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### Global Challenges and Prospects of the Modern Economic Development

#### OPTIMAL RESEARCH METHODS OF SOCIAL-ECONOMIC SYSTEMS USED FOR MAKING MANAGEMENT DECISION

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#### Abstract

Organizational diagnostics is a popular modern tool for improving management systems to make changes in companies. It can be characterized as a process of describing the current state of a social system, which purpose is to detect problems of the functioning of the social system and the factors of their occurrence. A big problem is the practical implementation of the processes that ensure such activities, that is, the availability of real methods and technologies. This article proposes a proven method for diagnosing of complex socio-economic systems and shows its practical application at different levels of management. It has been proved that in the process of diagnostics it is possible not only to identify existing problems, but also to determine the most likely sources of their occurrence, as well as to foresee possible consequences and propose measures to resolve them. The proposed methodology is designed for a deep analysis of socio-economic systems, including all levels of the national economy and organizations of any type - the peculiarities of the technique are determined by the fact that it has a universal and complex character - the proposed diagnostics takes into account both systemic and non-systemic, cognitive factors. The realities of our economic activity indicate that many decisions at all levels of management are made in a voluntarist way without a preliminary thorough analysis. The proposed technology should be widely used in the national economy.

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## **1. Introduction**

The socio-economic system is an integral set of interrelated and interacting social and economic institutions (subjects) and relations regarding the distribution and consumption of material and non-material resources, as well as the production, distribution, exchange and consumption of goods and services. The socio-economic system, like any other, is characterized by systemic qualities. Among them, we can note a special economic relationship, which unites all others by the unity of origin, from which more complex relationships develop. It is the easiest way for the given conditions to allocate resources and maintain proportions. The socio-economic system is inevitably localized in economic time and space, as well as in relation to its alternatives. It has certain historical, geographic, ethnic, spiritual, political and economic boundaries. This, in turn, means that it can be embodied in specific state-political formations or in the form of other, smaller in scale, social and economic organizations. As the effect of globalization intensifies, it is legitimate to consider all of humanity as a socio-economic system.

The socio-economic system is a complex system consisting of many interacting subsystems, as a result of which it acquires new properties, which are absent at the subsystem levels and cannot be reduced to them. The properties of complex systems are well known, which includes any socio-economic system. This is its integrity, which means that a change in any component of the system affects its other components and leads to a change in the system as a whole. Hierarchy implies that each subsystem can be viewed as a higher order element. The property of inerrability assumes that the system as a whole has properties that are absent in its elements. The opposite is also true, that is, elements may have properties that are not inherent in the system as a whole. In modern theory and practice of socio-economic policy at the federal, regional, sectoral and local levels, the socio-economic structure of the corresponding level is considered as the object of its influence.

## **2. Problem Statement**

In real practice, those who makes decisions, face two types of situations. First case. There is a problem, as a discrepancy between the desired and the actual, and it is required to find methods and solutions to eliminate the problem. In the second case, there may be an urgent need for development associated either with new opportunities that have arisen, or with an understanding of the necessity to ensure the survival of the system in the future. Thus, the first leaders of the organization must think strategically, ensuring the competitive stability and vitality of their organization for the future. Ensuring the sustainability of any socio-economic system, be it the country's economy as a whole, a separate industry, a region or a separate organization, it is carried out on the basis of certain managerial decisions and their implementation. A managerial decision is a directive act of purposeful impact on a control object based on the analysis of reliable data characterizing a specific managerial situation, defining the goal of action, and containing a program to achieve the goal. The comprehensive validity of the decision means, first of all, the need to make it on the basis of the most complete and reliable information.

Ensuring the sustainability of any socio-economic system, be it the country's economy as a whole, a separate industry, region or a separate organization, is carried out on the basis of certain managerial decisions and their implementation. A managerial decision is a directive act of purposeful impact on a

control object based on the analysis of reliable data characterizing a specific managerial situation, defining the goal of action, and containing a program to achieve the goal. The comprehensive validity of the decision means, first of all, the need to make it on the basis of the most complete and reliable information. And here we can talk about two problems that are actually present in the process of making decisions at all levels of the hierarchical socio-economic system of the national economy.

