

A Comprehensive Indicator of Customer Loyalty of Organizations Providing Transport Services Under High Competition Conditions

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Abstract. The article analyzes the state of competition in the transport sector in Russia, in particular in the field of freight transport in rail transport. In order to improve the efficiency of management of organizations providing transportation services in the field of freight transportation, in a highly competitive environment, a comprehensive indicator of client loyalty is proposed. Based on the analysis of the factors influencing customer loyalty in the provision of transportation services, aspects of the indicator evaluation are highlighted. A model for estimating the complex indicator of client loyalty based on the method of discrete synthesis is proposed.

1. Introduction

The need to improve the efficiency of the use of market-based instruments in the field of transport services is due to the structural restructuring of the Russian economy. The instruments that existed and used traditionally do not meet the requirements of a dynamically developing market, and taking into account the deepening of economic transformations and the need to join the world economic community, the need for their radical revision has been determined.

In the course of the reform, since 2004, 85 subsidiaries and affiliated companies of Russian Railways (JSC "RZD") have been established in various fields of activity. From JSC "RZD" passenger transportation in long-distance and suburban traffic, operation and repair of rolling stock, industrial production, logistics, scientific, design and construction activities, trade services and catering, sanatorium-resort services, etc. were allotted.

The structure of the Russian market of transport and logistics services is shown in the Fig. 1.

This allowed to create a real competitive environment in those market segments, where previously such mechanisms were not involved. JSC Russian Railways carries out the sale of shares of the newly created subsidiaries, with a view to further developing competitive relations.

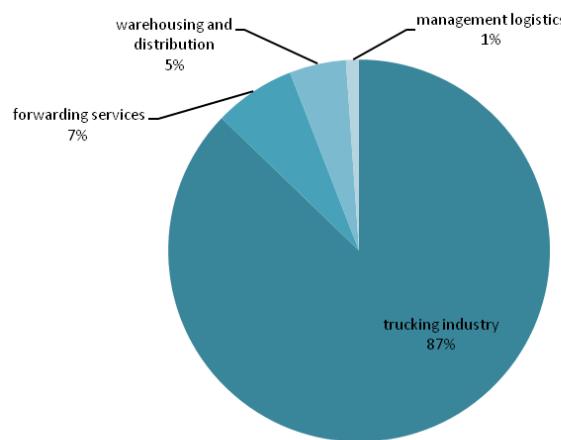


Figure 1. Structure of the Russian market of transport and logistics services in 2018, (%). [10].

2. Relevance of the problem

As a result of the reform of rail transport in the Russian Federation, a market structure has been formed in the field of freight transport, within which there are two segments:

- natural monopoly segment: transportation of goods by rail, represented by carriers operating on their infrastructure (JSC Russian Railways, JSC AK Railways of Yakutia, FSUE Crimean Railway).
- competitive segment: services for the provision of freight cars, containers for transport, car repair activities, major repairs of locomotives, etc.

The most significant changes during the time of reform in the structure of participants occurred in the market of operating freight cars. 84.1% of the fleet of freight railcars belong to private owners independent of the holding "RZD". The market is made up of more than 700 companies of railway rolling stock operators who own wagons and provide services for providing wagons to consignors for the carriage of goods, including 20 large operator companies. A highly competitive market has been created and is functioning in the market of freight wagons.

The share of JSCo Russian Railways (excluding subsidiaries and affiliates) in the freight car operating market in terms of cargo turnover was reduced from 78.2% in 2003 to 0.5% in 2018. The share of freight turnover attributable to private owners' wagons increased from 21.8% in 2003 to 87.7% in 2018. [11]

In 2010, three equivalents, competing car-repair companies (VRK-1, VRK-2, VRK-3) were created, thereby creating a competitive environment in this segment of the market.

In order to determine the transport, including the direction of further development of the railway development of competition in the field of freight transport, the Ministry of Economic Development and Trade of Russia has prepared and agreed upon the draft model of the freight rail freight market until 2020.

