

SECTION 9. MATHEMATICAL METHODS, MODELS
AND INFORMATION TECHNOLOGIES IN ECONOMY**Afanasyev K.M.**

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THE SUPPLY CHAIN MANAGEMENT SYSTEM'S OPTIMIZATION MODEL

The optimization model of supply chain management was developed and the possibility of increasing the efficiency of these models was analysed in the article. Previous studies of foreign and domestic scientists in the field of supply chain management were studied. The definition of supply chain management was formulated and a generalized diagram of the supply chain was presented. The optimization problem of supply chain management system was described, the content and completeness of which depends on the degree of model's adequacy.

In the optimization problem key stakeholders of model of supply chain management are manufacturers, products distributor, wholesale companies and retailers. The level of integration of the supply chain participants was taken into account.

In economic and mathematical model of supply chain management assumptions about customer demand, transportation costs throughout the chain and for the storage costs per unit of finished product per unit of time for each participant in the chain were formulated.

In the process of building a model of supply chain management objective function of minimizing the total cost of the supply chain was introduced. Cost components of model's objective function and formu-

las for their calculation were presented. In this paper five restrictions of model of supply chain management were formulated.

The developed model can be easily adapted to every enterprise that is at some level of integration with partners in the supply chain management system. The model is a tool for forecasting growth of efficiency from the integration of material and information flows for all participants in the supply chain and enables to increase performance of each company as a participant.

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