

Management Concepts Unification and Standardization Using Universal Law of Organization: Scientific Systemic Management

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Abstract: Nowadays, each management concept has several different definitions. They can be improved and unified on a scientific basis. This paper presents researches concerning a possible law of nature that governs organization and functioning of living systems and, according to this law, how can be redefined all management concepts in a systemic vision. It reveals strong connections between these concepts, using an original logic model, into which they are naturally integrated in a management adaptive system - basis of the new concept of Scientific Systemic Management. So redefined, management concepts can be considered as having universal validity and standardized.

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JEL Codes: A1, A110, A120, L2, M1

Motto: "I don't like when it may be both in this way and in other way. It should be in this way, or not at all." Albert Einstein

1. Introduction

This paper proposes unification and standardization of actual management concepts and a fundamentally new concept named *Scientific Systemic Management (SSM)*, based on recently discovered law of nature: *The Universal Law of Organization*,¹ graphically represented by *The Universal Model of Organization and Management* (Figure 1, p. 7).

The concept of SSM has the following four main components: 1) A systemic vision of all things and phenomena; 2) Organization of managed process as an adaptive subsystem; 3) Organization of associated management process according to *the universal model of organization and management* above mentioned; 4) Integration of managed process and associated management process in a single open system, specially designed to fulfill the desired objective.

The scientific systemic approach to concepts is vital for a more efficient organization and management of existing businesses, for creating of new profitable businesses and generally for problem-solving in actual complex business or life situations.

The first research for a scientific management was performed in the early 20th century by the American engineer Frederick Winslow Taylor. He first supported the need to establish "...a set of rules, laws and formulas to replace the judgment of each individual, but which can be used effectively only after they have been officially recorded." "...the best management is a true science, resting upon clearly defined laws, rules, and principles, as a foundation."² Shortly thereafter, the French engineer Henri Fayol has identified five general management functions: to forecast and plan, to organize, to command, to co-ordinate and to control.³

First author's paper about the concepts of "organization" and "management" in "systemic vision" and about the *Universal Model of Organization and Management* was published in 1980.⁴

A year later, Dr. Dumitru Constantin Dulcan, professor of neurology at the University of Medicine and Pharmacy Bucharest, member of *the International Brain Research Organization* and of other scientific institutions, has also sustained with clear arguments the existence of an *Information Model or Pattern of the Living Matter*.⁵

Albert Einstein wrote: "As a scientist, I believe that the nature is a perfect structure, looking through the perspective of reason and logic analysis." "Scientific research is based on the idea that everything is determined by laws of nature, and therefore this holds for the actions of people." These Einstein's ideas have aroused author's curiosity and desire to try to find out if for organizational and management activities there is also a law of nature that governs them. Based on the quotes above, it is reasonable to assume that Albert Einstein intuited existence of such a universal law, although he was never explicitly referred to it.

We can improve our organizational behavior and management thinking using mentioned law of nature, which is presented below. According to this law, the author has redefined clearly and precisely, without ambiguities and semantic interferences, all fundamental concepts of organizational and managerial activities. As a result, increase effectiveness and efficiency of these activities, the ability of business systems to maximize profits, the power of thinking to solve business and life complex problems. Author's *universal model of organization and management* reveals related notions of concepts of *organization* and *management*, and the natural connections among all them, including how they are integrated in a single perfectly self-organizing, adaptive system. Thanks to this powerful natural model, managers can better understand and better use the

organizational and managerial concepts, in ways they never have before.

Now, a general theory of management, unanimously accepted, still does not exist, and each concept has several different empirical definitions. Although these definitions have proven their theoretical and practical utility, in literature on the subject emphasizes the need to solve the problem of this semantic variability, which negatively affects people's understanding and using of concepts.⁶

World has a perfect logical structure and is governed by invariable and imperturbable laws of nature that can be discovered. That is why each part or aspect of reality must be represented by a single unambiguous, scientific concept.

All new or clarified and redefined concepts presented in this paper strictly on a scientific basis, can be considered having universal validity and used by managers of entire world to ensure a best and more exact communication among themselves and with rest of the people involved in business, and so to increase their chances of success.

