Marketing and commercial problems and perspectives for interaction between participants of the transportation process

Alexander Voronov¹, Tatiana Ksenofontova¹*, and Tatiana Popova³

¹Emperor Alexander I St. Petersburg State Transport University, Transportation Economics Department, Moskovskij prospect, 9, 190031 St. Petersburg, Russia
²Volgodonsk Engineering and Technical Institute - Branch of the National Research Nuclear University «MIFI». Lenin str. 73, 347350 Volgodonsk, Russia

Abstract. Transport and logistics appeared one of the most vulnerable spheres in COVID-19 pandemics. The main reasons for the negative consequences are due to various factors like: closure of state borders, restrictions on movement of people and cargoes, disruption of value chains, decrease in demand from consumers of transport services and their purchasing power. Combination of these factors influenced all types of relationships in the transportation market. Nowadays the effective management should immediately react to the dynamic changes in the transport service market and requests of participants thereof. The article indicates the need for implementing digital transformation projects in the industry implying introduction of modern technologies for organizing the transportation process.

1 Introduction

No economy of the world can effectively function without the transport complex and its components. Transport is a significant element of the economic system of any country and plays an important role in it. It is the level of development and prospects of the transport industry that functioning of practically all the sectors of the national economy depend on. Success of agricultural enterprises, trade, industrial, communication companies is to a large extent due to transport development. It is transport that foreign economic relations and development of new territories are based on. One of the main social needs - moving goods and passengers in space is also met by the transport complex.

That is why, according to the Committee for State Statistics, a sufficient share of the GDP of our country (about 7-8% for the last 5 years) is allocated to transport.

The transport industry in Russia began to form as a single system since the time of Alexander III. Despite the existing opinion about Russian bad roads, the government of the Russian Empire attached great importance to building roads. Many years have passed since then, many reforms and improvements have taken place. Nowadays the transport complex of the Russian Federation encompasses such sub industries as railway, marine, internal water, and others.
automobile, pipeline transport. Fig. 1-4 demonstrate the share of each one for the last five years in total passenger and freight traffic.

The data provided by the committee for state statistics testify to the fact that during the period in question (from 2016 to 2020) most part of the freight traffic in the Russian Federation (Fig. 1) fell on the railway and pipeline transport (93% of the total traffic volume), which indicates its constant demand among the participants of the transportation process [1,2].

Looking at the structure of the freight transported for 2016-2020 (Fig. 2), one can conclude that automobile transport is more frequently used for freight transportation, namely, about 5.5 billion tons of cargoes of Russian consignors per year.

Analysis of passenger transportation by modes of transport for 2016-2020 (Fig. 3) shows, that most of the traffic falls on bus and subway – more than 78% annually.

Air transport is the leader in passenger turnover, with the share of more than 42%. Anyway, it is transport that helps people and goods move in space, which confirms demand and importance of this industry in the national economy.

![Fig. 1. Freight turnover in the Russian Federation, billion t/km (https://rosstat.gov.ru/folder/23455)](https://rosstat.gov.ru/folder/23455)
Fig. 2. Cargoes transported, mln.t (https://rosstat.gov.ru/folder/23455)

Fig. 3. Transportation of passengers by mode of transport (mln. people)
2 Materials and Methods

The transport complex of the Russian Federation, which is one of the key industries of our state, can be called "blood vessels" of the country's economy, as they provide its life support. Transition to the market economy increased relevance of the transport complex. Gradually competition for consumers of transport services, their loyalty and income developed. The leading role in this fight is played by the effective economic mechanism for managing relations between participants of the transportation process.

The concept of the transportation process is determined by the Federal Act N 17-FZ of 10.01.2003 (ed. of 11.06.2021) «On the railway transport in the Russian Federation». According to the legislator's interpretation, transportation process is defined as a combination of organizationally and technologically interrelated operations performed during preparation, implementation and completion of transportation of passengers, cargo, baggage and cargo luggage by railway transport. Based on Federal Act 2003 N 17-FZ of 10.01. (ed. of 11.06.2021) «On the railway transport in the Russian Federation».

Its direct participants are carrier, operator of railway rolling stock, user of railway transport services, owner of railway infrastructure (Fig. 5).

Besides the above-mentioned participants, there are those who provide implementation of the transportation process [3-4]:
– state authorities,
– customs bodies,
– banking structures,
– insurance organizations etc.

Currently, the effective management in the transportation process must promptly respond to the dynamics of the transport services market, to changes in all participants of the transportation process.
The significant unshakable role of railways in the development of the economies of states, in providing connections and communication routes between regions and countries is due to the specifics of the transport system of the Russian Federation. It is railway transport (which is important for Russia with its different climatic zones) that can function at any time of the year, at any time of the day or night, regardless of atmospheric conditions.

With increasing liberalization, competition and changing expectations of passengers and consignors driven by advances in digital technologies, railway companies should clearly understand opportunities, threats and challenges ahead of their industry.

