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Marketing Mechanisms for the Development of Transport Infrastructure of Russia and the EU

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Abstract:

In the article the authors determined the value of the transport infrastructure for economic growth and development, analyzed the influence of various factors on the dynamics of change in the index of development of transport infrastructure, as well as reviewed the status and trends of development of transport infrastructure in Russia and the European Union.

As a result, the authors concluded that for Russia and the EU are characterized by common problems in the field of transport infrastructure and for integrated solutions and accelerated development of transport infrastructure in Russia and the European Union need to ensure the marketing of this process. To do this work the author's marketing model development of transport infrastructure in Russia and the European Union.

Key Words: *Transport infrastructure, marketing, Russia, the European Union.*

JEL Classification Codes: *F18, F36, F55, F69*

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1. Introduction

In XXI century despite the post-industrialization trend and increasing role of the service sector in modern economies, the real economic sector is still satisfying the most part of modern consumers' needs. That is why transport infrastructure, connecting sellers and buyers, becomes paramount in the optimization process of production and distribution system.

Moreover, under globalization trans-nationalization is taking place and it is becoming more necessary to transport factors of production (firstly, raw materials and human resources) and finished goods, because such transportations are of global.

However, despite the important role of the transport infrastructure in the functioning of the economic systems, nowadays it is characterized by high level of differentiation in different countries that is a serious obstacle for the rationalization of the economic operations. In the context of Russia-EU's international economic relations some disproportions and general low level of transport infrastructure development is a deterrent factor to strengthen economic development.

Obviously that currently applied methods and tools to manage transport infrastructures of these economic systems are not efficient. It makes study of opportunities and prospects of Russian and the EU's transport infrastructures and searching for new mechanisms to intensify them, characterized by better effectiveness, topical.

The starting point of this research was the hypothesis that transport infrastructure has a big impact on economic growth, and it develops intensively, being influenced by market factors that is why marketing mechanisms are more effective as the tools for its development. This work is aimed at verifying of this hypothesis and determining prospects to use marketing mechanisms to develop transport infrastructure in Russia and the EU.

2. Materials and Methods

Theoretical and methodological basis of research, related to transport infrastructure development is considered in the works of such researchers as E.S. Akopova, M.V. Vasilenko, M.A. Golentsova, M.V. Ivanov, N.A. Makhutov, L.V. Balanovsky, V.L. Balanovsky, S.P. Gabourey, I.I. Karabanov, O.S. Sukharev, E.S. Akopova, S.Y. Nesterov, and others (Thalassinos *et al.*, 2010; Theriou 2015).

Conceptual and applied aspects of marketing activity itself and related to infrastructure projects are considered in the works of such authors as E.S. Akopova, N.G. Kuznetsov, N.V. Przhedetskaya, T.V. Panasenkova, N.D. Rodionova, L.N. Roshchina, P.V. Taranov, D.V. Frolov, M.V. Shevchenko, and others (Akopova and

Przhedetskaya, 2016; Breckova, 2016; Duguleana and Duguleana, 2016; Frank *et al.*, 2016).

To verify the suggested hypothesis and to meet the objective of the research the authors appeal to such scientific methods as problematic method, systematic method, regressive and correlative analysis, synthesis, induction, deduction, formalization, as well as economic modeling.

To determine the significance of transport infrastructure for economic growth and development let us reveal the connection of the level of transport infrastructure development (x_0) and GDP (y_1) based on example of Russia and leading the EU's countries – Germany, France and Italy – in 2012. The calculations used to do regressive and correlative analysis are presented in table 1.

Table 1. *The calculations used to analyze transport infrastructure in Russia, Germany, France and Italy in 2012*

Indicators	Countries			
	Germany	France	Italy	Russia
Number of transport companies, thous. pcs.	59,4	82,8	104,5	313,4
Number of employees in the transport sphere, thous. people.	812,9	778,0	527,6	4564,0
Turnover in the in the transport sphere, mln. Euros	79598,1	84544,2	62056,2	109640,0
The value added in transport, mln. Euros	35153,4	37949,9	21850,2	49214,8
Volume of investments in the transport infrastructure development, mln. Euros	6924,9	8432,0	3217,6	371289,9
Index of the transport infrastructure development, points from 1 to 7	6,1	6,0	5,4	4,8
GDP, mln. Euros	3868291	2829192	2141161	1860898

Automated analysis in Microsoft Excel program resulted in the following simple linear regression model: $y_1=12.75+4,45x_0$. It testifies that with growth of index of the transport infrastructure development by 1 point GDP in the researched countries grows by €4.45 mln. The correlation coefficient is 67.5%. It means that economic growth in Russia, Germany, France and Italy by 67.5% is explained by the transport infrastructure development. Consequently, the connection among the analyzed indicators is strong and direct.

