

PROCESS APPROACH AS A BASIS FOR INCREASING THE EFFICIENCY OF FREIGHT OWNERS' SERVICING

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ABSTRACT

The article raises the question of creating a freight transportation management system that takes into account the working conditions in the market environment and ensures the quality and efficiency of freight owners' service in railway transport. From the whole set of options

considered the use of process-oriented operating system of freight cars operation is considered as the most promising direction by the authors. Advantages of this approach are shown in sufficient detail and practical recommendations of organizational and technological and methodical nature are provided.

Keywords: railway, freight car, freight owners' service quality, management, transportation, efficiency, functional approach, process approach, model, parameters.

Background. The development of competition in the field of operating freight cars and the rapid growth in the number of their owners led to the transition from management on the principle of a «single fleet» to the independent construction of logistics chains by private operators. Today, a car of the owner, with which a contract for services has been concluded, is being delivered for loading, but not the nearest car. This leads to deterioration in the quality and efficiency of the use of freight cars. The worsening of the operating parameters of the car fleet required an increase in its size, since a larger fleet of cars is needed to export the same volume of cargo delivered for transportation.

Objective. The objective of the authors is to consider process approach as a basis for increasing the efficiency in the servicing of freight owners.

Methods. The authors use general scientific methods, graph construction, economic evaluation, comparative analysis.

Results. Currently, more than 1800 owners carry out services to provide rolling stock for transportation, most of which have from several units to several hundred freight cars. The increase in the number of cars on the network creates an additional burden on the railway infrastructure, leading to a decrease in the speed of trains and a slowdown in the movement of goods. With the total value of the fleet of freight cars of Russian ownership in more than 1200 thousand units, the number of «extra cars» exceeding the capabilities of the infrastructure for efficient operation of the fleet is estimated by experts as 250 thousand units.

Maintaining this trend can lead to the receipt of such a number of cars on the network, with which traffic on

the railway infrastructure will be difficult, and the transportation process will not be provided in full and the required time.

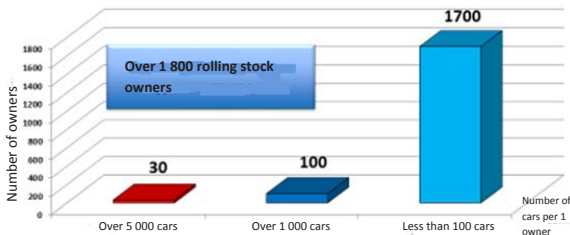
At the same time, for JSC Russian Railways the operational indicators are still the most important, as in the case of planned economy. Whereas for the operator the optimization criterion is the profitability of a car per unit of time, it is not at all concerned with performance indicators (Pic. 2).

It turns out, on the one hand, an increase in the number of freight cars, an increase in empty run and turnover of the car makes the problem of improving the management of the fleet of freight cars especially urgent. But, on the other hand, there are no uniform criteria for effectiveness.

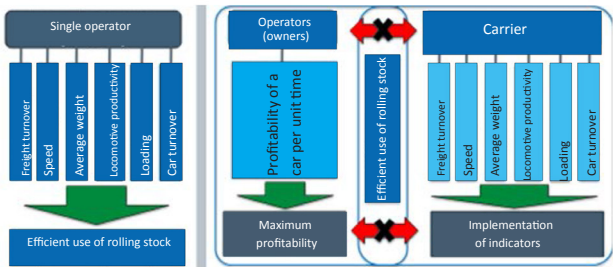
Efficiency and quality of managerial work are determined primarily by the reasonableness of the methodology for solving problems, i.e. approaches, principles, methods.

At least 13 scientific approaches are known:

- complex;
- integration;
- marketing;
- functional;
- dynamic;
- reproductive;
- process;
- normative;
- quantitative;
- administrative;
- behavioral;
- situational;
- system.



