

Comparative Approach between “Organizational Life Cycle” and “Rational Biological Model”

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Abstract

This paper proposes an analogy between rational biological model and the organizations' development during their existence.

So, organizations' "birth" or creation are considered the result of genetic algorithms, transformations are identified with changes that aim the adapting to the environment, and finally the "death" treats the state of crisis and bankruptcy.

In every stage of life there are proposals to increase it, by extension of states identified in the human area and not taken into account in the artificial one, which must learn from the first system, which we consider superior in the process of evolution.

Although the authors' approaches, do not build operational models to support the thesis presented, ask questions and focus on elements of management philosophy that "tomorrow" will certainly be resolved.

Keywords: *genetic algorithms, organizational pathology, step by step evolution, tandem management change - organizational change.*

JEL classification: M10, M11, M12, M14

1. Organizational life cycle - A rational - biological concept

Creation or organizational "birth" means harmonization, granting in a complete "network", symmetrical of four key elements namely: participants, goals, processing systems and structures, in order to meet effectively a range of social needs (Figure1).

The essential component is the human one (actors, participants) or rational life-size that articulates directly or indirectly through specific means or management tools, all components which have type $4!$ links. Details of each component of the organization in n subcomponents, generates type $n!$ links, such as those of the elements of the human genome, whose combinations are at $40,000!$ Or $2,09 \times 10^{166173}$.

In our view, organizations are a form of structuring the living world or a network of individual human beings, with specific goals [4].

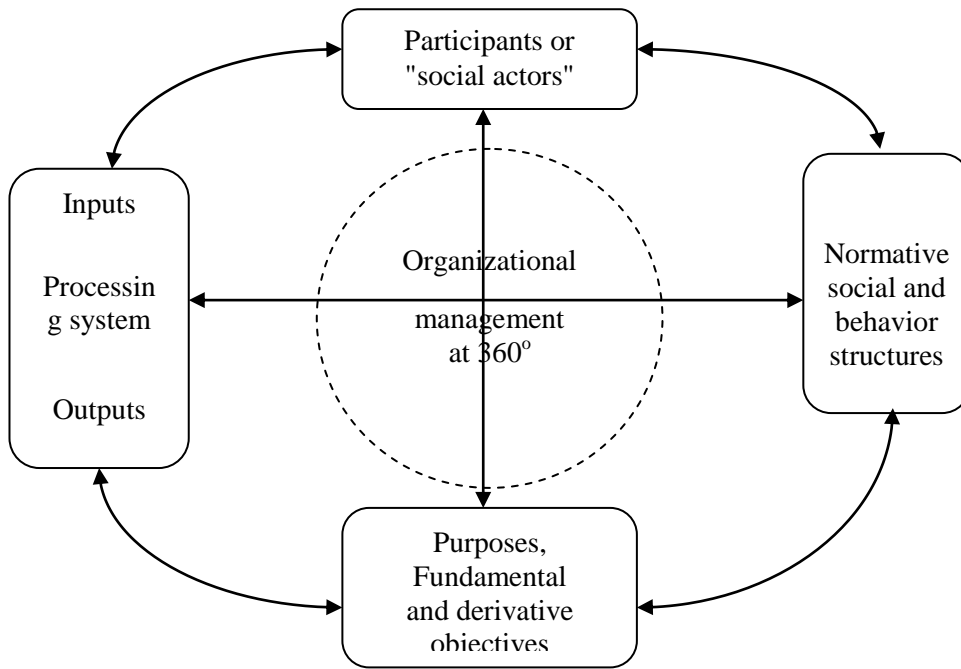


Figure 1 Correlation of essential organizational elements

The process of "organizational generation" can be studied through genetic algorithms, using the crossover and mutation operators. The first category "crossover" aims to embed in the new generation of a better genetic material, and the second one, "mutation", the way to a minimum minimumum and eliminating a local minimum. It follows that the rise of an organization generates socio-economic progress on a local or global area [3].

We believe that most present organizations are, such as living organisms, open-rational systems, but we do not eliminate the existence of any natural-closed type ones, which from birth may not have a long life.

During the current crisis, the adverse features of the organizational system, outlined in the last century, during the years '80 and '90, were amplified. Some of them are:

- i) participants alienation, lack of "neural" links between the components of each element in the presented figure and of these elements, in order to ensure functionality, system's life;
- ii) inequality of the participants, destruction of ones for the supremacy of others, making life irrational;
- iii) increasing unemployment, which eliminates the human components of the system that can "work";
- iv) economic and financial scandals that destroy the system or parts of it;

- v) Regression of ethics and financial rules, which eliminates the harmony and balance of organizational system.