This paper is addressed to managers at all levels, to students in the last years of high schools and universities, and generally to all those who wish to optimize their decisions in complex situations.

2. Why Do We Need Scientific Systemic Approach of Concepts

Empirical definitions are typically about independent, disconnected entities, developed using the *analytic approach*, which seeks to reduce a system to its component elements and is less focused on interaction between them.

The *systemic approach* considers business organization and management as a complex, dynamic totality - *as a system* - and each component element as a part of this totality, strongly linked to other parts by precise connections, that have a great importance in obtaining the profit maximization.

A *system* is an ensemble of elements functionally interrelated to achieve a common objective. During the last few decades, this concept generated a real revolution in science, accelerating learning process and progress in almost all fields. This concept gives priority to the *whole* over the *parts*. Where we see only disparate elements, this concept attaches much importance to relationships and interactions among them, and helps us to understand the defined role of each element as part of the whole it composes. Therefore, this concept allows us to achieve a new mode of seeing and understanding things and phenomena. It gives us a *systemic vision* on reality, a vision that is more profound and correct, and that allows us to get better results in all activities.

Systems that have the ability to self-regulation are named *cybernetic systems*. The capacity of self-regulation of cybernetic systems is based on the so-called *retroaction principle* or *feedback*. According to this principle, the system assigns normal values to the results of an activity,

compares them to the awaiting, real results (or objectives), and establishes deviations. These deviations are transformed then into actions that produce corrections in the system's work. Thanks to this mechanism of feedback, the system tends to eliminate its errors gradually, until the objectives are achieved. Since 1948, *Cybernetics*, the science of feedback systems, has spread continuously and has received new definitions based on fields to which researchers have applied it.

However, most of these definitions suggest the same idea: cybernetics ensures the best model for managing (regulating) complex processes, regardless of their nature.

Seen from outside, every cybernetic system is like a "black box", an opaque whole, which hides an unknown process meant to achieve a certain purpose.

We can see only what gets in (input) and what gets out (output) from this box, not what happens inside. If we open the box, we can observe the elements that compose the system, relationships among them, and the structure that allows achieving of the defined goal. A system consists of at least two elements, logically related to each other by their functions. Taken separately, each element can be also considered a system. Every complex system is formed by *subsystems*, and can be considered at the same time a subsystem of a higher-leveled other system. Therefore, in nature there is a *hierarchy of systems*, whereby the objectives of subsystems of a certain level derive from the objective of the system that these subsystems form, and so on. If the system could be defined statically by its component elements, then dynamically it appears as a *typical complex of functional relations and interactions* among these elements. Relations are not casual or changeable; they are derived precisely from the system's general objective. That is why the *system* could be also defined as an *ensemble of tasks that are to be carried out under special conditions into a hostile environment*. The *structure* of the system is defined by its construction, its architecture, the way its parts are organized, closely depending on the whole they are forming. The structure expresses quantitatively and qualitatively the content and internal constructive-functional logic of the system. The specific features of a system's structure derive from the interaction among components and between system and its components. Organization of not very complex systems needs only three structural levels: *system*, *subsystems* and *elements*. The very complex systems have more hierarchical structural levels.

3. A Law of Nature: The Universal Model of Organization and Management. New Definitions of Concepts

Using the scientific method, the author discovered the model shown in Figure 1 p. 7 and according to it gave new definitions of management concepts that correspond better to their characteristics, to real succession of their actions, and to connections among them or between them and environment. Establishing these new definitions, he ensured that they took into account *the space and time factors* and

the basic principles of two sciences: *systemics* and *cybernetics*. Later he noted that cannot make any logical changes in this model and that it integrates logically all of other models and definitions under consideration.

This observation is one of the most important reasons for which he formulated the *Universal Law of Organization*¹ defined as follows:

The fundamental concepts on organization of complex adaptive systems are all integrated naturally into a double feedback cybernetic information system, in conformity with a

logical model called "The Universal Model of Organization and Management" (see Figure 1).

Concepts have been integrated into the model shown in this figure using a strong logical requirement, as in the case of repairing a shattered vase from its pieces. Each concept had a unique right place, precisely determined by necessity to fill it in the management system which they compose as an indispensable natural component element.