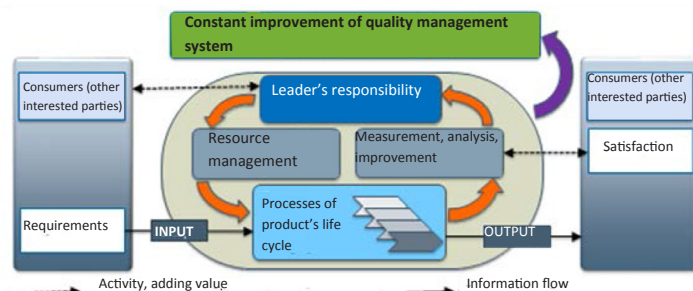
Pic. 1 Structure of owners of freight car fleet.



Pic. 2. Lack of interest in operating indicators of operators (owners) of rolling stock.



Pic. 3. Process approach model.



In fact, today the management of the fleet of freight cars uses a functional approach, i.e. the need is considered as a set of functions that need to be met for its satisfaction.

The leaders have an urgent need to create a management system that takes into account the new working conditions in market relations and helps to strengthen the competitiveness of enterprises and their products.

In this regard, the application of a process-oriented management system is promising.

The first person who put forward the idea of a process approach was the founder of the administrative school of management Anry Fayol. Developing his theories, the process approach began to be considered as the sum of all enterprise processes – planning, organization, motivation and control.

The main advantage of the process approach as compared with the others is carefully developed horizontal management, that is, management at the process boundaries. The process approach proceeds from the fact that the types of activities from which the whole work of the enterprise develops interact, and if this interaction is organized, a colossal synergetic effect can be obtained. It is very important that the compulsory control by the management of joints of processes during their interaction creates continuous management, just this is not achieved by most other approaches. It is unlikely to be evaluated in numerical terms, because not all processes can be expressed through statistics, but the whole is irreducible to the sum of parts – the gap is a possible profit.

When implementing the process management, one should adhere to such fundamental principles:

- **Principle of process interconnection.** The organization is a network of processes. The process is any activity where work is performed. All organizational processes are interrelated.

- **Principle of demand for the process.** Each process must have a goal, and its results should be in demand. The process results must have their own consumer – internal or external.

- **Principle of documenting processes.** Activities in the course of solving problems must be documented. This allows to standardize actions and get a base for changing and further improving the process.

- **Principle of process control.** Each process has a beginning and an end, which determine the boundaries of what is happening. For any of them, the indicators characterizing its results should be known.

- **Principle of responsibility for the process.** In the performance of the task, various specialists and employees may be involved, but one person should be responsible for the process and its results.

The implementation of these principles is aimed at significantly improving the efficiency of work, but at the same time requires a high corporate culture. The transition from functional management to process management forces employees to consolidate their efforts, despite the fact that they can relate to different divisions. On how far it will be possible to establish joint work, the «working capacity» of

the principles embodied in the process approach will depend.

With the process approach to management, each structural unit ensures the execution of business processes in which it participates. Obligations, areas of responsibility, criteria for successful activity for each structural unit are formulated objectively and have meaning only in the context of a real business process.

The employee is responsible not only for his functions, but also for those business processes in which he is involved. The functions and results of the activity of parallel structural units that participate in the same business processes as the employee, are important to him. There is a mutual responsibility for the outcome of the business process between all its participants.

With the correct implementation of the process approach, the organization will interact with both structural units and with the external environment. The process approach is focused on the final product, as well as the interest of the whole company in increasing the efficiency of the activity.

Due to the fact that the process approach creates horizontal links in the work of the organization, it allows to obtain a number of advantages in comparison with the functional approach.

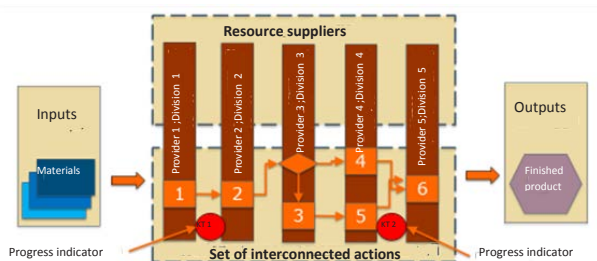
Each process must have suppliers and consumers. Suppliers provide the input elements of the process, and consumers are interested in obtaining output elements. There may be both external and internal suppliers and consumers. If there are no suppliers, the process will not be performed. If there are no consumers, then the process will not be in demand.