Let us analyze the impact of different factors such as number of transport companies (x_1), number of employees in the transport sphere (x_2), turnover in the in the transport sphere (x_3), the value added in transport (x_4), volume of investments in the transport infrastructure development (x_5) on the level (index) of the transport

infrastructure development (y_2). After the calculations the following simple linear regression model was obtained.

Model 1: $y_2=0.47+6.25x_1$. It means that with increase of the number of transport companies by one thousand the index of the transport infrastructure development in the researched countries grows by 6.25 points. The correlation coefficient is 95%.

Model 2: $y_2=0.25+6.02x_2$. It means that with increase of number of employees in the transport sphere by one thousand people the index of the transport infrastructure development in the researched countries grows by 6.02 points. The correlation coefficient of these indicators is 96%.

Model 3: $y_2=1.51+6.85x_3$. It means that with increase of turnover in the in the transport sphere by one million Euros the index of the transport infrastructure development in the researched countries grows by 6.85 points. The correlation coefficient of these indicators is 94%.

Model 4: $y_2=1.82+6.24x_4$. It means that with increase of the value added in transport by one million Euros the index of the transport infrastructure development in the researched countries grows by 6.24 points. The correlation coefficient of these indicators is 96%.

Model 5: $y_2=2.81+5.86x_5$. It means that with increase of volume of investments in the transport infrastructure development by one million Euros the index of the transport infrastructure development in the researched countries grows by 5.86 points. The correlation coefficient of these indicators is 91%.

The results of regressive and correlation analysis have demonstrated that market factors, such as entrepreneurial activity and employment, turnover and value added, influence the transport infrastructure stronger than the volume of investments with dominating public financing. That is why marketing mechanisms, being the manifestation of market relations, are promising and more preferable

Let us define condition and trends of the transport infrastructure development in Russia and the EU. The European Commission and Directorate-General for Transport is responsible for transport policy making in the EU. Their task is to ensure mobility of the united European transport zone, taking into account population's needs, environmental protection issues and growth of economy's competitiveness. It means the realization of the following key areas:

- completion of developing of European internal market to provide successful integration of all means of transportation into united competitive transport system, elimination of the remaining barriers among national systems as well as increase of safety level and provision of passengers' wider rights;

- development of trans-European network as the basis of sustainable multi-modal transport system able to provide fast, cheap and reliable transport solutions;
- development of the innovative activity program: promote the formation of new generation of sustainable transport technologies, in particular, an integrated traffic management system, low-carbon transport, ect., and competent management of traffic demand.

Based on this, in March, 2011 the European Commission adopted the transport infrastructure development strategy titled “Roadmap of the united European transport space – on the way to competitive and resource efficient transport system”. This strategy contains 40 concrete initiatives aimed at the development of competitive transport system to increase mobility, to eliminate the barriers, to boost economic growth and to raise employment

The overall objective of the strategy is to reduce the EU’s dependence on the imported oil and to decrease carbon dioxide emission from the transport by 60% compared to 1990 by 2050. There is a number of different objectives, including the following:

- twofold reduction of use of traditional gas motor car in city transport by 2030;
- transition to 40% use of the low-carbon fuel in aviation
- increase of the intercity rail passenger traffic by 30% by 2050
- transfer of 50% road freight transport on certain routes, located more than 300 km from cities by 2050.

The strategy also contains a number of tasks not related to increase of sustainability, for example:

- approach to nearly zero mortality in traffic accidents by 2050;
- threefold extension of high speed railway network by 2050.

In October, 2013 the European Commission presented its propositions on realization of new policy in the transport infrastructure development sphere where 2030 is a deadline to create the core network. To achieve it is necessary:

- connecting 84 major European sea ports with rail and road links;
- connecting 38 key airports with rail links in big cities;
- renovation of 15 thousand kilometers of railways for high speed networks, etc.

In general the EU’s transport policy is aimed at the development of more efficient transport network, optimization of trans border passenger and business traffic, improvement of links among different means of transportation and promotion to meet objectives in the climate change sphere [15].

According to the RF's transport strategy for the period to 2030, adopted by the Russian Federation's Transport Ministry in 2014, similar measures in the transport infrastructure development are supposed to be implemented. The only difference is that the EU's strategy is more detailed and contains certain figures and detailed action plan, the Russian strategy has a framework character and contains only general recommendations and guidelines.

