

SURVIVAL CRISIS AND EVALUATION OF ITS DEPTH

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ABSTRACT

The present report takes the view of the business organizations' natural evolution. The report scrutinizes crises as a necessary challenge, an inevitable companion and a motive force of this evolution. Along with some fundamental methodological approaches to that understanding, a general characterization of the evaluation methods for threats to the organization is propounded in the report. Such methods are considered as a key point for revealing the extent of contradiction between organization and its surroundings, which contradiction causes any type of crisis.

KEY WORDS: crisis, change management, evaluation of threats to organization.

1. GENERAL CHARACTERIZATION OF THE METHODOLOGICAL APPROACH TO THE SURVIVAL CRISIS

Main point of the business organization as a consciously managed system is to attain a new quality deferent from the quality of its elements - social, technical, informational, natural and the like one. The system new quality, perceived as an aggregation of new features compared to its elements' features, imparts entirety to it¹. In this broad sense the organization survival as a system is identical with its remaining intact. The entirety itself involves some kind of limitation or closeness to its surroundings. Within the framework of that closeness organization includes in whole unity systems of a lower grade in the terms of the new quality that it imparts to them. Simultaneously the organization itself is a

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¹ Афанасьев, В.: Системность и общество. Москва. 1980. с. 22.

system of a lower grade that is an element of higher grade systems. These systems own any other new qualities, which aren't typical of the organization itself. This synthesis of both parts in a whole and the whole in its capacity of a part of any other entity is *a continuous process of interaction and mutual determination in which organization changes itself and its surroundings as well.*

The objective processes ignorance of the mutual internal and external determination would result in uselessness of the quality and functions that are provided from organization for both its elements and the higher grade system, in which it is included. Uselessness is in the sense that organization doesn't provide its elements and the higher grade system with adequate conditions of the entirety preserving. Contradictions between them and organization become irreconcilable. The entirety collapses due to the breakage of the organization inner and/or external connections with the systems of both lower and higher grade.

From that system point *the source of the organization survival crisis is the contradiction between organizational functions and internal and external environment*, which contradiction at a certain level requires organizational change. Change might be either in the direction of the organization disintegration, i.e. its collapse, or in the direction of its entirety preservation, including by attaining a new quality and functions, i.e. progress. Even though the intensity of these contradictions is measured, a question arises about what are the intensities that require organizational change or changes, different by their nature. And what is the contradictions intensity for which organization hits the *crisis bottom* and then collapses?

Authors of the present report are of the opinion that *theory of organizational ecology* is a useful scientific direction toward the answers provision of the questions raised. Ultimately, the same functions couldn't be realized by an infinitely set of organizations, which causes the density

of different organizational populations as an important prerequisite for their survival. Reaching the limits of the populations' saturation is followed by reduction processes. Organizations that realize better their functions and that are established both higher reliability of their functioning or higher responsibility of their activities survive². Therefore the level of contradiction between the organization functions and surrounding is worthwhile *only as a relative measure against the other organizations of the population*. Diagnostic of the survival crisis depth as well as of the reasons for change requires a comparison of the contradiction evaluation results for the organizations in the population with the empirical proofs of the objective trends in dynamics of this population. Only then a detailed estimation of the threat level, under the pressure of natural selection, to particular organizations might have been made.

Accepting on principle the idea of natural selection as a consequence of the overpopulation, authors of the present report however seek opportunities for the crisis depth evaluation in the area of *organization adaptation theories*. Selected standpoint adds the former one because the evolution theory itself treats natural selection as a function of the greater ability for adaptation to the circumstances changed³. Suppose we devise a mean of evaluating the level of contradiction between functions, i.e. activities, of the organization behaviour and its surroundings, then questions arise about *which are reasons for these contradictions and is there any way to be overcome contradictions*.

In a broad sense reasons for contradiction of the organization functions have their roots in three areas: 1/ in organization vision, mission or strategy leading to the realization of a target function inadequate to its surroundings; 2/ in operative-tactical management of organization that

² Hannan, M. and Freeman, J.: Organizational Ecology. C&H 1989. p. 74.