Process indicators are needed to obtain information about its status and make appropriate management decisions. Process indicators are a set of quantitative or qualitative parameters characterizing its stages, links and result (output).

Considering the process of transportation by rail, the relevant indicators of each of its elements are calculated – both qualitative and quantitative, whether operational: speed of delivery of goods, time, throughput and carrying capacity of the sections, number of loaded and unloaded cars, accepted and handed over loaded and empty cars and others, or indicators of car and locomotive fleets: turnover of a car, a locomotive, average daily run of a car, a locomotive, performance of a car, a locomotive, etc.

In addition to the previously mentioned positions, the advantages of the process approach are:

- coordination of activities of various units within the process;
- orientation to the result of the process;
- increase in effectiveness and efficiency of the organization;
- transparency of actions to achieve the result;
- increase in predictability of results;
- identification of opportunities for targeted process improvement;
- removal of barriers between functional units;



Pic. 4. Key elements of the process approach.

- reduction of unnecessary vertical interactions;
- elimination of unclaimed processes;
- reduction of time and material costs.

As part of implementation of the process approach as the basis for increasing the efficiency of the system of servicing cargo owners, the following is proposed:

1. Use of a system of geographically differentiated tariffs in order to maximize the demand for transportation in certain directions, with an increase in the infrastructure component in the most loaded areas (for example, by assigning to certain ports) and lowering the tariff on less loaded sections and lines. Such a differentiation will allow not only to increase the profitability of Russian Railways, but also to optimize the investment policy: it will be clear which directions are most profitable and therefore need priority development (construction of second tracks, double-track inserts, enhancement of processing facilities of marshalling yards, etc.) and which ones do not need development or are redundant. One of the consequences of implementing such a scheme of actions should be the development of a system for promptly adjusting the plan for formation of trains depending on the intra-annual unevenness of traffic in various directions and areas of the network.

2. Given that JSC Russian Railways, on the one hand, is the owner of the infrastructure and is interested in its development, and on the other hand, requires a uniform and predictable loading of its infrastructure, it is necessary to develop contracts for guaranteed shipment volumes with key shippers. Such contracts should be mutually beneficial to both shippers and railways. For shippers, they guarantee the export of a certain volume of products in priority order, even in conditions of shortage of throughput and carrying capacity, and for JSC Russian Railways make the level of loading of infrastructure more predictable and identify the need for its development in various directions.

3. It is necessary to strengthen the importance of economic factors in assessing the efficiency of delivering cars for a particular transportation. The benchmark can be the normative value of profitability of a car per day, formed on the basis of comparison with a similar parameter that has developed in the market. In this case, if the profitability of transportation is supposed to be higher, than such transportation is carried out. If the yield is expected to be lower, then transportation requires additional detailed consideration to improve its profitability. The tools of increase can be: use of reverse loading of cars, increase of freight charges to the level of normative amount of profit of a car per day, the possibility of minimizing other costs of the company (for example, during periods of excess of rolling stock of a certain type, the carriage of cargo with yield below the regulatory one

may be preferable to the idling of cars at corresponding stations).

4. Conclusion of agreements with other owners of cars on the mutual possibility of using each other's fleet on an equal footing with different kinds of counter-runs or on the directions of returning empty rolling stock.

Summarizing, we note that in the conditions of the developing market and healthy competition, the process approach to the management of freight car fleets is more expedient. Important nodal points, which are mainly given attention in the implementation of the process approach, are: understanding and implementation of prescribed requirements; the need to evaluate processes in terms of added value; consideration of the results of the process; efficiency and continuous improvement of processes. Its main advantages are transparency, orientation of the whole enterprise to a positive result and flexibility of the management system.

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