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Methodology of System Management and Expert Assessment

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Abstract

The article deals with the axiological analysis of the terminology apparatus of the general interpretation of the system and its properties; classification features of types of systems; systematic methodology of general, specific, and, in fact, scientific principles and methodological approaches, methodology of system management.

Keywords: system, system methodology, organizational architecture of management, its efficiency, system-forming factors

Introduction

Qualitative studies of content, existence, classification, transformation of systems are now a priority in relation to the randomness of both their understanding and interpretation, their transformations, especially concerning the management of nonlinear systems, evaluation of their state and forecasting and modeling of their development. The multifaceted concept of a system as an object, property, partial component, algorithmic means, complex, specific classification isolation, unity and aggregation requires clarification and concretization from the point of view of open systems – educational, scientific, social, environmental, managerial and political in the context of globalization, with their implementation of cross-border interaction to diagnose and predict sustainability.

The study of system-forming factors and their classification characteristics and parametric characteristics of systems (their essence, architectonics and functioning) is necessary for determination of the system state and modeling its development. The study of the characteristic features of approaches in system methodology makes it possible to develop and program circuits of specific scientific, interdisciplinary knowledge in the field of system management methodology and helps to improve the categorical apparatus of the system approach.

Nowadays, given the global environmental and socio-economic problems associated with the threat of a new type of war, terrorism, cloud-based systems organization and uncertainty in the development of the European Union organizational systems, which must guarantee its security, the methodology of studying systems as well as management is a priority type of scientific knowledge.

Main part

Systems theory is a distinct scientific area. The concept of system formation diversity is considered in the scientific worksof and interpreted multifaceted. Namely, the totality of diversity, which is a potential source of any movement; the Union of the types of differences between the objects of the world (environment, Universe) or space of theLand areas identified based on the selected degree measures of system freedom, which are a source of possible variety; native (natural) regularity and form of existence of the real variety of nature. The diversity between the existing place or parts of the mosaic group, which shows the unity of the differentiation of the distribution of types and the intensity of changes of its species composition (structure) along the gradient of environment (climate) and between geographical areas.

General issues in the field of management, its principles and processes studied by scientists, managers, change management, the management of conflicts of interest, management of achievement.

System methodology were examined by scientists in the aspects of the system and society, management systems.

Researchers consider system methodology as a complex of methodology components that can be transformed both individually and collectively according to the system; a set of principles, approaches and methods (methodology, systemology), as well as the types and system activities.

This theoretical-methodological study was carried out in several stages: a systemic-axiological analysis of conceptual and categorical apparatus of the systems theory, its classification and diagnostics of transformation in the process of development; structural-organizational and structural-functional analysis of management systems and organization management; systems analysis quality relevancy of the knowledge organization and management in the paradigm of the methodology of systematic management.

Organizational structure and management organizational system, structure, synergistic unity of elements with relations between them, hierarchically structured in levels of coordination and subordination; reflects structurally-logical, structural-organizational and structural-functional allocation of competent authority (various competency levels from elementary to challenging work) and responsibility for decision-making; the basic concept of volume management, management as science, which represents the functional classification criteria and taxonomic elements of specialization of the work assigned to the positions in the qualifying characteristics, job descriptions, picking positions in structural-organizational units (for composition, competencies and hierarchy structure), which are arranged in the relationship between them (positions and divisions); it is a formalized equipment statically and dynamically, governed by rules of law; the structural elements of the complement of structurally-organizational unit for the intended functional purpose of the control processes.

Organization of management structure is a system composed of relations and the subordination of its constituent parts, the subjects of management activities (including education and research); the relationships between the structural elements are supported through the horizontal coordination (at the elementary level matching) and subordinating vertical subordination links in it. Organization of management structure can be linear, functional, linear-functional, decentralized (divisional), matrix (sometimes even puzzle).

The purpose of scientific reconnaissance is a system-axiological substantiation of the interpretation of the conceptual-categorical apparatus of the scientific methodology of expertise cognition of the development of a structural-organizational system of formulating expert conclusions on the relevance of programs and development plans.