³ Дарвин, Ч.: Произход на видовете. Глава IV "Естественният подбор при оцеляването на най-приспособените. София 1968.

finds expression in setting inadequate values of the target function variables; 3/ in the activities execution by organization that finds expression in maintaining inadequate standards of activities and/or discrepancy between execution and standards. Under pressure of contradictions with surroundings organization change takes in the reverse order. Organization impossibility to overcome contradictions with its surroundings in any of the three areas is a proof of crises in these areas. In this sense *depth of the organization survival crisis would be characterized by three basic levels: execution crisis, crisis of the operative-tactical management, strategy crisis.*

Evaluation of the crisis depth requires *an estimate of the expected and/or actual results of the organization counteraction for the purpose of limiting its contradiction with surroundings.* Alternatives exhaustion in the realization changes as an instrument for contradiction reduction marks the bottom of the crisis first level. The same would be applied as a proof of the second level exhausting. Impossibility for contradiction limitation by strategy changes under circumstances of the former levels exhaustion marks the begging of the organization end. In the same order crises solution outlines the way of organization change and survival. In this sense *penetration in the crisis depth is defined by the consecutive exhaustion of the organization survival alternatives at the specified three levels.*

Overcoming any crisis specified as well as the survival crisis is associated with changes in resolving three basic groups of problems: *enterprising, engineering and administrative.* In the aggregate seeking new decisions of the problems forms *the adaptation cycle of organization*⁴. Enterprising problems cover adaptation of the growth ideas to the particular commodities and services; engineering problems refer to elaboration of the process systems for their creation; administrative problems direct to the approaches process rationalization

⁴ Miles, R. and Snow, Ch.: Organizational Strategy, Structure and Process. 1978. p. 21.

and stabilization in such a manner that inner uncertainty of the organization to be reduced. From this viewpoint crisis in organization, perceived as an organization impossibility to execute alternatives for reduction the contradiction with its surroundings, *would be assessed as enterprising and/or engineering and/or administrative one*. Each of these local but mutual connected crises might be characterized with a depth, measured in the three levels specified.

The present report takes up at methodical level only one from among the problems concerning depth evaluation of the organizations crises – the problem about contradiction measurement between their functions with surroundings. Significance of the threats to organization from its parties concerned in their capacity of licensing institutions is considered as an indicator of that contradiction⁵. The evaluation methods puts in use three types of measurement scales (first scale - for licensing indicators of the organization that characterize its behaviour; second one – for aggressiveness of licensing institutions', third one – for threats of the licensing institutions aggressiveness to the organization).

2. GENERAL CHARACTERIZATION OF THE METHODS FOR THREATS TO ORGANIZATION EVALUATION

Following **instruments** are used for designing the present methods:

- method of focus groups;
- investigation method by questionnaires;
- pairwise comparison method;
- von Neumann – Morgenstern utility theory.

Both *focus groups method and investigation method by questionnaires* are used for evaluation the organization's threats to licensing institutions by licensing indicators agreed as well as for binding

⁵ In more details see: Симеонов, О. и Ламбовска, М.: Теоретични основи на вътрешен стандарт за измерване и оценяване на заплахите към организациите. Научни трудове на УНСС. София: т.2/2005. с. 97-120.

these threats to the aggressive actions that would be undertaken by licensing institutions. Focus groups are established to the licensing institutions. Investigations are made with focus groups. In questionnaires used focus groups members evaluate quantities of licensing indicators that are viewed as threats to licensing organizations. Furthermore they describe the aggressive actions, which institutions would undertake, and compare them. Investigation method is used for evaluation the threats of licensing institutions to the organization as well. In that case investigation is conducted with the decision-making person (DMP) in the organization.

Pairwise comparison method finds application to both activities: ranging aggressive actions of licensing institutions by degree of their aggressiveness and determining intervals between the actions when projecting actions on co-ordinate axis of aggression.

Two types of functions are based on the *von Neumann – Morgenstern utility theory*: licensing institutions' functions of aggressiveness and functions of threats to the organization. Attitude to risk of both the focus groups from licensing institutions and the DMP from the organization is evaluated by this theory as well.

Instruments application to the present methods requires satisfaction of the following **limiting conditions**:

- Subjective certainty is available⁶, because focus groups members and DMP are completely sure of their judgments and preferences.
- Circular triads in the focus groups preferences are missing, i.e. both preferences of the focus groups members and their combinations are not conflicting⁷.
- Requirements for application of the von Neumann – Morgenstern utility theory are answered⁸.

⁶ Ramirez, D.: Analysis of uncertainty. Fuzzy economic review. No 2. vol. III. Sant Cugat del Valles (Spain): Jamosic S. L. november 1998. p. 69-79.

⁷ Дэвид, Г.: Метод парных сравнений. Москва: Статистика 1978. с. 8.

⁸ Binger, B. and Hoffman, E.: Microeconomics with Calculus. Illinois: Scott Foresman and company 1988. p. 497-501; von Neumann, J. and Morgenstern, O.: Theory of games and economic behaviour. 2 ed. Princeton. N. J.: Princeton University Press 1947.

- Aggressiveness functions and threat functions are monotonous and continuous.

The present methods realizes in **two stages**.