The target model of the freight rail transportation market until 2020 will become the main reference point for the participants in the transportation process and will determine the key, systemic directions for the transformation of the railway transport services market for the period to 2020 with the aim:

- ensuring the needs of the economy and users of rail transport services in the transport of goods;
- elimination of infrastructure restrictions on the economic development of the Russian Federation;
- improving the quality of services;
- formation of the most rational technological and commercial interaction between transport participants.

All-Russian non-governmental organization of small and medium-sized business "OPORA RUSSIA" within the framework of annual monitoring of the state of the business climate conducted a

survey among small and medium-sized businesses on the state of competition in Russia. According to the results of the survey conducted in 2018, for entrepreneurs, the tightening of competition continues to be one of the main business problems. The most acute problem of tightening competition is observed in certain areas, including those engaged in transport services. Many entrepreneurs noted a toughening of competition as the main problem for the last year. [11]

These processes can be observed in Fig. 2, where it was noted that the strongest competition is observed in the transport services sector.

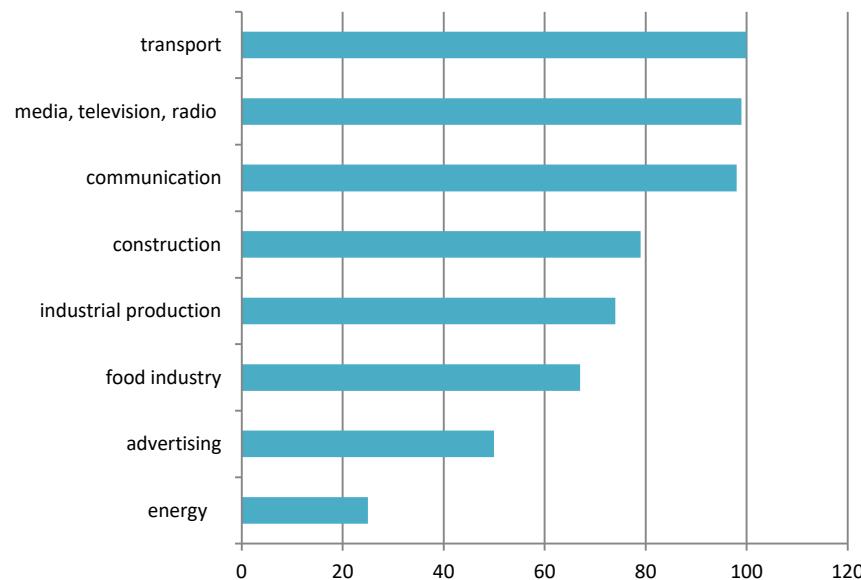


Figure 2. Evaluation of the level of competition as very strong (in% of the total number of respondents in the industry). [11].

In the transport sector, the issue of interspecies competition also sharply arises. We studied the structure of the freight market. According to data for February 2018 on the volume of cargo transportation in Russia, road transport leads. Markets for services for the transport of goods by road are potentially highly competitive.

Analysis of statistical data shows that in 2018, that 70% of commercial traffic is occupied by small businesses and individual entrepreneurs. The share of cargo road transport accounts for more than 60%, i.e. about 355.6 million tons. The share of rail transport accounts for about 18% of the total volume of goods transported. (see Fig. 3)

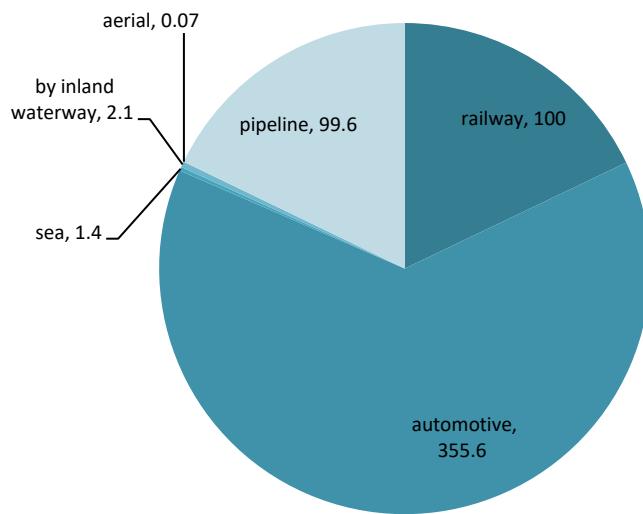


Figure 3. The structure of the freight transport market by volume of goods transported by different modes of transport for 2018, (mln. tons).[10].

