SITUATION CENTERS IN MODERN STATE

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Introduction

Development of information technologies and hardware-software means make it possible to integrate various engineering solutions of technical, technological and information nature within the framework of the single system of implementation.

The situation center (SC) represents the complex of hardware-software means for the personal and team work of the managers group. Its main task consists in supporting decision-making on technical and strategic management solutions based on visualization and analytical procession of information.

The SC ensures the support of preparation and decision making in particular:

- elaboration of the versions and recommendations taking into account various conditions and limitations;
- choice or creation of the situation analysis model;
- structurization of the problems and definition of the most informative parameters;
- monitoring of socio-economical and socio-political information.

Being based on the experience of creation and operation of the situation centers in the organs of the state management it is now possible to formulate the main types of solution concerning the contents of hard-ware-software complex of the situation center and operation regimes.

Regimes of holding actions in the SC can be realized in the form of the limited participation of experts or managers and in the form of television conferences (broadened content of participants), they assume joining with the use of telecommunication means of distant representatives from different organizations, enterprises or situation centers.

Thus, information and intelligent resources needed for consideration and elaboration of versions of solutions in a problem situation are consolidated in the situation center. Efficiency of the SC consists in the possibility to include the figurative associative thinking into the active decision-making work.

Designing and operation of the system of the interconnected federal and regional SC create premises for the transition to the fundamentally another technology of operation of the state management of all levels, namely, to the usage of the new “generation” of the decision-making methods directed to the work of experts and persons making decisions in fuzzy multivariant conditions.

Application of Information Technologies and Systems in the Practice of the Situation Centers Functioning

Information technologies and systems make the basis of the SC efficient functioning. In addition to that their practical application is based on the definition of the objects’ domains which in the state management are: the national security, economy, financial activity, social sphere, external and internal policy, branches of industry, fuel – power complex, transport, agriculture, development of regions, objective programs etc.

Means of information collection and storage is realized in the forms of based and data banks, knowledge bases as well as the systems of telecommunication information action.

Forms of information storage represent segments with databases of the problem and objective orientation as well as booths of data with the selective data in terms of the users’ orientation. The segments’ database and booths are universally connected with the operation and special databases in the federal and regional structures. They are united in the global network of data collection arriving from different sources.

In the context of development of network technologies it became urgent to ensure the users interface with the distant (external) sources of information. One of the efficient ways to solve the emerging problems is creation

of the unique mechanism of access to the internal and external resources in the form of the corporative information portal.

Information portal integrates such internal applications as: e-mail, access to databases, OLAP, Data Mining and DSS, systems of documents management with the external application (Internet news services and users' Web-nodes). Modern intelligent information technologies used in the SC can be represented by four groups of technologies: operative analysis, intelligent analysis, simulation and decision-making solutions support.

Technology of operative analysis of data makes it possible to estimate the state of the processes being observed to reveal and range the causes of significant variations to forecast development of the processes.

Recently a wide-spread occurrence was obtained by analytical systems based on OLAP technologies (OLAP – on-line analytical processing – operative analytical data processing), which make it possible to group the data into representation of information in the form of N-dimensional cube. Such a technology gives the possibility to an analyst to receive "multidimensional reports" from miscellaneous sources of information and form the necessary sampling in the form of different data cut.

Intelligent analysis of data ensures automated search of earlier unknown regularity in the databases of the information fund. The use of the acquired knowledge allows so simplify significantly the procedure of the informative analysis for the analysts and to increase efficiency of the models' design by experts. Methods of the artificial intelligence make the basis of the intelligent analysis.

Simulation of the decision-making process makes it possible to give a quantitative estimation and perform quantitative analysis of results of the made decisions.

In these technologies oriented to the users from the organs of the state power the models are used classified as the models of socio-economical processes, models of socio-political processes as well as the models of extraordinary situations.

Thus, in the socio-economical sphere the use of the models of regression analysis makes it possible to predict dynamics of macro economical indices, development of different branches of industry and agriculture, to perform comparative analysis of socio-economical situation of regions in Russian Federation, to estimate their investment attractiveness etc.

In the socio-political sphere, for example, the model calculation is widely used for procession and analysis of data of the sociological enquiries.

In the process of preparation of decisions in the extraordinary situations simulation models are widely used, they allow to analyze the development of the extraordinary situations, to estimate their consequences and calculate the required resources needed for elimination of resources damage.

Decision-making support systems are singled out separately; they are functionally oriented to the preparation of the analytical reports and documents, performance of the group expertises, development of recommendations and decision versions ranging. In these systems they used mainly methods of expert estimates, models of group estimates, method of analysis of hierarchy (method of pair comparisons), method of alternative decisions synthesizing.

Information-analytical systems input into software-hardware complex of the SC significantly extend its functional possibilities. In this framework of the highest organs of the state power the most required are the general mathematical information-analytical systems (IAS).

The means of the information presentation unite the following types of technologies:

- Cartography of the problem situations and objects of decisions;
- Structuring of fuzzy ideas and decision hypothesis;
- Multimedia imagery of the situation dynamics.

Problems of Information Security

Provision of the information security is one of the most important problems in application of the information technologies in the practice of the state management. Organization of the systems' functioning in the modern

communication means in conjunction with the necessity to perform the requirements on the user service significantly complicates this problem solution.

Two types of information struggle should be singled out, namely, information-psychological and information-technical ones. The main objects of impact and security in information technical struggle are information-engineering systems (communication systems, telecommunications system, radio electronic means etc).

Realization of information security hazard can result in a serious and, in a number of cases, catastrophic consequences; the main of them are as follows:

- violation of the state establishments, social organizations and institutions activity;
- variation of the individual or mass consciousness, moral and political, social and psychological climate in the society;
- infringement of the state national interests due to the drain of the most important information

Prospects on the Information Technologies Development and Proposals on the Situation Centers Development

Today the level of development of the information technologies makes it possible to envisage confidently the possibilities of creating the system of "electronic power" in the near future. The essence of the efficient control and the processes of decision-making management at the first stage and further in formation of the complex system of control of socio-economical and socio-political processes in the context of the state management.

Under conditions of the global information of the society the role and functions of management transform, this, respectively, is reflected on the realization of economic and social policy as well as on the support of democratic institutes of power. At present it becomes evident that in future the efficiency of the process of management will depend even greatly on the quality of information. In this case the main methodical directions of rising quality of the information support of the state management in the context of the considered problem are, at our point of view, as follows:

- development of methodological principles for introducing the situation centers as means of the system integration of the intelligent information technologies into practice of the state management of the federal and regions levels;
- development of the methodology for consolidation of the information resources and clear definition of their propagation limits, creation and development of the information funds on the basis of the distribution calculations methodology and data storage;
- creation of the decision-making system on the basis of the modern intelligent information means of data procession;
- development of a wide class of the socio-economical and socio-political processes models;
- orientation in development and application to the management of the intelligent information technologies aimed to creation of the systems of "electronic power";
- creation of the efficient technologies of the information security oriented to application to information-analytical systems of the state management.

Conclusion

Results of the imitative simulation systems' use in the situation centers are given in this work. Majority of the program complexes, used in the world for the economical, political, and financial simulation, are based on the methods of the so called system dynamics. The latter one, in its turn, uses the fuzzy cognitive maps' apparatus offered by Kosko at the beginning of the eighties and used for the first time in the field conditions during the political crisis in South Africa.

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