regulations of this infrastructure use should be the subject of future research.

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М310

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Ченстоховська політехніка, Польща

МАРКЕТИНГОВІ СТРАТЕГІЇ НА ВИБРАНИХ ПОЛЬСЬКИХ ЦЕМЕНТНИХ ЗАВОДАХ НА ФОНІ РОЗВИТКУ БУДІВЕЛЬНОГО СЕКТОРУ

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Будівельний сектор є важливою галуззю економіки, яка істотно впливає на її розвиток. В останні роки спостерігається висока динаміка розвитку цього сектору в Польщі, що переважно визначається розвитком інфраструктури, пов'язаним із організацією Євро-2012, а також будівельними проектами, що реалізуються органами місцевого самоврядування і фінансуються Європейським Союзом. Проаналізована торгівля цементом у Польщі, що супроводжується змінами, які відбуваються у будівельному секторі. Обговорюються маркетингові стратегії, реалізовані протягом кількох років на різних цементних заводах, що функціонують на польському ринку.

Ключові слова: будівельний сектор, маркетингові стратегії, цементні заводи у Польщі.

MARKETING STRATEGIES OF CHOSEN POLISH CEMENT FACTORIES IN THE BACKGROUND OF CONSTRUCTION SECTOR DEVELOPMENT

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The construction sector is a very important branch of economy, substantially influencing its development. In the recent years one can observe a high dynamism of this sector's development in Poland, determined mainly by infrastructure development connected with organizing Euro 2012, as well as construction projects realized by local governments and financed by the European Union. The article presents the analysis of the cement trade in Poland accompanied by the changes occurring in the construction sector. The paper also discusses marketing strategies realized for several years by chosen cement factories operating on Polish market.

Key words: construction sector, marketing strategies, cement factories in Poland.

Problem formulation. Construction is a vital area of economy connected with many of its branches. In the recent years in Poland one can observe a dynamic development of this sector. In the European Union Poland is the country with one of the most important and fastest developing construction markets. Two