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**Search for effective solutions in the multi-criteria choice in the multi-criteria choice of a counterparty for horizontal cooperation in the freight logistics of urban agglomerations**

The introduction in Russia of the new management ideology of the "Fourth stage of the digital revolution" (when the digital economy is the basis of business processes) will improve the efficiency of interaction between economic entities and systemic optimization of business processes. This stimulates the development of specialized information systems that will provide a technological platform and infrastructure for the digital economy of urban agglomerations. In the course of such developments, a special role should be assigned to modeling and optimization of business processes in supply chains, taking into account the specifics of transport provision, including the “last mile to the consumer”, which is so important for modern freight logistics. Such transformations will make it possible to implement the synthesis of the technological platform and the physical infrastructure of the digital economy of urban agglomerations.

The actual problem of urban agglomerations is to find the best balance of different interests of the participants in the process of delivering goods on the "last mile". In this area, one has to deal with the difficulty of taking into account the requirements of the ecological and social systems of the city against the background of the need to ensure the economic efficiency of the company's activities. A financially profitable (from the company's point of view) solution may contradict the city's development strategy and the preferences of various stakeholder groups. Therefore, the search for a compromise is difficult due to the need to take into account many different KPIs (costs, service level, environmental and social indicators, etc.).

Such partial criteria can often be competing with respect to each other, and also imply a large number of alternative courses of action. In this regard, special methods of optimizing the choice of the best solution according to many criteria should become an integral part of the business processes of the processes.

To make this kind of multi-criteria decisions in world practice, in general, it is perspective to use the MCDM (*multiple criteria decision making*) methodology, and in the case of multi-criteria problems on a discrete set of decisions, it is customary to use methods from a special subsection called MADM (*multi-attribute decision making*). At the same time, in practice, the implementation of such methods and models may be associated with the need to analyze possible combinations of the analyzed risk factors. In such situations, formalized procedures for eliminating ineffective alternatives can be of significant help.

Let us note that many modern methods of multi-criteria choice, taking into account the preferences of decision-makers, have limitations on the number of analyzed alternatives. In particular, in the method of analytical hierarchy, with an excessively large number of alternatives and large dimensions of matrices of pairwise comparisons, solutions may turn out to be formally inconsistent (this means that they cannot be chosen as the best). Thus, there is a need for new approaches to formalizing the procedures for choosing alternatives, which would improve the quality of the decisions made.

This report proposes an appropriate approach to formalized methods for selecting effective alternatives, which will facilitate the search for the best management decisions. The proposed procedures for filtering alternatives are based on the theory of binary relations and provide for the preservation of only those alternatives that are majorants with respect to the order specified within each particular criterion. The presented procedures make it possible to significantly reduce the number of considered alternatives without reducing the quality of the chosen solutions.

The possibilities of practical application of the relevant methods and conclusions emphasizes the relevance of the topic of optimizing the procedures for choosing a counterparty for horizontal cooperation in the management of freight logistics in urban agglomerations. In particular, the proposed developments can be in demand by municipal and regional authorities in solving transport planning problems in urban agglomerations, as well as by business entities for the rational organization of cargo delivery on the "last mile" with horizontal cooperation.