Dynamics of the intensity of cargo transportation by types of communication routes shows that the most intensive transportation is carried out by railways of general use. (see Fig. 4).

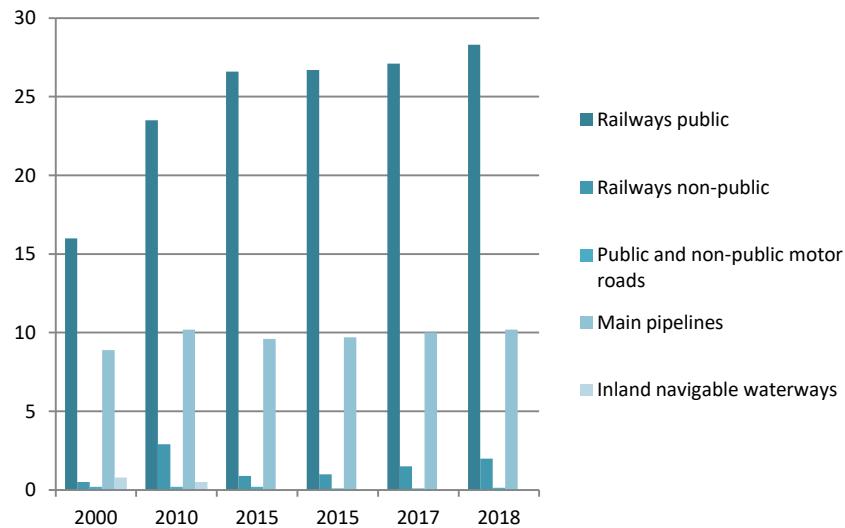


Figure 4. Density freight shipments by modes of transport lines, (mln. tonne-km per one kilometer of transport line length). [10].

As the analysis of the development of transport competition has shown, at the moment, organizations that provide transportation services have to operate in tough competitive conditions. In some areas of the transport sector, the market is saturated with economic entities that offer services of almost the same level of quality and prices.

Transport organizations need to build an activity strategy in such a way that it allows them to form the highest level of loyalty of partners, including customers.

3. Statement of the theoretical problem

The term "loyalty" comes from the French and English "loyal", which means to be true [8, p.9]. In the most general terms, loyalty is defined as a state, in an integral form, reflecting the subject's attitude to various aspects of objective reality, aimed at positive interaction. Accordingly, the loyalty of partners reflects their positive attitude towards the organization and its activities.

In studies Serkova N.V. there are three models of partnerships [8, p.11-15]: emotionally positive; indifferent; estimated and rational.

The most loyal partners are those who are committed to the company due to the emotional factor. But the most massive group of partners are rationally-minded subjects. Therefore, an organization should identify and develop factors that are relevant to each group.

There are two basic approaches to determining loyalty in economics. According to the first approach, loyalty is perceived as a certain type of partner behavior, which is expressed in a long relationship with the organization. The second approach considers loyalty as a preference for partners, which is formed as a result of emotions, feelings, and opinions about the organization. This approach, in contrast to the previous one, analyzes to a greater degree the future behavior of the partner than past experience [8, p.14].

According to Dick and Baz, loyalty is determined by a combination of behavioral and perceived characteristics. And those partners who have a positive attitude to the organization's activities are considered loyal [8, p.15]. S.A. Butcher characterizes loyalty as a property that has no clearly defined boundaries [1, p.22].