In particular, in the Russian transport infrastructure development strategy for the period to 2030 the following main goals are set [13]:

- increased access and quality growth (bandwidth increase, speed parameters improvement and safety level increase) of transport infrastructure for individuals and businesses
- Increase of global competitiveness of the national transport infrastructure to facilitate its integration into global transport system and to realize transit opportunities;
- formation and balanced development of united and integrated Russian transport system able to combine different means of transport with high efficiency to streamline the transportation process;
- transport system modernization to minimize its harmful impact on ecology with the wide use of the sophisticated ecologically clean technologies and equipment, raw materials and materials as well as high energy efficiency.

Thus, it is possible to make a conclusion that both Russia and the EU have common problems in the transport infrastructure development, namely:

- quantity discrepancy between transport infrastructure objects (supply) and existing demand, i.e. their deficit;
- inadequate transport infrastructure quality to meet consumers' requirements and inability to meet their needs fully.

To solve the identified problems and to accelerate transport infrastructure development in Russian and the EU it is necessary to provide marketing character of this process. A number of large scale marketing researches conducted by private businesses to reveal the demand for new objects of the transport infrastructure and to provide qualitative analysis of customers' preferences in this sphere is supposed to be the initial stage of the transport infrastructure development process.

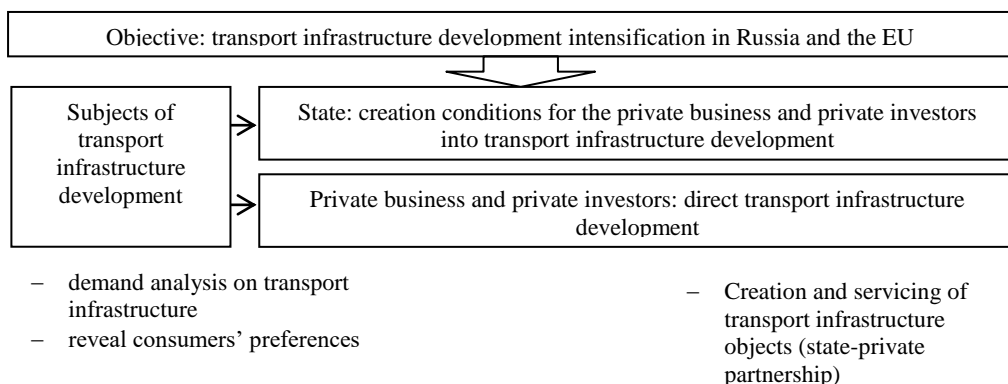
Product development and creation of detailed investment projects in the transport infrastructure development sphere are carried out on the second stage. Private business is fully responsible for this. The objects of the infrastructure, which are planned to be developed in the framework of these projects, are to meet consumers' requirements not only in quantity, but firstly, in quality terms as well to ensure their payback.

The next stage is realization of the investment projects, i.e. using the outside resources the development and servicing of transport infrastructure objects takes place. The quality guarantee is important. To ensure it, it is reasonable to use mechanism of state-private partnership, which, according to S.K. Volkov is to become one of the main marketing infrastructure tools as it allows developing it for the society's interests by combining resources and experience of each party, and ensures the creation of necessary social good with the least costs and risks.

Then pricing on the created private objects of the transport infrastructure takes place. The stages have that very order, because with early pricing in the investment projects realization process the costs can rise unpredictably that will require reconsider the before set prices and do double work and reduces the project efficiency. The prices can be fixed or flexible, they are set and private business charges for the use of transport infrastructure objects. Promotion and sales of the transport infrastructure objects launched in operation, by means of their active branding takes place on the final stage. It is necessary to attract and keep the needed number of consumers, as according to the general concept of private business involvement into transport infrastructure development, paid infrastructure objects must have free and accessible alternative.

It should be emphasized that subjects of the transport infrastructure development are not only private businesses and private investors, who do direct transport infrastructure development as well as the state, which creates conditions to involve private business and private investors into the transport infrastructure development. It ensures and timely modernizes regulatory basis, which fixes the right for property for such objects and enables to charge for their use, creates favorable investment climate in the transport infrastructure sphere, whose projects for development are characterized by low attractiveness for private investments due to their long payback and attitude to social good, and regulates competition.

Authors' marketing model of the transport infrastructure development in Russia and the EU (Figure 1) is suggested in the work to make the use the suggested above mechanisms systematically and most efficiently.