When assessing the relationship between the above-mentioned participants of the transportation process, there appeared a new relationship criterion. In the market of transport services, the traditional "4P" marketing complex can be transformed into "3S-6P" on the basis of the revealed specifics of the transportation process:

– Service – transport service, service for participants of the transportation process;
– Segmentation – segmentation of consumers of transport services;
– Situation – market conditions of railway transportation;
– Price – cost of services of carriers and operators;
– Place – sales policy of transport companies;
– Promotion – promotion in the railway transportation market;
– Process – interaction of the transportation process participants;
– People – subjects of interaction in the transport market;
– Physical evidence – material environment (technical condition of carriages, availability of carriages of the required type) [5,6].

As part of the development of the transport service promotion strategy, there is a need to create a material image of the service, to build a system of long-term and reliable communications with participants of the transportation process.

**3 Results**
JSC “Russian Railways” falls within the number of major Russian transport companies which influence greatly many aspects of the socio-economic development of the country. On October 1, the company celebrated its 18-th anniversary. The fact that the company is tacitly considered the natural monopolist in the area of railway transportations, as well as impressive volumes of the rendered transport services do not manage to fully characterize the real position of the company in the highly competitive market. Firstly, federal highways duplicate most railways. River and pipeline transport can also be a serious competition to the railroads. Secondly, there is competition developing inside the railway transportation market, since independent railway transportation companies dispose of more than a fourth of the fleet of freight carriages.

JSC “Russian Railways” has to constantly create conditions for strengthening a sustainable upward trend in the sphere of cargo and passenger transportations within Russia and worldwide. New technologies are implemented, developing both linear and legal, digital and logistics infrastructure. All this makes the Russian railways keep the status of a land transport bridge connecting economic centers of Europe and Asia by means of modern infrastructure. The demand for these services of the company in the current conditions keeps growing [7].

“RZD-Partner” Publishing House conducts regular monitoring of satisfaction of the transportation process participants with the quality of the services provided by JSC Russian Railways. The rating includes such parameters as pricing policy, meeting delivery dates, cargo safety, availability of carriages of the required type in the required quantity, level of the information technologies used etc.

According to the results of the questionnaire, the Index of the general level of satisfaction with the quality of services is calculated based on the simple average. This index generalizes respondents’ opinions according to the criteria relating to the quality of services rendered to railway transport clients. According to the results of the II quarter of 2021, the quality Index was 64 points. Compared with the I quarter of 2021, it decreased by 2 points.

![Fig. 6. Evaluation of the service quality level in the railway transport market (points)](image-url)
The analysis of the evaluation criteria of the service quality in the railway transport market evidenced that 7 out of 11 criteria got less points for the period in question (beginning and end of the first half-year) - fig. 7 [8-9].

![Evaluation criteria](image)

Fig. 7. Evaluation criteria of the service quality in the railway transport market (points)

The monitoring demonstrated the following issues and bottlenecks [10,11]:
– such criteria as «meeting delivery dates», «level of transport infrastructure development » and «meeting the demand for transportation» lost 2 points each;
such index as “availability of carriages of the required type in the required quantity” decreased by 11 points at once;

– such index as “cost of services of JSC Russian Railways” decreased slightly by only q point;

– such criterion as “cost of services of operating companies” dropped by 9 points for the quarter;

– such index as “supply of carriages for loading / unloading on schedule” decreased slightly less – by 3 points;

– such criteria as “technical condition of carriages” and “cargo safety” left at the level of the first quarter of 2021;

– particular items were identified that "grew" in the eyes of the participants of the transportation process, e.g. “efficiency of approval of applications” (plus 1 point) and “information technology level and efficiency of transfer of accounting documents” (plus 3 points).

To remove the identified cornerstones and provide high quality relationships between the transportation process participants, it is important to pursue integrated development of the railway infrastructure, which requires coordinated efforts on behalf of the carrier, operator companies, consignors and consignees. The current picture can be summarized as follows: having succeeded in competition for quantity and having achieved stabilization of traffic volumes, it is time to fight for quality [12,13].

4 Discussion

Expansion of the supply of modern transport services to consumers, acceleration and increase of multimodal transportation and increase in the quality of traditional service make a strategic priority in the development of interaction of transportation process participants. Key landmarks of infrastructure development are determined by its natural monopolistic character and consist in the decrease in infrastructure costs, increase of opportunities for creation of new transportation and logistics products, modernization of the network and construction of cost-effective additional main routes for increasing traffic volumes.

The long-term program for the railway carrier development is based on the following key tasks [14,15]:

1. Increase in the company efficiency. This means rise in the labour productivity, growth of production figures, increase in the technical and economic values of the company's activity.

2. Development of infrastructure, modernization of BAM and Trans-Siberian Railway to increase their capacity, creation of approaches to the ports of the Far East, North-West, Azov-Black Sea basin. There is an important task of accelerating the road capacity for transit transportation.


4. Increasing investment activity - implementation of projects to expand mainline infrastructure, reconstruction of railway tracks and renewal of the locomotive fleet.


5 Conclusion
In conclusion it should be noted that nowadays developed and diverse railway-based transport arteries represent the necessary basis for balanced development of national economies. Railways contribute to higher viability of economic systems and societies due to facilitated access to markets. They increase consolidation of territories and help meet needs of the population for fast and comfortable transportation. To overcome marketing and commercial problems and implement cooperative strategies of the participants of the transportation process, we should provide a client-oriented model of relationships which meets the modern requirements of the market. This very model will be able to help increase competitiveness of the Railway Industry.

References