Firstly, it must be said that the system is complex and the methods of research and detection of problem areas in such a system are not sufficiently developed. Secondly, very often in the decision-making process itself, the stage of research, analysis and detection of the real reasons for the current unsatisfactory state is overlooked or poorly worked out. Today it is known that the study of socio-economic objects is carried out in the form of analysis, assessment, diagnosis and monitoring. These concepts are close to each other and are often used interchangeably. So "analysis" is a research method, which consists in the fact that the object of research, considered as a complex system, is divided into constituent elements to study each of them separately and identify their role and place in the system, thus discovering the structure of the system. The tasks of the analysis can be: identification of the structure and patterns of functioning of the socio-economic system; study of the stability of the situation and determination of ways to change it; identification of alternative solutions; determination of trajectories of the development of processes. The concept of "assessment" can be considered as the correlation of an object with an accepted criterion, pattern or norm. Evaluation can be characterized as a way of establishing the significance of something. Unlike analysis and assessment, "monitoring" is a specially organized, systematic observation of the state of objects or processes with the aim of their further control, assessment and adjustment. The term "diagnostics" is quite new for a researcher of socio-economic systems. The term is known from the field of medicine, where it denotes the process of recognizing a disease and designating it using accepted medical terminology, that is, establishing a diagnosis. In general, diagnostics is defined as the establishment and study of signs, characteristics, factors characterizing the state of an object in order to identify possible deviations, causes of the appearance and prevention of major deviation in the normal functioning of the object.

With regard to socio-economic systems, diagnostics is a complex of interrelated research works of an analytical nature, allowing to consider the presence of goals in the system or their absence; to determine the state of the object in all areas of activity; to establish the influence of some factors on others; to identify possible problems and weak points; to determine the reasons for their appearance; to outline ways to eliminate deviations in order to bring the system to normal operation. The research methods above mentioned are not identical to each other, they imply different research processes and can be implemented jointly at various stages of the process of preparing the initial information for making management decisions. Table 1 shows the comparative characteristics of the described concepts.

**Table 1.** Comparative characteristics of research methods in the system of making management decisions

Content of the method			
Analysis	Evaluation	Monitoring	Diagnostics
1. Revealing the essence of the processes at the object	1. Establishing the significance of an object, element, factor	1. Observation of the state of objects, processes, phenomena	1. Choosing a diagnostic method
2. Revealing the role of individual elements	2. Determination of the efficiency of the use of resources	2. Identifying dynamics	2. Implement activities corresponding to the method
3. Determination of stability	3. Comparison of the effectiveness of the use of various resources	3. Tracking changes	3. Analysis of the information received
4. Determination of ways to change the situation		4. Correcting the state of the object to normal	4. Formation of the problem field of the object
5. Identifying the alternatives			5. Identifying root problems
			6. Development of the necessary measures

Source: authors.

So, the methods of analysis, assessment, monitoring and diagnostics in aggregate can give the most adequate assessment of the state of a socio-economic object, and take into account not only the material, informational, but also the "cognitive" component of the processes occurring in a complex system.

### 3. Research Questions

The general sequence of the entire set of processes required for this can be represented in the following form (Table 2).

**Table 2.** Stages of detecting and solving problems in the system

№	Stage	Result
1	Setting goals and tasks	Goals. Tasks
2	System analysis and problem identification	Conceptual model of the system
3	Description of the problems	BIG LIST OF PROBLEMS
4	Analysis of the problems	Problem field of the organization by management subsystems
5	Work with the big list of Problems	Short list of problems. Essential problems
6	Generation of alternatives	Alternatives for solving essential problems
7	Choosing decision	One option: optimal, the best, acceptable
8	Preparing for changes	Information and resource supply of the participants of changes
9	Making changes	Neutralizing the opponents and the support of the participants of changes
10	Monitoring and evaluation of the effectiveness of solutions	Success of achievements
11	Correction of decisions	New state of the system

Source: authors.