The first stage of the study is to improve the transformation of the system of any functional type of belonging, its classification (taxonomy) in connection with the diagnosis of methodological approaches to its development. The subject of this particular stage research is a system of any functional type. The object is a state of development of any functional system on the basis of sustainability. These scientific methods applied are the system-axiological analysis of the essential content of the conceptual-categorical apparatus and the heuristic methods of systems research.

The second stage of the study is the achievement of overcoming the anticipated systemic-civilizational risks and creative modeling of their prospective future by eliminating bifurcation dangers in the development of systems of any level and functional identity (by types and levels of management). The subject of this stage is a conceptual and categorical apparatus of interpretation of systems and organization of their management. The object is a process of scientific knowledge of the interpretation of concepts and categories in the field of sys-

tems management theory and management systems development; methods of system-axiological analysis of the substantive content of the conceptual-categorical apparatus of systems management and control systems, structural-organizational, structural-functional analysis of control systems and organization of control systems.

The third stage of theoretical and methodological research is to ensure the effectiveness of management of complex systems by improving the methodology of the system management, development and implementation of system management processes to select effective models of quality improvement management and implementation of the quality policy of HEF. The object is the types of management. The subject is the relevance of the management system. The methods applied are the systematic analysis of the qualitative content of the system (species) and its management processes.

The authors summarize the general purpose of the complicated methodological research at the final stage of the formation of the basics of the system management methodology and invite leading methodologists to join the provision of the basis.

Conclusions

A concept-categorical apparatus of the system is determined in its wide sense. And the strategic factors, the functions of the system forming sources and the classification signs of system types of are also defined in this particular research. Updated, from the standpoint of the natural-humanitarian, socio-economic, political and managerial point of view, the principles of system operation diversity diagnosis, taxonomic characters of methodological approaches of system analysis of the research quality. The characteristics of the main approaches to the system methodology are described as problem, situation, innovative, regulatory, purposeful, active, systematic, constructive, comprehensive, synergistic, morphological, program-oriented, axiological, culturological and system activity, information, scenario. The signs of systemic approaches in methodology named above contribute to the programming research design of complex systems (educational-scientific, social, environmental, managerial, political) in the field of methodology and system management.

The interpretation of “management system”, “organization management”, “organizational structure and control” was formulated in the author's interpretation. Also specific phases of the management process, types systemic-organizational activity were defined more specific. And the characteristic of the principles of management of complex objects, status, and analysis algorithm of the control system, types and characteristics of organizational structure were characterized by the author. According to the scale of management activities, functional and technological characteristics, strategic programming and planned state of things

in the types of organizations control it was allocated linearly generalized (staff), program-project, task, unit, model, cluster and other system models, besides already existing system models like linear, functional, linear-functional, decentralized (divisional), matrix (sometimes puzzle).

In the process of qualitative system analysis according to the types of management (projects, activities, goals, work, transformation, contradictions, innovations, relevance) it is found out that in the modern psychological and pedagogical science little attention is paid to this subject because its interpretation is used only in the field of specific methodology. It is updated that the necessity to consider types of control in the framework of the methodology of system control as somehow fundamentally scientific, management philosophy, specific quality policy, education policy, management education and research systems.

It is determined that peer review is a process and a tool for systematic development management methodology. The system of methodological procedures of organizational-managerial evaluation is specified and presented, and the conditions for ensuring the quality and effectiveness of the impact of expert opinions are singled out to anticipate, prevent and mitigate the risks and dangers of the proposed managerial decisions of expert evaluation in order to predict and model the states of development of different levels of systems. Collective and individual assessment methods have been analyzed from the author's point of view and procedures for their use have been proposed. It is determined that multi-stage evaluation of development plans and programs has its own specificity at every stage of strategic planning. The tasks of evaluating strategic plans and programs, types and bases of expert-analytical evaluation of strategic development plans are specified according to the criteria of conformity, reliability, efficiency, effectiveness, autonomy of development of specific systems in ensuring sustainability.

Literature

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