The corollary may be, by a "tough" approach organizational inefficiency and ineffectiveness of classical patterns. In order to maintain organizational performance, according to the initial creation, it is necessary the operation of features of the neoclassical kind staff and line models and line, bio-rational models, fractals, or the return to the above living world model, and each time we generate and build the "artificial".

2. Transformations / organizational changes

Imperative

Transformations / changes define the longest organizational life period and are required to adapt to continuous environmental change. This process is triggered immediately after the occurrence and action of "natural selection" open or block the organization's evolutionary path [5].

Typology

Having organizational artificial creation, in our concept as a "rational-biologic" model, provides step by step changes, linear and un-exponential.

Investigations of the specific literature have identified three types of transformations, namely:

- i) the radical, step by step change;
- ii) exponential, step by step change;
- iii) evolutionary, step by step change (increasing) ;

The first category includes the school created by Hammer and Champy, with extensions in the second group, outlined by the "six sigma" method.

The third group "triggered" by K. Lewin, we support and serve as a model, especially for organizations without "excellence", as most of those in the Romanian economy.

Evolution, without being Darwin's theory' followers and not opposing creationism, is, in our opinion, in line with a " α " coefficient more or less, in relation to environmental conditions.

For organizations characterized by excellence, we accept locally reengineering, but as an exception.

In Figure 2, the time t_0 is given by the initial organizational culture level, the environment in which the organization was "born", by the management instruments etc., all having an influence on the " α " measure.

We also note that an exponential evolution is identical to an extended "boom" to infinity, which is a chimera or "boundless greed", conditions that, sooner or later, will change the thinking and social action.

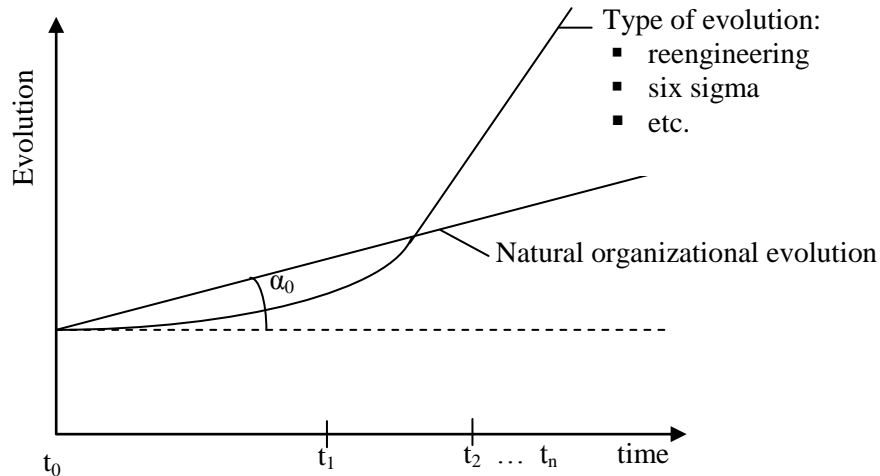


Figure 2 Organizational evolution

For example, the housing system in Romania and in many other countries has experienced exponential growth in a short period, event supported by the classical monetarist system, which is the result: a crisis of proportions everywhere.

In all change processes "organizational brain" (Board of Directors) has the essential role, which means that changes are "top-down" and seldom the opposite ("down-top").

The top-down change typology ensures a prolonged organizational life and lead to performance because:

- i) it requires clear strategic direction;
- ii) The period to achieve the goals or the recovery of reduced "organizational way".

But the authors are advocates of the configuration and not contingency theory; do not eliminate other contextual changes according to internal or external environment.

The tandem "management change - organizational change on levels"

We consider that the raised tandem is the basis of beneficial changes in any organization that is facing with any favorable or devastating environment, as those with maximum turbulence [6].

To realize the described changes, requires continuous transformation of "central neural area", of the decision center, which must overcome any resistance to the identification and deployment of new desired benefit:

$$R = \frac{\Delta C}{d}$$

In which:

- R – is the resistance to management change, first of those who decide;
- ΔC – difference between the desired capability (C1) and the existent one;
- d – the change process period.

In Romania, after the years 90's and, to a great extent, now, reducing the size of **R** was based on increasing **d**, which meant reducing the effectiveness and efficiency. Evolution on a measure "α", marginal or even negative, sometimes reduced, explains in some areas, the socio-economic development level.