The key steps in this sequence are Steps 2, 3, 4, 5, and 6, that describes the following material. Knowing the sequence of the research, one should talk about the technology itself and the participants in

this process. The complex conditions of the modern management require constant development of theoretical management concepts and applied management technologies. The bearers of new theoretical and applied knowledge on management problems are specialists in management consulting, who play an increasingly significant role in the management process.

Management consulting as a special area of professional activity is an expert assistance from management specialists and is designed, on the basis of a scientific analysis of specific production situations, to develop the most acceptable ways to improve the efficiency of an enterprise and the ways of its implementation, using the achievements of modern management science. That is, the participants in the described process are: decision-makers (DM), management consultants, participants of the processes which take place in various subject areas.

#### **4. Purpose of the Study**

Modern research is focused on summarizing the experience of working with organizations of different types and identifying the features of making management decisions, taking into account industry characteristics, the types of company activities, the complexity of the production cycle and a number of other features. Currently, many scientists are conducting research on existing problems in the field of management and decision-making (Biggs et al., 2015; Broome et al., 2017; Davari et al., 2012; Hardy & Castonguay, 2018; Lee et al., 2018; Lim & McNelis, 2018; Lopez-Behar et al., 2019; Marchisotti et al., 2018; Palvia et al., 2018; Roztocky et al., 2017).

In difficult Russian conditions, the combination of scientific developments with real management activities becomes an urgent need. It is precisely the need for management practice in a professional consultant who is well acquainted with both production and management science and is called upon to combine science and practice through management consulting. One of the features of the proposed methodology is also its ability to take into account not only systemic, but also outside the system characteristics of the object. It is widespread the understanding of an organization as a system and only as a system. Of course, the organization is systemic, but not whole. It contains a lot of non-systemic and counter-system factors. This is the nature, for example, of such phenomena as spontaneously emerging groups or defects, conflicts, the socio-psychological climate, personal discretion of the leader in non-standard situations, unwanted staff turnover, failures due to partners' fault, etc. There is an attempt to bring certainty into organizational processes, but this cannot be done completely. Therefore, a holistic analysis of the organization includes its non-systemic sphere.

Another approach to the holistic analysis of the organization. Deep diagnostics should proceed from the fact that in any organization there are three differently directed organizational capacities. One is ordering, the other is destructive, the third is developing. From the first, the creation of the organization begins, goals are set, powers are distributed, business processes, organizational structure, sales, supply, financing, etc. are determined, that is, an order is established that ensures control and unity of action. But this whole order is subjected to destructive influences both from the outside and from the inside: indiscipline, breakdowns, disagreements. These destructive forces are always active, and it is impossible to exclude them. Therefore, even at the stage of diagnosis, they must be identified and systematized. We have to develop measures to forestall and overcome them, i.e. the organizational order

must increase its resistance to destruction. But, an organization cannot be effective if it is built only on overcoming threats and disorganization. It should develop, therefore, it should be provided for the creation of impulses for development, motivational and innovative mechanisms that ensure the dynamics of goals, organizational structure, personnel, external relations, production, etc.

## 5. Research Methods

Let us dwell on the diagnostic method of research, which in practice has shown its adequacy and effectiveness. And although the method works well for different socio-economic objects (industry, region), for simplicity, consider the use of diagnostics at the level of an organization that produces any goods or services. The development and adoption of a management decision is usually initiated by the occurrence of a problem related directly or indirectly to the object of management. The feeling of a problem that has arisen as a result of monitoring the management process is a signal for the manager (management) to start looking for ways, methods of action that will fully or partially solve this problem. In the most general case, a problem is understood as a discrepancy between the real, observed state of the controlled system and the desired, normative state. The most typical problems, the occurrence of which leads to the need to make management decisions:

- the state of the controlled object and the processes occurring in it came into inconsistency with the goals of its activities, fixed in laws, plans, programs, regulations, statutes;
- the functioning of the object, its performance indicators contradict norms, standards, requirements, which threatens the loss of stability;
- the needs for the product of the object's activity have changed, the situation in the markets has changed, in connection with which it is necessary to make changes in the functioning of the object;
- an unforeseen emergency has arisen, conditions in the external environment have changed dramatically;
- new potential opportunities have emerged to significantly improve the condition and performance of the facility;
- decisions of higher authorities have been adopted, obliging to introduce fundamental changes in the activities of the object of management, to carry out the measures prescribed by these bodies.

