

SPECIFICS OF USE OF SIMULATION MODELS IN MARKETING OF SCIENTIFIC ORGANIZATIONS

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Currently, one of the most important tasks of humanitarian scientific organizations marketing is the promotion and dissemination of research results of both scientific teams and individual scientists. In this study performed with financial support of RFBR (project 17-02-00095) we look at two modern approaches to the study of the activity of researchers in social networks: content-based approach and topological approach.

Applying content-based approach, we consider information and determine its quantitative indices. Most of the available scientific works are grouped into journals and collections of reports from symposia, conferences and other scientific events with a clearly delineated area of interest. Using semantic analysis of text messages (articles, reports, notes) we may specify new trends and evolution of main topics in research communities.

Using topological approach, it is possible to identify distinct relations between participants of specialized research groups in social networks. The main attention is paid to the dynamic processes of possible dissemination of information throughout the network. The characteristics of these processes depend on the structure of social network.

When simulating the process of information distribution in specialized network communities, we can distinguish several types of structures.

Local influence groups are defined in the case where one node is associated with many, which are not connected, and do not share information. Chains of influence are characterized as unstable structures, in the form of several consecutively connected nodes. Centralized nodes can connect large communities across the network. Elimination of such a node leads to localization of information within either community. The most common groups in scientific network are cyclical groups. In such communities there are no clear leaders, thus eliminating individual nodes has almost no effect on the speed of information dissemination. Finally, the nodes that are at the top of each network fragment can be identified as key in terms of information dissemination.

The proposed approaches make it possible to identify key factors determining the characteristics of dissemination of information about scientific results, scientific events and new trends in research communities.