In the course of his research, F. Reicheld revealed the dependence of consumer loyalty on the loyalty of personnel, investors, owners, suppliers, intermediaries and other partners of the organization. For example, the best specialists always prefer to work in a company that creates unique value for consumers and enjoys their enduring sympathy [7, p.20].

It should be noted that, in the opinion of many economists [1,2,3, 7,8,9], the maximum satisfaction of partners' needs plays an important role in the formation of loyalty, for example: for buyers, this may be the necessary level of product and service quality; for staff - the desired level of wages and career opportunities; for suppliers - stability of supply, their required volume and payment; for shareholders and investors - the desired level of income and the long-term nature of their receipt, created on the basis of the above points

The current state of the market is characterized by competitive struggle for the conquest and retention of permanent mutually beneficial partnerships by creating additional value for them. Partner loyalty is the most valuable asset of companies. According to this, the main indicator of the analysis of the organization's partner activity, in our opinion, can be its comprehensive indicator of partner loyalty. The concept of value for partners and its economic analysis in time as well as in comparison with competitors are inextricably linked with this concept.

Creating value for partners is at the heart of the organization's high comprehensive partner loyalty indicator. It promotes business growth, provides excellent financial results, i.e. the latter are the result of creating value for partners. And it is precisely this relationship that constitutes the basis of any long-term business activity.

Currently, the concept of creating value as the main goal of a business is the most common, and the concept of profit is somewhat outdated because profit is the result of a properly organized value creation process. Today there is only one reliable way to achieve sustainably high financial results: to achieve sustainable growth in an integrated indicator of partner loyalty and offer partners a unique value. Partner loyalty is an initial goal that can unite the efforts of a team of top managers in developing a business strategy, restructuring business processes based on the most efficient customer service in the long term, retaining staff, investors and suppliers. Within the framework of the considered concept, the complex indicator of partner loyalty serves as the main criterion for the success of organizations, much more reliable than profit [7, p.31-33].

In a real economic situation, the size of the potential of partner loyalty to an organization is a potential indicator of its profitability, exceeding the usual level of profitability from the exploitation of

the property of the organization. Being a characteristic internally inherent in the operating organization, business reputation is not only one of the factors generating profit, but also has a significant impact on the effectiveness of the organization's management system. Therefore, the role of a complex indicator of partner loyalty may be particularly significant in operations involving the acquisition of a company as a single property complex. In practice, the loyalty of partners makes a significant contribution to the success of the company. That it largely determines the possibility of attracting funds, building business relations, finding strategic investors, and influences the company's relations with the authorities.

4. Practical importance

In this study, we set ourselves the task of developing a comprehensive indicator of customer loyalty as a special case of a complex indicator of partner loyalty for organizations providing transportation services. Let's consider the main factors affecting the value of this indicator.

Transport services are intangible, which is reflected in the absence of tangible characteristics of transport services, although the work of workers in the creation of these services is productive. Provision of services is a process and it cannot be tested before payment.

The degree of uncertainty of acquisition increases in case of increasing the intangibility of the service. Therefore, the conclusions of customer customers will depend on the location of the transport business, staff qualifications, tariffs, the perfection of equipment and facilities for providing transport services, branding policy literacy, earned business reputation, the image of the company providing transportation services, etc.

If we use the existing classification of services in terms of the degree of tangibility, the transport services are based on the use of equipment, but with equal quality of equipment, the main attracting factors for the consumer of transport services will be: high qualification of personnel and thoroughness of service.

There is always a close interaction between the supplier and the buyer when providing transportation services. In this regard, the risk of poor-quality provision of services by an employee or a malfunctioning technical means is increased, but this can no longer be remedied. The rendered service cannot be performed again.