## 6. Findings

Specialists in the field of management rightly point out that timely and correct identification of a problem means half of solving it. Therefore, identifying problems, penetrating into their essence and correctly interpreting them is an integral part of the process of making decisions. Taking into account the fact that managerial decisions are closely related to penetration into the essence of the problems, the presence of which initiates the solution process itself, it is obvious that it is necessary not only to identify the presence of a problem, but also to diagnose it. Diagnostics is designed to establish the nature of the problem, its content, the degree of urgency, the relationship with other problems, the types and extent of the dangers arising from the problem. Diagnostics is based on the study, analysis, study of the symptoms of the problem, that is, the observable signs that indicate its presence. The danger of confusion between the problem and its symptoms should be avoided. The problem is most often characterized by a number of

signs, symptoms that give reason to assume its presence, while only a few symptoms make it possible to gain confidence in the existence of the problem and in its true essence. And we must strive to eliminate not the symptoms of the problematic disease, but to cure the disease itself, which is the solution to the problem.

A significant role in identifying and analyzing the problems which need to be solved, is played by the information used, obtained inside the analyzed system or outside it. Along with the requirements for the quantity and quality of information received, its composition and representativeness are of no less importance. It is well known that the redundancy of information is just as harmful as its insufficiency. It is even more important to have the necessary information that is directly relevant to the problem, such information in management theory is called relevant. To obtain relevant information, one has to resort to the processes of filtering all the received data in order to select only those that are directly related to the occurrence and essence of the analyzed. Let's consider the technology of the process of obtaining information, which in the best way will give an idea of all the system and non-system characteristics of the object. The initial link in this technology is to set a goal - to obtain the most complete information about the state of the object in order to find and resolve problems and form, if necessary, strategic development plans. The sequence of actions here can be as follows.

1. An overview of all positional groups relevant to a specific subject area.
2. Selection of experts from all positional groups and the formation of a working group.
3. Identification of segments for analysis according to various criteria
4. Preparation of questionnaires for experts in all segments
5. Conducting developmental diagnostic interviews with all experts of the working group
6. Processing of interview results
7. Construction of the problem field of the object
8. Formation of a new working group
9. Identifying root problems
10. Development of measures to eliminate root problems
11. Formation of objectives for the development of the object

The most adequate method of management diagnostics that meets these requirements is the developmental diagnostic interview (in-depth interview) method. This type of interview is a qualitative research method and its essence is a conversation conducted according to a certain plan. The purpose of an in-depth interview is to determine the assessments, circumstances associated with the object under the study and the processes taking place in it. The method is advisable to apply when the researcher requires a deeper knowledge of the problems of the organization and the goals of its activities. Also, one of the advantages of interviews (for example, over questionnaires) is that each answer can be verified and specified. The questions complement each other, confirming, correcting and revealing contradictions in the answers to the previous questions.

Related facts may be raised, unexpected relationships and constraints uncovered. Which facts. While deciding which facts are needed, the researcher must have an idea of the interviewee's knowledge. For example, a production manager is unlikely to know exactly on what terms a loan is granted, and a regional sales representative may not have the slightest idea about routine machine maintenance. Table 3 presents

one of the variants of the bank of factors, which the interviewer has in mind when preparing for an interview with another respondent.

Who should be interviewed. Typically, informants are selected and appointed by the head of the organization. As a rule, these are the heads of the main departments, but it is not bad if the group also includes ordinary employees of the organization who are well versed in what is happening at the enterprise. For an organization with two hundred employees, it is enough to work with a group of 15-20 people.

Place and time of the interview. The interview is carried out by order of the head of the organization at the specified time, the duration of one interview is approximately one hour. The choice of a meeting place should take into account: proximity to the place of activity, comfort for the respondent and the ability to avoid interference.

Method of carrying out the interview. Questions must be prepared in advance. The interview should cover a range of issues related to the operation of all subsystems of the organization's management system, the quality of their relationships, setting of goals, the type of organizational culture, and personal communications.

