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THE DEVELOPMENT OF AN INFORMATION MANAGEMENT SYSTEM FOR INNOVATION

The analysis of information support of innovative activity of enterprises of the sphere of production and modern information technologies made it possible to determine that for enterprises it is necessary to continue work on the creation of software tools that in one way or another contribute to solving the problem of management of innovation processes (IP) taking into account the risks. On the basis of the analysis of methodical approaches to the application of technologies for the development of the information management system (IMS) of the IP, a IMS for the management of innovation processes of enterprise (MIPE) was created [1]. Its aims are to implement IP-management at enterprises and is based on a comprehensive study of the relevant dynamic processes during the lifetime of innovation and processes of management decision-making, as well as on the development and implementation corresponding economic and mathematical models, methods and algorithms for solving optimization problems in IP-management using IT tools.

For this purpose, an economic-mathematical model of the problem of MIPE in the presence of risks has been developed. A discrete dynamic system consisting of an object whose dynamics is described by a vector linear discrete recurrence relation is considered and is subject to the influence of controlled parameters (controls) and an uncontrolled parameter (the vector of risks or interference). The proposed method makes it possible to develop effective numerical procedures, which made it possible to implement computer simulation of the dynamics of the problem in the form of IMS_MIPE, to form adaptive minimax control of the MIPE and to obtain the optimal guaranteed result [2].

With the purpose of practical realization of the task of MIPE the methodical approach to the design and development of the modular software complex «The system of information support for the MIPE»

is substantiated. The software implementation of the IMS is performed in the Java environment using Spring MVC web technology [3]. The developed system is a web resource, which includes a set of object-oriented software modules, and provides transactions with a database and the ability to implement a high level of protection.

The results presented in the report, based on the application of deterministic models and the adaptation of optimal management and dynamic optimization methods for the production sector, allow a new approach to addressing the problem of managing and developing innovative activity (IA) in practice. The obtained results can be used for economic-mathematical modeling and solving other control tasks in the conditions of information deficit and uncertainty, as well as for the development of appropriate software systems to justify and support the adoption of effective managerial decisions in the IA.

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