Variability in the quality of transport services. The production of transport services is characterized by a significant share of human labor, so the volatility of quality is caused by a change in the quality of labor of workers. In addition, the processes in which the rolling stock is involved are highly dynamic and variable. Transport business is characterized by strategic importance for the state, but also a high environmental hazard. A lack of quality transport services can cause serious harm to life and health of people. Therefore, in the process of organization of transport services, careful selection, special training, mandatory regular training and mandatory medical examination of the suitability of personnel are carried out. Avoid the dependence of customer loyalty on the quality of staff servicing helps the introduction of new technologies that reduce the involvement of staff. Each transport service provided is unique to the client. In his perception, dissatisfaction with the service is remembered for a long time, and the memory of a good service is short-lived. This affects first of all the business reputation, because customers who are dissatisfied with the service may subsequently ignore the company that provided this service.

The fragility of transport services causes the impossibility of storing them, storing them. Without using the service at the time of provision, the consumer is deprived of the opportunity to use it after. The supply of services, including transport, is less elastic than the supply of goods. This is also influenced by the specificity of seasonality. During the periods when the demand for transport services is reviving (for example, in the summer during holidays and vacations), the rolling stock needs to be enlarged, temporary workers are involved (for example, attracting students as conductors for servicing additional rolling stock in railway transport during the summer period). In order to create a uniform customer loyalty, transportation services are subject to booking, flexible tariffs are established, increased during the seasonal peak of traffic, and reduced during periods of recession.

The client has access to the transport service for a limited period of time. Therefore, companies providing such services should pay special attention to strengthening their business reputation, maintaining the image and increasing the attractiveness of the brand.

Also, customer loyalty to transport services is influenced by the following aspects:

- The process of providing transport services consists of a system of smaller actions, whereas the quality depends on the evaluation of the final service. In addition, transport service providers, along with their core business, also sell physical goods. For example, carriers offer drinks, newspapers, food and meals, which are an integral part of transportation;

- Transport services refer to services that complete and / or anticipate the process of material production. Therefore, the market for transport services depends on the state and development of the commodity market, i.e. The decline in the volume of commodity production leads not only to a decrease in the volume of transportation of goods, but also to passengers;

- Territorial attachment of transport services. They represent a specific use value only at a specific time, in a particular territory and direction, which significantly limits the possibility of replacing them in the services market, which allows some organizations to pay less attention to customer loyalty;

- The impact of environmental factors on the quality of transport services. The quality of transport services depends not only on the quality of their organization and production, but more on the actual operating conditions, road situation, climate, route geography, political and social situation in the territories through which the transportation is carried out, etc .;

- Interaction of all modes of transport in the provision of transportation services. Various modes of transport provide users with transport services of varying volume and quality, depending on their technical and economic characteristics and capabilities. This affects the repeatability of shipments of the same consignments of freight or passenger units on the same route by different modes of transport, which forces organizations to treat customer loyalty with great attention;

- The ambiguity of the requirements for transport services: on the part of the client and on the part of the service provider. The service provider in the process of their delivery is important to meet the requirements of the clientele, while weighing their technical capabilities and costs.

The production of services by the transport business, in accordance with the factors considered earlier, indicates that client loyalty is highly dependent on intangible factors, such as business reputation.

The factors discussed above allowed us to distinguish aspects of the evaluation of customer loyalty:

- A1 - flexibility in pricing policy, a high degree of which will increase customer loyalty;

- A2 - tariff policy compliance with the territorial location of the transport business in regions with a certain level of income of consumers;

- A3 - quality of transport services, which is based, for example, in the transport business for the carriage of goods in detail at the following:

1. quality of cargo handling (packaging, linking, etc.);

2. quality of storage;

3. quality of freight forwarding;

4. quality of the cargo;

5. speed and delivery time;

6. reliability and safety of transportation;

7. the moral and physical condition of the rolling stock.

- A4 - quality of customer service (for example, transportation of goods), which is formed on the basis of:

1. an individual approach to the client and providing a personal manager for the client;

2. availability of a 24-hour call center;

3. availability of the function of on-line tracking of cargo movement;

4. availability of free services;

5. the formation and distribution of carefully designed for existing and potential customers profitable commercial offers for them.