Each complaint response should be transformed into a problem response during the interview. Considering the technology of carrying out a diagnostic study of complex systems, it is gratifying to say that this technology is suitable for the study of objects of different levels of management. Practical experience has shown that such objects can be: the entire national economy, a specific industry, any field of activity or organization.

This feature makes it possible to analyze and make various decisions in the presence of problems or solving development problems, wherever they are found. And it makes the proposed technique complex and versatile. Table 4 shows examples of participants in positional groups from different subject areas.

**Table 3.** Factors, on which the problem block of a developing interview is based

General management cut	Structural and functional subsystem	Personnel management subsystem
1. The main goals of the organization 2. Long-term goals 3. Short term goals 4. The most acute external problems 5. The most acute internal problems 6. "Bottleneck" in management 7. Challenges in the future 8. Strengths 9. Workplace problems 10. Tips for management to improve management 11. Objectives of the workplace 12. Quantitative results of work 13. Qualitative results of work	1. How to define the goals of your work. Who defines them, where they are recorded 2. Indicators for evaluating your performance 3. Tasks for which you are responsible to the firm 4. The role of subcontractors 5. Job descriptions - relevant, useful? 6. How does the management explain the purpose of your work? 7. Organizational and informational interaction	1. Criteria for recruiting 2. Strengths of the team 3. Problems with staff 4. What is needed for effective leadership of people 5. Your credo in working with the team, subordinates, bosses 6. Is the staff staffed 7. Staff incentives 8. Intercompany activities 9. Employee career 10. Training and professional development programs 11. Satisfaction with the work of the staff
Marketing and commerce subsystem	Communication-behavioral cut	Evaluation of the work of various subsystems of the organization
1. Image of the organization from the buyers' point of view	1. General mood	1. Management at all levels



2. How the clientele is structured. Why?	2. Conflictness, aggressiveness, antipathy	2. Financial management
3. Advertising media	3. Attitude towards joint activities	3. Production planning
4. The work of marketers	4. Tolerance of opinions	4. Sales planning
5. Market research	5. Response in the team to the achievements and failures of the team	5. Information security of divisions
6. What is the reason for the growth / decline in sales	6. Fairness in the attitude of management to subordinates	6. Personnel qualification
7. Methods of product promotion	7. Team activity	
8. Marketing plan	8. Attitude towards new members	
9. Change in marketing budget compared to the past		

Source: authors.

**Table 4.** Examples of positional group members from different subject areas

Subject		Participator of the positional groups						
Organization	Owners	Managing directors	First deputies	Deputy for finance	Deputy director for production	HR manager	Deputy director for sales	Common personnel
Fish industry	Ship captain	Port captains	Fish processors	Fish sellers	Customs	Border guards	Central managing body	Regional managing body
Secondary education	Pupils	Parents	Teachers	Higher education teacher	Central managing body	Regional managing body		

