

CONCEPTS NECESSARY FOR COMPREHENDING THE ORGANISATION AS A COMPLEX SELF-REGULATION NATURAL SYSTEM

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The aim of this paper is to raise the specialists' interest in the necessity of a redefinition of some concepts and the introduction of new concepts, so as to provide a sharp, coherent and interdisciplinary understanding of any organization as a natural system with complex self-regulation. On the basis of such a comprehension, the manager is able to conceive integrative descriptive and evaluative models, by means of which (s)he should study, through simulation on computer, the organizational mobility in order to maximize the efficiency.

Keywords: System, energy, intellectual energy, human information, human interpreter of information, spiritual self-regulation, technological simulation, managerial simulation, simulative model.

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1. REDEFINITIONS OF SOME CONCEPTS NECESSARY FOR COMPREHENDING THE ORGANISATION AS A COMPLEX SELF-REGULATION NATURAL SYSTEM

The objective reality is extremely complex in comparison with what we know about it. Over the last 50 years, in order to decrease the knowledge efficiency, it outlined in the managerial field (but also in other fields) the management systemic school. The philosophy of this school starts from the most general concept, system, firstly defined in biology, psychology and cybernetics and then generalized in most of the sciences. With a few differences from an author to other, in Romania most of the essays use the system definition proposed by the biologist L. von Bertalanffy: the system represents "a lot of elements that interact and condition themselves"

The existing definitions are insufficient because they don't suggest the criteria on the basis of which we should divide, enough sharply, the objective/subjective reality in systems and subsystems or to define enough correctly these divisions. They don't help the managers to understand the organization as a complex self regulation natural system and use this property (characteristic) in order to achieve efficiency.

In consequences, I propose the following conceptual redefinitions that are more operational for the comprehension of the coherent structural -processual of the material and spiritual realities known till now:

-The system is a philosophic category, which means a lot of elements with characteristic functions, whose interconnection, interaction and structure are conditioned by the prevailing forms of energy and by the final processes. The definition introduces as criteria, of subsystems and its elements delimitation and naming: the prevailing form of energy and the definitive process (function). The minimal functions of the elements of an integral system are: of source, that transform an external form of energy in a system specific energy and of receptor, that transform the system energy in other form of interaction necessary to its interconnection with the environment. Between the minimal elements, source and receptor (named such upon their own function) could be a lot of elements with other functions such as: of accumulation, of command, of protection, of transducer, of adaptor, of rectifier, of oscillator, of dissipater, *etc.* The exemplification of this definition on different objective and subjective entities, in order to suggest its maximum level of generality and its utility in knowledge and management, it doesn't concern this paper. It is noteworthy that in order to know a system it is necessary to identify: the prevailing form of energy, the definitive process, the component elements and the functions of each structural component, the main parameters that evaluate the inner and also from the system processing levels and rhythms;

-The energy is a property of each concrete form of existing material (named bearer) to produce effectively or potentially intrinsic and/or extrinsic processing (transformations), in interaction conditions. Example: a pencil, the bearer, produces mechanic processing (transformations) when it is thrown (the parameters that describe the processes refer to the changing of the elements' relative position), chemical transformations when it is burned (the parameters that describe the process refer to the modification of the system's substances), but it is built specially for the transmission of the human information on a written support (function that can be named: informational converter);

-The bio-energy is the specific form of energy that provides the structure, the interconnection and the bio-systems self-regulation and their elements. It can be understood as a complex and concomitant amount of natural energies (mechanic, chemic, electric, electromagnetic, *etc.*) that are in different reports from an individual to an individual, a

variety, a species, etc. It is obviously that the bio-system flora differs fundamentally from the bio-system fauna through the bio-mechanic component (insignificant to flora in comparison with fauna) and others.

-The process is a pre-established succession of transformations, that take place in a system as a result of the interactions and whose finality should be ante-evaluated. The managerial processes or functions take place in the managerial subsystems of an organization and have the finalities treated in the general theory of the management.

2. NEW CONCEPTS, NECESSARY FOR THE COMPREHENSIVITY OF THE HUMAN SOCIETY SELF-REGULATION COMPLEXITY AND OF THE ORGANISATION AS A BIOSYSTEM

If we accept the above definitions, then we should put more natural questions as: which is the bio-energy component that distinguishes the human society from any animal bio-system?, does this component obtain by natural means, as to other animals, or by a specific human process?, from managerial point of view does it present any importance for the increase of the national or organizational socio-economical efficiency?

