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The Importance of Research in Increasing the Labor Efficiency of Railway Transport System Staff

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Abstract

Railway transport plays a pivotal role in global logistics, ensuring the efficient movement of goods and passengers. The effectiveness of railway systems heavily relies on the optimal performance of the staff involved in their operation. This abstract explores the critical role of research in enhancing the labor efficiency of railway transport system staff. The research investigates various factors affecting the labor efficiency of railway personnel, including training programs, technological advancements, and management strategies. By analyzing current practices and identifying potential areas for improvement, the study aims to contribute to the development of innovative solutions that can optimize the performance of railway staff. The integration of cutting-edge technologies, such as automation and artificial intelligence, into railway operations will be explored as potential avenues for increasing efficiency. Additionally, the research will delve into the importance of ongoing training programs to keep staff updated on the latest industry trends and best practices.

Keywords: *Railway Transport; Improving Employee Performance; Railway Transport Activities; Sustainable Development*

Introduction

Modern transport systems are unstable and cannot cope with destabilizing factors. The global trend in the management of economic systems is the use of the concept of sustainable development. Based on the analysis of literary sources, it is necessary to determine directions for solving problems of increasing the efficiency of railway transport departments from the point of view of sustainable development.

Review

One of the main ways to improve the efficiency of railway transport management is to modernize the management system and the organization of its work.

Traditional approaches are used to solve problems of control of complex systems, such as railway transport. This:

- Optimal (software) control, the essence of which is to transfer control to transfer systems to the desired state along some optimal path;

- Information management, in which the energy resources used for management are insignificant compared to the energy resources of the control objects;

- Adaptive control is used in cases where the influence of traditional factors ensuring the operation of the system is relatively weak or the influence of these factors can change in a relatively short period of time;

- Mass sampling method, the essence of the method is to transform a complex system into a quasi-Stochastic system with the search for an optimal (quasi-optimal) solution as a control object;

- Reflexive management aimed at constantly solving a flow of tasks aimed at solving problems caused by a dynamically changing external and internal environment.

The practical application of the developed management approaches is difficult for the following reasons:

- Weak predictability of the system;

- Possession of large energy resources, as well as large dynamic inertia;

- The impossibility of determining the control effect, the results of which have a clear impact on changes in the state of the controlled system.

It should also be noted that the approaches to planning and managing railway transport and solving economic problems that developed during the period of the planned management system are preserved to this day. The main feature of this system was the serious attention paid to the implementation of the state plan. The market situation has led to a significant increase in the number of factors and events that require immediate response from managers and specialists of enterprises. In a planned economy, factors appeared that were not there before.[1]

Methods

There are several ways to increase the productivity of railway workers:

- Organizing regular training courses and seminars to strengthen the technical and professional knowledge of employees. This will help them succeed in their work and master new technologies;

- Ensuring occupational health and safety and improving working conditions for workers. For example, providing modern tools and necessary instruments, creating the necessary connecting infrastructure for tracking and quickly resolving work;

- Value employees and welcome them. Such values increase motivation and raise work efficiency to a higher level;

- Control of the actual conditions of actions and activities of workers in the workplace. This helps to do quality work and solve problems.

Results

An increase in market demand for the level of integrated management solutions leads to low management efficiency not only of divisions, but also of the entire network.

Therefore, recently more and more attention has been paid to a new integrated management approach - the concept of sustainable development.

When studying recent changes in the field of increasing the efficiency of railway transport units, it was noted that in most cases, complex indicators of an economic nature are used as an efficiency criterion (target). [2,3,4,5,6] There are also works that consider the processes of increasing the efficiency of railway transport units based on technological indicators. [7,8,9] In works [10,11], research takes into account the environmental component of technological processes, but this problem is solved separately from the problem of increasing the economic efficiency of technological processes. In the analyzed scientific works, the social component of the activities of railway transport units was not considered at all. The application of the concept of sustainable development and its implementation in the management of complex systems (including in the management of railway transport departments) primarily involves taking into account the environmental and social components of the functioning of complex systems. This was highlighted during the discussion of environmental issues at the Council of Ministers of the European Conference of Ministers of Transport (ECMT). ECMT members noted that, despite the great environmental damage associated with transport, its positive impact is very large, therefore it is relevant to make decisions that allow achieving the maximum positive effect from transport activities while minimizing environmental damage.

The most environmentally friendly mode of transport is rail transport, so there is a need to transfer as much freight and passenger transport as possible to rail transport in order to reduce air and noise pollution, as well as other impacts of transport on society. [12]

One of the main theoretical tasks is to develop indicators for assessing the effectiveness of complex systems, which will allow the principles of sustainable development to be implemented, since existing quantitative indicators used in railway transport do not solve the problem of measuring various loads. The concepts of quality are not additive, subjective, and also do not allow us to evaluate the effectiveness of actions and ensure sustainable development.

Based on an analysis of literary sources, while maintaining the substantive essence of sustainable development, the following main directions were identified, which should be considered as comprehensive measures:

- Formation of resource-saving technologies for the operation of railway transport units: formation of a rational structure of the locomotive and carriage fleet, substantiation of reasonable technological capacities of loading and unloading fronts, as well as rational parameters for storing warehouses;

- Comprehensive assessment of the environmental component of the work processes of railway transport departments and its consideration in the tasks of developing resource-saving operating technologies;

- Taking into account the social component of the operation processes of railway transport units through organizational development.

Discussion

New ways of considering the issue of increasing efficiency from the point of view of sustainable development are proposed, that is, the three components of the concept of sustainable development (economic, environmental and social) should be considered proportionately.

The theoretical research conducted can help formulate a new business model that meets the goals and principles of sustainable development.

According to the scientific works of V.I. Yakunin, a leading Russian scientist in the field of railway transport, the railway for many decades has been one of the socially significant and labor-intensive sectors of the country's economy, and its activities include transport services, covers the entire complex of industrial and construction production, logistics and requires extensive use of employees of transport companies. Also, the specifics of the work of railway transport enterprises require a round-the-clock operation regime aimed at achieving maximum results in the implementation of production corporate and strategic tasks. [13]

In addition, as part of the implementation of the main directions of work, railway transport enterprises must quickly resolve a number of theoretical and methodological issues that significantly affect their activities in a competitive environment, as well as annually improve the current concept. At the same time, measures are being developed for the phased implementation of measures for the high-quality implementation of production programs, including the identification of bottlenecks in production, sources of financing, training programs and other activities. [14],[16]

Changing the organizational and legal “shell” of the activity of the railway transport system from state infrastructure to economic organization, the general goal of the railway from “ensuring transportation at any cost” to “ensuring costs” means changing. Efficient and functional reliable transport links,” which obliges us to change the main indicators for assessing the activities of enterprises from the volume of physical indicators of transport work to financial and economic (monetary) assessment criteria, as indicators that combine different types of transport connections. transport works and services.[15]

Conclusion

The analysis allows us to formulate resource-saving operating technologies, comprehensively assess the environmental component of operational processes and take it into account in the tasks of forming resource-saving technologies, as well as take into account the social component of the activity.

For the successful development of the transport industry, it is necessary to move from the concept of adaptation and survival to the concept of sustainable development.[1]

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