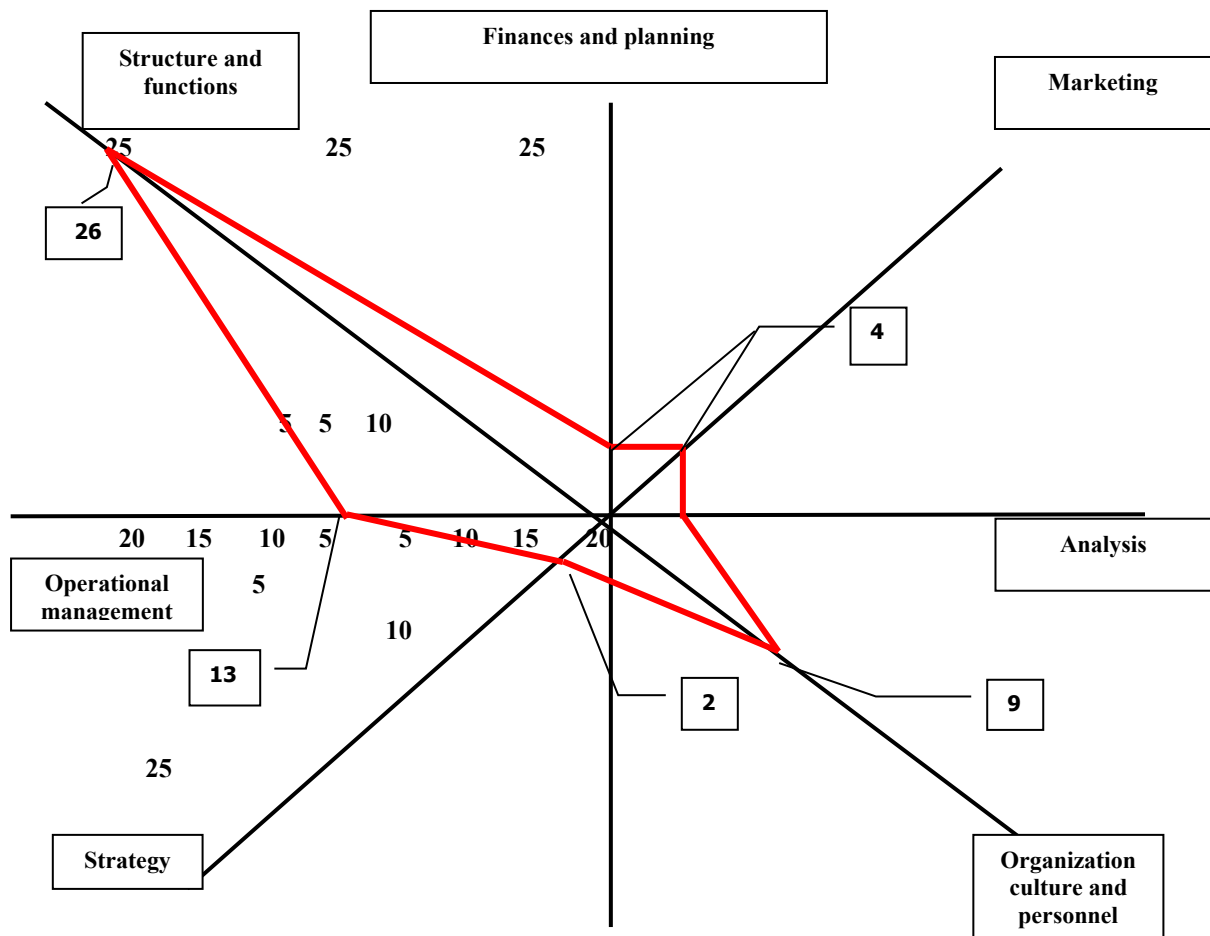
Source: authors.

## 7. Conclusion

On the basis of the interview, the problem field of the organization for all management subsystems can be built. To have a visualized problem field is a new valuable information for the head of the organization. However, with the help of a certain technology, it is possible, by transforming a long list of organizational problems, to identify “root problems”, the solution of which will entail the automatic elimination of all the rest. The information representing the problem field of the organization includes a long list of identified problems, grouped by various subsystems of the organization, which can be presented in graphical form (Figure 1), and a list of root problems on the presence on which other problems depend. The technology of converting a long list of problems into a short one and the identifying root problems deserves special attention, but this issue is not considered in this material.

Based on the information obtained as a result of management diagnostics, the measures are developed to eliminate the root problems and included in an innovative project or strategic plan of the organization. All work on the diagnosis and formation of the problem field is carried out by the management consultant together with the employees involved in this work and is of a developmental nature. On the basis

of the information received, preliminary recommendations and proposals are developed for the tactics of solving organizational problems, improving the management system or restructuring. This technique has been repeatedly applied to socio-economic facilities of different levels. So, based on the information obtained as a result of the proposed methodology, projects were successfully implemented to reform the fishing industry, to increase customer loyalty of the fuel company, to transfer to process management methods of a large retail network, have been developed strategies for an industrial enterprise, university departments and much more. Its application turned out to be an absolutely necessary stage in the process of making important national economic decisions, and showed high adequacy and effectiveness.



**Figure 01.** Distribution of problems of the long list by management subsystems

Source: authors.

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