In order to reply enough sharply and relative correctly to these questions I propose the introduction of new concepts:

-**The intellectual energy** is that component of bio-energy, measured in human information (mediated by the human language), which delimitates the human society from the animal regna. Taking into account the bearer, it could be individual or of group. Through this definition it is an explicative component of the spiritual energy treated in philosophy and psychology.

-**The human information** is any description mediated by the human language, related to a system and which allows the bearer (the human individual) to interact consciously with that system, through the human interpreter of the information and of the interfaces that (s)he has.

The unfound descriptions related to a system should be considered data.

1. The basis **components** of the information are: **the support** (specific to the language typology), the description **codification** (the known language) and **the content** (message, described sequence).

2. The principal **qualities** of the human information are: **the value (the fidelity description), the complexity (how complete is described the system), the opportunity (the moment of its arrival to the receptor), the importance (integrates the other three qualities).**

The basic parameter of evaluating the intellectual energy is competence. Competence means the system of information (knowledge) the skills in using them and minimal experience regarding the interaction with the system which is the object of the information. Example: The bearer (titular of a post holder) it is competent (can produce positive previously evaluating changes) to use a personal computer if he has the required information and skills to identify it, turn on and off, to use the system of operation; different software programs and the necessary peripherals to process the certain categories of human information.

-**The human interpreter of information** is the system of sciences, theories and appliance capacities, which are always operational, through which, the interactions with the internal and external environment change into reactions proper to each bearer. It is the main objective of human education. It is significantly differentiated between the executants and the leaders. Unfortunately, nowadays the higher education in Romania doesn't have as an objective to shape the human managerial interpreter of information, for all the existing specializations, but it focuses on the professional aspect, which is narrow, of high educated executant. The obvious consequence is the general lack of performance of the managerial and governing systems, which are made up mostly of higher education graduates.

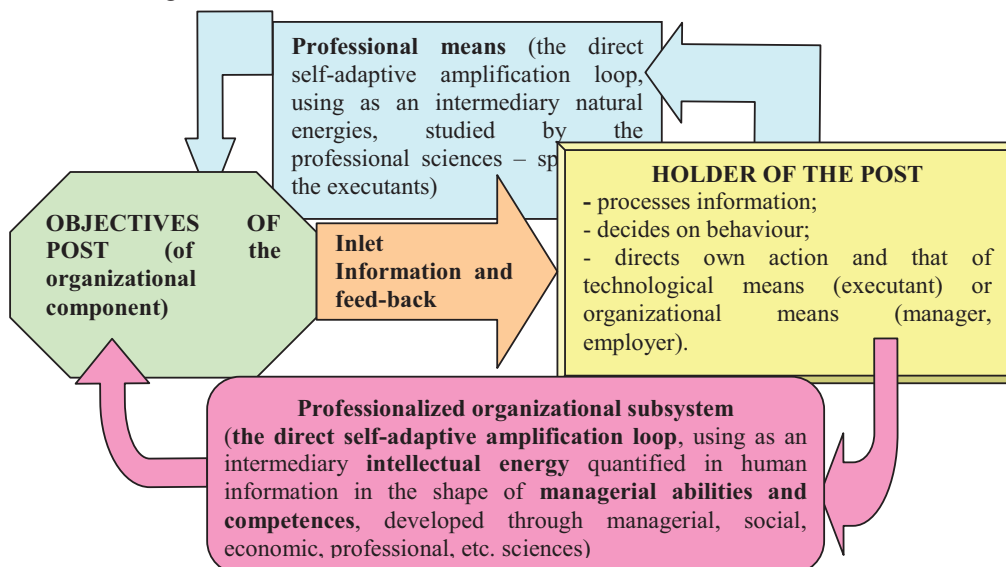


Fig. 2.1. The post holder as a self-adaptable energetic amplifier

Understanding the human personality, **holder of a post, as a self-adaptable energetic amplifier**, brings a new vision on the organizational interactions complexity. A proposed model in [4/49], adapted is revealed in Fig.2.1.