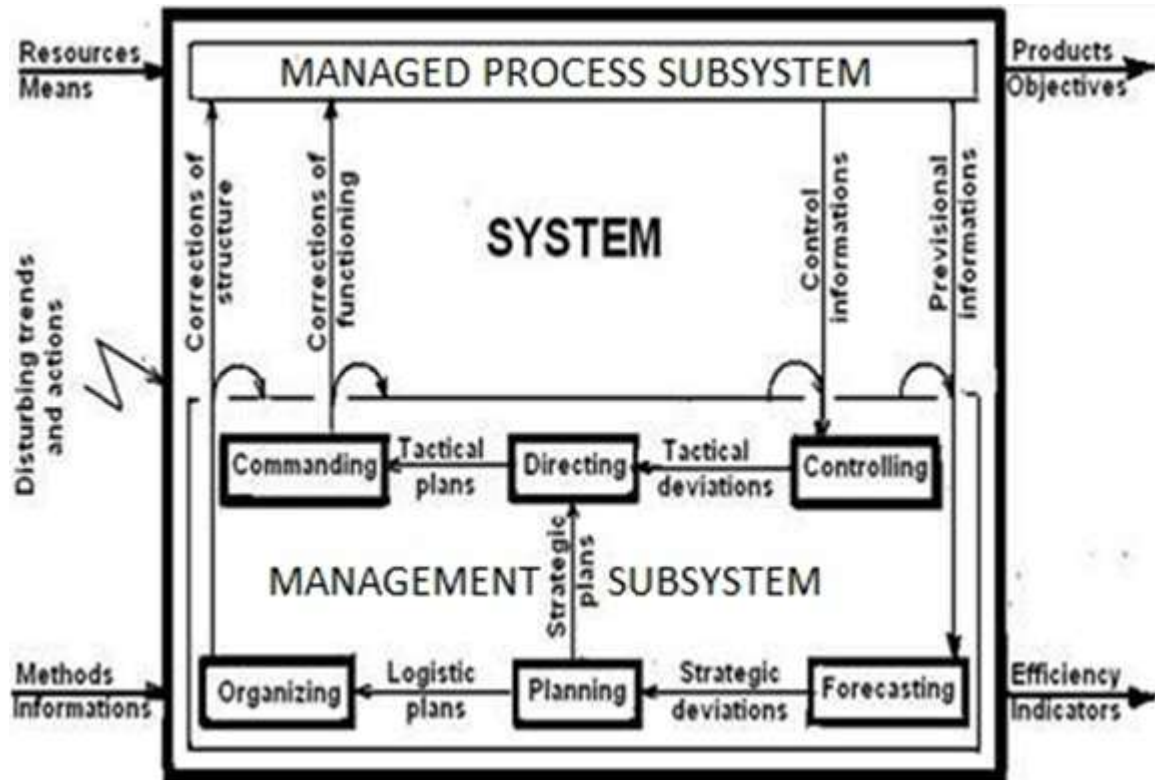


Figure 1: The Universal Model of Organization and Management

The author proposes the following new definitions, as they result from this logical model:

The organizing activity creates and improves system structure to be able to ensure achievement of certain objective in conditions of continuous fight against environment disturbing actions. Are projected and realized executive structure and management structure, all their component elements, connections between them or with environment. Also are elaborated their functioning rules. *The managing activity* orients, guides and regulates the system to work properly and efficiently to achieve the objective, without modifying its structure. The above management system model I have proposed comprises two subsystems: *The transformation process subsystem (the managed subsystem)* which transforms physical resources in the product or result waited of system's work, and *The management subsystem* which collects information from both the system and the environment and makes rapid strategic, logistic and tactical decisions for elimination, decrease or compensation of disturbances occurred or anticipated in system's structure and functioning. This subsystem comprises two management information flows:

The *tactical directing flow* (into real time and on short-term time) which ensures the controlling function, directing function and commanding function. The *strategic and logistic planning flow* (in advance and on long-term time), which ensures the forecasting function, planning function and organizing function.

There are three kinds of decisions: *Strategic decisions*, which order changes in strategy and make strategic plans, *Logistic decisions*, which order changes in system's structure corresponding to changes in strategy and which make logistic plans, and *Tactical decisions*, which order corrections in system functioning and make tactical plans.