The difficult problem is to measure change costs, described by K. Lewin, but beside his ideas, we propose an extension by the TCR method []. We consider that this method can elevate management instruments based on the recipe:

$$TCR = \sum_K (\sum_i C_i^K + \sum_j p_j^K R_j^K)$$

In which:

TCR – is the total costs and risks level

C_i^K – changing costs to a managerial activity of type K, which would be inefficient. Dissatisfaction, the release of unfavorable states, without knowing the steps to follow in the change process etc.;

p_j^K – probability of risk j in a managerial activity K;

R_j^K – the overall cost of risk j in a management action K.

The concept that we assumed on organizational change focuses on the "desired state" through a natural represented selection process, that may result from a "fatness" type function, that maintain the "genome" diversity and not alignment, organizational uniformity [7, 8, 10].

In convergence with the "headquarters" actions, the human resources management, reduce the employees thinking and change on different levels: individuals, groups and organizations. Practical investigations of dozens and hundreds of higher education graduates, led us to the relationship:

$$S_{x,j} = f(S_0)$$

In which:

$S_{x,j}$ – is the individuals(S_x) and groups change (S_y);

S_0 – organizations' changes as unitary systems, required by their rules, values.

This means that management change is related to the organizational change and the latter one change individuals and groups.

The history of some organizations has some exceptions such as:

$$S_0 = f(S_{x,j})$$

But these conditions are rare and individual and group values, as independent variables, change the organization.

3. Crisis and organizational bankruptcy

Extinction (organizational death) we believe that is based primarily on the inability to respond to environmental challenges, whose duration (d_β) is much greater than the response to these organizational changes ($d_{r\beta}$).

$$d_{\beta} > d_{r\beta}$$

Investigation is amplified and the "end" is more rapid in turbulent environments, because of lack of information, inaction or wrong approaches [].

The disappearance or the "death" of organizations can be considered, as in the biological environment, a natural process, but it must be accompanied by the rise, "birth" of others, such as the society to record a dynamic equilibrium between the two processes. Bankruptcy of some organizations in Romania, in the '90s and early 2000, without a relatively similar rate of occurrence of the others, may affect the socio-economic potential, and increasing external dependence.

From the analysis of practical states organizational "death" is based on congenital or acquired elements, following unanswered threats. Both cases define "organizational ephemeris" that any genuine economic system should eliminate, especially if the state is a real player, as it is currently required.

For example, the loss of FPS in Romania, during the early 90's period, is based on congenital ephemeral.

"Organizational pathology" that often lead to extinction, results from the dependence of these "social constructions" of a limited number of individuals, whether they and leaders or not, this situation needs to be removed to increase the life expectancy of existing companies.

A performing organizational system is outside a group with limited interests or an individual dependence, atypical for the progressing social.

Also, the short life of some organizations is due to the removal of members of their fundamental goals of the organizations, the gap between individual and collective interests, increasing step by step, case registered in Romania, in enough cases since 1989.

Also, the whole globe is "focused at infinity" on profit as the supreme value or in other words the efficiency and not effectiveness, although the management theory clearly shows the priority, the two sizes order, that we consider that may lead, especially on long term, to the extinction [1, 2].

On a long term, the excessive gigantism is a source of extinction (why did the dinosaurs disappear? Whales are the next?) or in the same action sense the limitless globalization, that is threatening the organizations' "genetic diversity", as source of long life.

Often the gigantism results from "the organizational cloning" theory promoted by management schools. In this way the natural adjustment processes, that we support, are removed. Mergers and acquisitions act similarly and, as present in the current social-economic crisis. In other words, it is encouraged, as in the living world, the crossing between close relatives, which leads to degeneration on long-term.

It is limited or even eliminated the diversity of the living world, from which artificial creations (organizations) have not learned enough [9].

These were some sources of organizational death, which should not be forgotten, together with frequent cases of lack of management and in performance extension of performance, typical states in of non professionals in the investigated area.

Conclusions

Performing organizations, such as social creations of individuals and groups, that have specific purposes, achieved by management means and use of human resources, have a long and not ephemeral life.

They are continuously adapting to the environment through “mastered” and controlled changes, which lead to ending crisis or limit states [11].

Organizations’ evolution from “birth” to bankruptcy is linear, progressive and ensures harmonization between inputs, transformations and outputs, by a genuine management.

There is an intense research for new organizational models and our work adds its very productive analogy hopefully stimulating for the future organizational research.

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