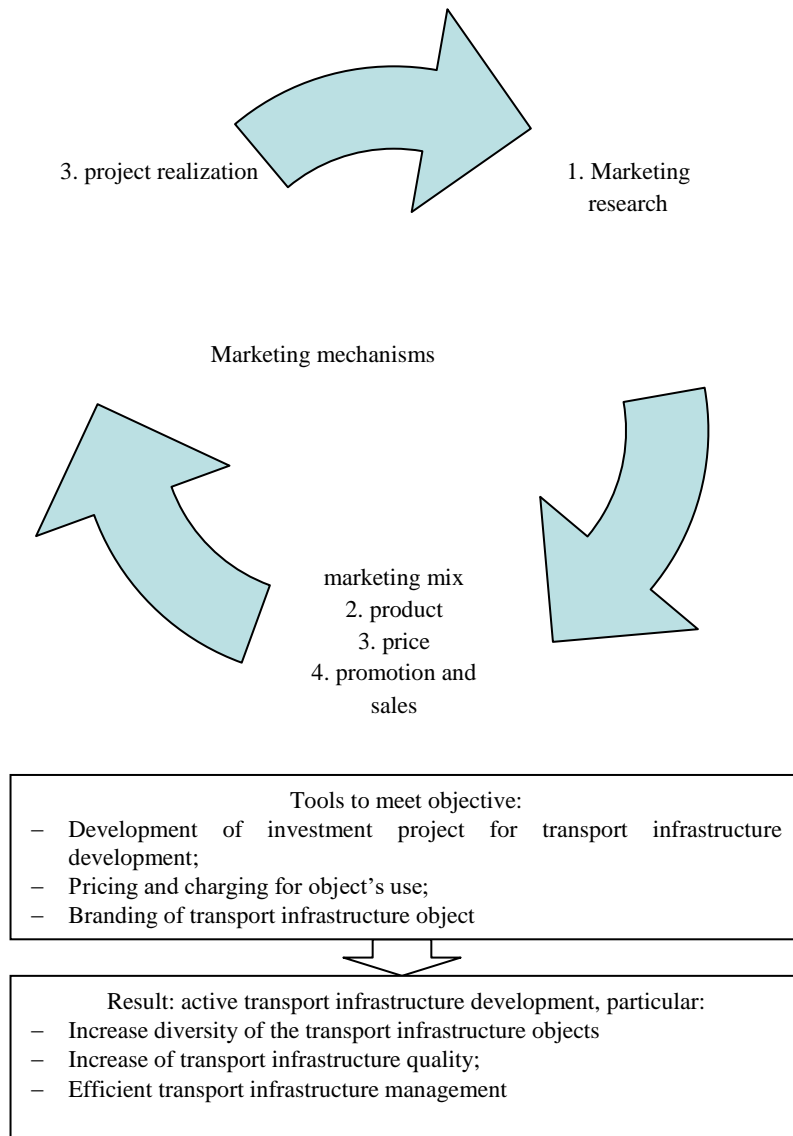


Figure 1. Marketing model of the transport infrastructure development in Russian and the EU

According to Figure 1, the suggested model is aimed at intensive transport infrastructure development in Russia and the EU. Active transport infrastructure development, in particular: increase of the diversity of the transport infrastructure objects, quality increase of the transport infrastructure as well as growing efficiency of transport infrastructure management can be expected due to its realization.

3. Conclusions

This research proves the proposed hypothesis and testifies that transport infrastructure development promotes GDP growth, which highlights its importance as a vector of economic growth. It is also revealed that market factors contribute more to its development than state regulation. That is why market research, investment project realization, marketing mix and state-private partnership are proposed in this work as prospective market mechanisms to develop market infrastructure in Russia and the EU.

In the conclusion it should be noted that the problem of transport infrastructure development cannot be solved unilaterally and requires close cooperation of state and private business. It is preconditioned by the specifics of the infrastructure projects where the state does not have enough resources and flexibility to implement them and private business does not consider them commercially profitable, as profits are the basis of its activity. Consequently, provisional modernization of the system of state and business relations and the development of the corresponding institutional basis are necessary to meet the objectives of transport infrastructure development.

The proposed marketing model of transport infrastructure development in Russia and the EU is expected to promote solutions to perfection of the national transport system as well as to serve the strengthening and practical implementation of international economic cooperation. Implementation of the joint Russian-European projects in the sphere of transport infrastructure development is also possible in the long-run.

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