The forecasting function detects imminent disturbing tendencies and actions, evaluates their possible harmful influence on system's functioning, establishes that there are discrepancies between them and the current defense strategy, and identifies premises for their elimination, decrease, or compensation.

The planning function allows user to orient, plan and adjust strategic and logistic decisions in advance and, if necessary,

adjust or change the objective. In addition, it follows, coordinates and ensures the completion of its decisions and plans.

The organizing function elaborates all procedures and projects that transform logistic decisions in corrections to system's structure, and ensures the availability of needed resources, and completion of these procedures and projects. If necessary, it creates or integrates subordinate subsystems into the system.

The controlling function compares obtained results with expected normal results, and real functioning with normal functioning. It also identifies tactical deviations and premises for their elimination, decrease, or compensation.

The directing function makes tactical decisions and defines tactical plans for elimination, decrease or compensation of deviations identified in system's functioning and for achievement of strategic plans.

The commanding function provides commands to operate corrections to system functioning ordered by tactical decisions.

These six management functions can be classified in three categories: *Analysis and synthesis functions* (forecasting and control), *Decision functions* (planning and directing) and *Executing functions* (organizing and commanding). It is difficult to appreciate whether one of these functions is more important than other. In case of systems created by men, the functions from strategic and logistic adjusting information flow have a great importance. The analysis and synthesis functions, which must collect all necessary information for efficient management decisions, are often neglected. If this happens, it can hinder the system's ability to fulfill its objective and to survive.

4. Step-by-Step Guide of Scientific Systemic Business Organization And Management

This method of scientific systemic organization and management can be defined as *an integrated ensemble of ordered interdisciplinary principles, rules and actions by which a manager designs, plans, organizes his business as an adaptive whole (system), and guides (manages) it toward achievement of the desired objective using the Universal Model of Organization and Management.*

Practical experience proves that to manage a process efficiently, to ensure its steadiness and high-quality results, and to maximize the profit, a manager must act using two information management information flows: *the strategic (planning) information flow* and *tactical (directing) information flow*. Each of these two information flows has three management functions, as shown in Figure 1.

To organize a new business from scratch using this modern method, a managerial group must take the following steps:

- 1) Carefully and accurately set the desired outputs of their business system: the objective (product, service or solution to a problem), and efficiency indicators - taking into account current requirements, tendencies and risks in

the market.

- 2) Establish in detail the *managed transformation process subsystem* (the business process) which transforms resources into the final product or service and takes into account efficiency indicators and available resources and means.
- 3) Determine the current and provisional information needed for control and forecasting functions of the management subsystem and for the design of business information management software.
- 4) Establish the business strategic plan and its corresponding logistic plan, following current, short-term, medium-term and long-term business process adaptation to existing, imminent, or possible economic, social, and environmental changes.
- 5) Develop a program for organizing measures and allocating resources needed for quick implementation of the business logistic plan.
- 6) Determine and engage the human resources that will be needed..
- 7) Train employees and test the business system functioning.
- 8) Start up the business system.

Initially, if company has a sole owner and fewer than five hundred employees, the managerial group can comprise only two members: the owner as general director and an accountant.

Some of the most common reasons for which businesses fail are managerial team's lack of experience and insufficient management knowledge. Before a manager attempts a business start-up, he must have enough knowledge of organization and management, to ensure good results from the beginning.

Reading this paper should provide managers enough necessary knowledge for this purpose.

5. Conclusions

Today, given the increasing complexity of global economic and social problems, to obtain high performance in business it takes a *scientific systemic approach* of all organizational and management concepts.

Traditional management, with models and definitions of concepts which differ depending on the author, developed empirically, can be gradually replaced by the *Scientific Systemic Management*, based on *systemics* and *cybernetics*. Chances of success are higher if business is organized and managed from the beginning as an adaptable open system on the scientific basis of *Universal Model of Organization and Management* presented in this paper.

This proposed scientific model can obviously be considered to have universal validity and therefore the final solution to the problem of unification and standardization of all fundamental concepts in the field of organizational and management activities.

For this old and very important global problem, another solution cannot exist, because this model is the graphic

expression of a law of nature, and laws of nature are unique and immutable.

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