

Leonid Mylnikov (Ed.)

# Intelligent data analysis in the management of production systems

Approaches and methods

INTELLIGENT DATA ANALYSIS IN  
THE MANAGEMENT OF PRODUCTION  
SYSTEMS  
(approaches and methods)

Edited by Leonid Mylnikov

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The relevance of this study is related to the increasing role of prognostic models in the management of production systems, which is associated with the increased requirements for management efficiency and the need to take into account external factors affecting the system and the consideration of ongoing processes in dynamics and in interconnection between the chain of managerial decisions and the values of the used management parameters. The goal of the study is the solution of scientific and practical problem of the development of models and supporting methods for the effective decision-making in the management of project implementation processes in production systems on the basis of the data analysis of the life circle of projects, of their interaction with other projects within the framework of the system under consideration and taking into account the time factor. In order to gain this goal we use methods of innovation management from the point of performance management indicators; formalization of management tasks in the form of predictive models; DataMining for intellectual data analysis and support for decision-making management; predicting the parameter values presented in the form of time series and the application of time series as a way of representing the process parameters under study; approaches from a wide field of semi-supervised training, taking into account structured and unstructured data at the same time; methods for assessing the credibility of taken management decisions. The data considered in the monograph allow to receive and to solve the tasks of the management of production systems arising in the practice based on the forecast data for sets of indicators and parameters involved in decision-making. That makes it possible to increase the validity and quality of management decisions.

**Keywords:** *project management, production systems management, forecast, time series, risk assessment, management parameters, data preparation, DataMining, statistics, training.*

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