Aggressiveness functions of the licensing institutions are defined at the **first stage** of the methods. These functions are scalar one-dimensional functions of von Neumann – Morgenstern disutility or worthlessness, defined by licensing indicators under conditions of certainty or uncertainty respectively. Functions of aggressiveness describe the disutility/worthlessness of the change in each licensing indicator according to the licensing institutions as well as what kind of actions they would undertake against organization when particular values of the licensing indicators are reached. Functions of aggressiveness (formula 1) are defined by analogy with the von Neumann – Morgenstern utility/value functions⁹.

$$ag_i^{li}(y_i) = 1 - v_i^{li}(y_i) = \underline{v_i^{li}(y_i)}$$

(1)

where:

$ag_i^{li}(y_i)$ is the aggressiveness of the licensing institution li by indicator Y_i ;

$v_i^{li}(y_i)$ - the von Neumann – Morgenstern utility/value of indicator Y_i change to the licensing institution li ;

$\underline{v_i^{li}(y_i)}$ - the von Neumann – Morgenstern disutility/worthlessness of Y_i change to the licensing institution li .

First stage of the methods runs by five **procedures**:

- **Procedure I.1 “Preparation”** – The procedure includes activities of: focus groups establishing to the licensing institutions, questionnaires working out, licensing indicators defining.
- **Procedure I.2 “Defining the co-ordinate area of the aggressiveness**

⁹ Кини, Р. и Райфа, Х.: Принятия решений при многих критериях: Предпочтения и Замещения. Москва: Радио и связь 1981. с. 78-208.

functions” – The procedure includes activities of: acquainting focus groups with the methods for defining their functions of aggressiveness, setting up the area of the aggressiveness values (quadrant and direction choice of the co-ordinate axes; scaling both axes –an axis of the aggressive actions and the other axis of the licensing indicators value; defining main direction of the focus groups members’ functions of aggressiveness - increasing or decreasing; scaling the focus groups’ functions of aggressiveness), verifying the orientation of the focus groups members in the co-ordinate area.

- ***Procedure 1.3 “Defining the qualitative features of the aggressiveness functions”*** – In the procedure both character of the focus groups aggressiveness functions (increasing or decreasing) and functions type according to the criterion “monotony” are defined.
- ***Procedure 1.4 “Defining the quantitative features of the aggressiveness functions”*** – The procedure includes activities of: defining empirical aggressiveness functions of the focus groups (investigating the focus groups members into the licensing indicators values, which they associate with any particular aggressiveness valuation; setting up and drawing the empirical distributions of their answers; defining the distributions types and centers; defining the characteristic points of the empirical aggressiveness functions), drawing empirical functions of aggressiveness, verifying character and monotony of the empirical functions.
- ***Procedure 1.5 “Choosing statistical functions of aggressiveness”*** – The procedure includes activities of: choice of appropriate parametric families of functions to the empirical focus groups functions of aggressiveness; calculating particular parameters of the statistical functions; statistical functions formulation; defining attitudes of the focus groups to risk.

Threat functions of the licensing institutions to the organization are defined at the *second stage* of the methods. These functions, like

functions of aggressiveness, are scalar one-dimensional functions of von Neumann – Morgenstern disutility or worthlessness, defined by licensing indicators under conditions of certainty or uncertainty respectively. Threat functions (formula 2) describe the disutility/worthlessness of the licensing institutions aggression under the licensing indicators change according to the organization. Functions of threat are defined by conducting investigation with the DMP of the organization.

$$th_i^{li}(ag_i^{li}(y_i)) = 1 - v_i^{li}(ag_i^{li}) = \underline{v_i^{li}(ag_i^{li})} \quad (2)$$

where:

$th_i^{li}(ag_i^{li}(y_i))$ is the threat of the licensing institution li aggression by indicator Y_i to the organization;

$v_i^{li}(ag_i^{li})$ - the von Neumann – Morgenstern utility/value of the institution li aggression by Y_i to the organization;

$\underline{v_i^{li}(ag_i^{li})}$ - the von Neumann – Morgenstern disutility/worthlessness of the institution li aggression by Y_i to the organization.

Second stage of the methods runs by four **procedures**:

- ***Procedure II.1 “Preparation”*** – The procedure includes activities of: acquainting the organization DMP with the methods for defining his/her functions of threat, setting up the area of the threat values (quadrant and direction choice of the co-ordinate axes, defining the main direction of the DMP’s functions of threat).
- ***Procedure II.2 “Defining the features of threat functions”*** – The procedure includes activities of: qualitative and quantitative features definition of the DMP’s threat functions, including their characteristic points; drawing up the empirical functions of threat to the organization.
- ***Procedure II.3 “Choosing statistical functions of threat”*** – The procedure realizes by analogy with the homonymous procedure in the

first stage.

- ***Procedure II.4 “Concordance verification”*** – The procedure refers to determination the (lack of) correspondence between the qualitative and quantitative feature of the empirical and statistical functions of threat.

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