To evaluate the customer loyalty index (L_k), we suggest using the method of discrete synthesis, often used in such cases, according to the formula [5; 6]:

$$L_k = \sum A_i \beta_i \quad (1)$$

where β_i - is the weight coefficient of the i -th aspect of the customer loyalty indicator; A_i - an indicator of the effectiveness of company management in the i -th aspect. Selected aspects (A_i) are presented in Table 1.

Table 1. Aspects of the analysis of the efficiency of company management.

A_i	The name of the aspect	Weight coefficients (β), $\sum \beta$	$\sum_{i=1}^n \beta_i$
A_1	flexibility in pricing policy	0,25	$\sum_{i=1}^n \beta_i$
	compliance of tariff policy with territorial location		
A_2	location	0,15	
A_3	quality of transport services	0,3	
A_4	quality of customer service	0,3	

Customer loyalty in the i -th aspect (A_i) is determined for each of the i -th aspects by formulas [5; 6]:

$$A_i = 1 - \frac{a_i}{a_{i\max}} \quad (2)$$

where $a_{i\max}$ - is the maximum (but always the worst) value of the i -th aspect, taken from the gamma of its values.

The values of the aspects (a_i) are determined on the basis of using the elements of the theory of fuzzy sets [1] on a four-ball system:

very good result - 0 points;

good result - 1 point;

satisfactory result - 2 points;

poor result - 3 points.

When choosing aspects (A_i) of customer loyalty ratings, we were based on the above analysis. The weight fraction of each aspect, which characterizes its importance for evaluation, is determined depending on the ratio of one aspect or another to the previously presented factors, the influence on the loyalty of customers of organizations providing transport services. Determining the weighting factors (A_i) of the aspects should be given preference, in our opinion, to the quality of the transport service and the quality of the customer service.

Some ambiguity and uncertainty of the aspects creates the difficulty of their evaluation on the basis of statistical data, and qualitative analysis is usually used here. As a qualitative analysis, you can use a constant survey of customers on the use of the service, which can be carried out with the physical delivery of goods or posted on the company's website. In order to improve the effectiveness of the evaluation of the proposed indicator, it is also necessary to use the expert opinion on these aspects in parallel.

5. Conclusion

Using the customer loyalty indicator allows you to determine the effectiveness of implemented management measures to expand the client base, and in the calendar dynamics allows you to monitor overall business management in the transport services.

The possibility of using the obtained value of the complex indicator of client loyalty to a company is not limited to an analysis of the effectiveness of partner management. These results can be used to identify "weak points", in particular the poor quality work of other dependent and subsidiary companies that reduce this indicator, as well as to develop measures to improve it.

Monitoring this complex indicator over a number of periods will provide an opportunity to track qualitative and quantitative changes in factors that significantly affect its change, as well as analyze the degree of influence of these factors and the change in the indicator itself related to the company's transition from one state to another as a result of management decisions within the framework of reform.

In our opinion, it is necessary to establish its planned values in the necessary frequency for more effective management of a complex indicator of client loyalty. Further, in the process of managing this indicator of company loyalty, it is necessary to monitor the deviation of its actual value from the planned one, so that the further implementation of partner activities of the organization in the appropriate sequence of the efficiency plan in the conditions of developing competition continues to increase this indicator. If such a monitoring shows that as a result of the implementation of management decisions it is reduced, then it is necessary to immediately make adjustments to the plan of client development measures.

Thus, the approach used by us to calculate the complex indicator of customer loyalty can also be used in the further development of a method for calculating the complex indicator of partner loyalty, as an integral indicator reflecting the effectiveness of management not only with customers, but also with suppliers, staff, government agencies, shareholders and investors. Tracking this indicator for organizations providing transport services in a growing competitive market will provide an opportunity to form the necessary basis for a system for identifying at an early stage the shortcomings that arise when making and implementing management decisions.

Further study development involves a wider practical assessment of the methodology implementation results.

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