

Cherniy P. About formalizing explanatory models of socio-economic systems

Modeling socio-economic systems traditionally use different theoretical approaches and, accordingly, different conceptual models of processes and phenomena. The high level of statistical “white noise” (unremovable calculation errors) and uncertainty in data interpretation often make it impossible to compare models with each other to select the most appropriate one. These features make efficient the pluralistic approach – to use several independent models at the same time.

In this paper considered the stages of creating a computer model of a socio-economic process or system and highlighted two ways of applying the pluralistic approach: the use of several conceptual models and the use of several formalizations of the same conceptual model. Both ways can be used parallel and selected in accordance with the goals of the modeling and the properties of the modeling object (target).

The presented generalized algorithm considers the creation of a computer model as a study and describes the results of each stage of modeling. This view of the modeling process allows us to distinguish the sets of hypotheses that are the basis of the computer model, compare the models with each other and identify new issues for theoretical studies.

Key words: modeling socio-economic systems, formalization, pluralistic approach, research, algorithm.