3. A FEW MANAGERIAL CONSEQUENCES OF ACCEPTING THE NEED OF REDEFINING AND INTRODUCING THE CONCEPTS PROPOSED

3.1. The necessity of introducing the “information” function as the foremost, primary function (or process) of the system of management, out of those mentioned by the general theory of management

The aims of this function (or process) lie in creating, with premeditation, by the manager: **the information-based culture, civilization and system**, within the organization. It is treated as an organizational function in [2/41..42].

Starting from the above ideas, **culture** can be understood as the **degree of information accumulated** (at the level of the particular posts, and also in the centralized pattern), concerning the object of activity, the relationships with the environment and the way of promoting the image of the organization. **Civilization** consists in the **capacity of the individual and that of the team to positively turn to account the transforming potential of their own culture**. In other words, culture represents the level of the intellectual energy, both individual and collective, while civilization is the transforming effect of the use made of that energy (**or the measure of the interactions it generates**) [4/13]. The components of the process of information do not fall under the scope of the present study.

3.2. Reconsidering the nonchalance in using the concepts and terminology in education

The great variety of the acceptations that exist in the literature currently produced in the field of education, to designate the fundamental or detailed concepts, **referring to the same material or spiritual entity, with the same goal: knowing** it, is conducive to a useless, discomforting intellectual stress. An example concerning the knowledge of automotive cars is presented in detail in [4/129...132]. **A science, or one of its detail or experts areas, are nothing but systems of information referring to system, taken as an object of study** [4/11...12], made up by means of concepts and terminology. The cases of ambiguity, confusion or conceptual contradictions contained in human educational information represent as many **useless models** acting on the students' / learners' personality. Those within the scope of the study of management theory can turn, through the indirect amplification loop (Fig. 2.1.), into functional distortions and damage or detriment that is all the more significant as the organization is larger (suffice it to analyze the way Romania has been governed over the last 20 years).

Ensuring the convergence of the educational moves attempted individually by the teaching staff, by adopting a unitary view of the concepts and terminology at the organizational level, **must be one of the topmost priorities of educational managers** especially in the higher education, because the nonchalant style can be transmitted along all the indirect amplification loops, towards the pre-academic education system, and, even more seriously, towards the governing system. The systemic approach could be one of the profitable manners of making diverging views and opinions came closer.

3.3. The necessity for delimiting the technological model-analyses from the managerial ones

Technological model-analyses are strictly specialized models (i.e. belonging to the field of engineering, economics, finances, etc.), which need a knowledge of a number of highly detailed, as well as mathematical sciences at an expert level, which is **unnecessary to general managers and employers**. They are significant for the managers of the organizational components.

At the level of any organization a managerial team cannot be set up, who are able to conceive and efficiently use organizational simulative models without basing them of the same general managerial theory. It is obvious that, at the level of the components, there will be different, albeit integrative, theories of expertise deepening, **which is impossible currently**, through the “playing at concepts”.

The general managers (the top of the managerial career), who, as a general rule, **lack sufficient mathematical expertise**, take over, in a conscious manner – at the descriptive level, the performance and interconnection parameters established by technological means, and need a simplified, functional model, which should describe the reaction of all the component parts, when the parameters of one or several of them is modified. Such modeling, **a purely informational one**, would rather be designated by the name of managerial modeling, as it serves to achieve the study of the organizational behavior on making various decisions or / and on being perturbed by those who are in leading positions.

4. TECHNOLOGICAL MODELLING AND MANAGERIAL MODELLING

Any organization can be technologically modeled (i.e. starting from the artificial means interconnected and structured according to the posts) in the components in Fig. 4.1. All the subsystems of the organization are interknitted, making up a neuronal-type structure, **where the interactions hold between any one of them**. Understanding this structural and functional complexity is **difficult if there is no systemic approach and suitable delimitation of the technological model from the managerial one**. In keeping with the size of the organization, the subsystems can exist as distinct, relatively autonomous subsystems, or else in cumulative structures.

Technological optimization by means of simulation can be achieved via the methods of operational calculus, **applied in a differentiated manner from one subsystem to the next** (in [1] enough illustrations are presented). **It precedes the managerial modeling**, because it is now that the **optimized (i.e. necessary) functional parameters of state** are established. It does not fall under the scope of the present study.

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