

THEORETICAL FOUNDATIONS OF SITUATIONAL AND IMPULSE METHOD OF OPEN NON-EQUILIBRIUM SYSTEMS MANAGEMENT FUNCTIONING

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The article describes theoretical foundations of the method of creating management situations (impulses) to manage open non-equilibrium systems.

With an on-going process of the creation of market economics in Russia, there is a keen interest towards a number of problems that have great research and applied significance. One of them can be the problem of business management tools improvement because economic reforms have been implemented with the emphasis on government control over the improvement of social and economics relationships at the macroeconomic level. As a result we do not have adequately developed theoretical, methodological and hands-on aspects in this area of development of the methods of creation and improvement of efficient management systems at the business level.

The variety of resulting organizational and methodological, managerial and other specific issues and a limited range of tools incapable of providing adequate technical level of operations and processes urge the development of theoretical and methodological solutions regarding the possibility of resolving this problem by creating management situations. This is due to the fact that situational and impulse method is extensively used by managers in real life on an *intuitive* basis.

Contemporary economic theory, including the theory of management of economic systems, due to the complexity, dynamic nature, unpredictability and continuous changeability of economics is nowadays incapable of adequately responding to its essence and development in practical terms.

When resolving the problem of managing open non-equilibrium systems, as proven by managerial practice, there are some things that need to be taken into consideration in the management process:

1. Open non-equilibrium system as a result of external impact changes continuously which

provides an opportunity to create an exact forecast of results of changes (functional connections between the subsystems of an open system, time situations in each of the subsystem, speed of development of the entire system etc.).

2. When open non-equilibrium system is impacted by environment changes over time in an unpredictable manner, the change is effected by quanta (leaps), which prevents us from predicting the result. Quanta, or leaps are the result of higher energy level accumulated from external and internal situational and impulse impacts (overproduction, rampant debts growth, wasting resources, etc.).

Due to the unpredictability of system change at the point of each leap (this may be either a short time or a rather extended period - then they call it a "chain of events") no expert review is capable of predicting the future. After the leap, when the system stabilizes, prediction of development and management becomes possible, thus situational and impulse method becomes very useful.

Success in organization of counteraction to internal situational and impulse impacts (impacts by insiders of the economic system - employees, structures, segments etc.) to a great extent depends upon corporate management because management structures have an opportunity to know the system and therefore can calculate and predict how stable it must be with reference to the internal "quantum", that is how big should the quantum be to be able to start causing unpredictable changes of the system. In general terms, the resistibility of the system to the impact of impulses is defined by its stability.

3. It takes time to completely study and review the internal structure of open non-equilibrium system and there is no guarantee that

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during the time required for such review and study the system will not change again. Each and every firm is committed to create their own impulses - situations to OBTAIN the maximum profit. All organizations create their own impulse-situations with one purpose in mind: to survive, win, grow, sometimes obtain economic development in order to eventually become MONOPOLISTS, for the sake of maximizing the profit - this is how the capitalism works.

As noted above, since the accumulation of energy of external and internal situational impacts takes place for all the systems in the world, thus causing unpredictability in the development of the world economics, therefore, all managers of economic systems in the world, in fact, are not familiar with the methods of counteractions to internal and external impulses. This proves the necessity to formalize the proposed method as soon as possible.

However, some channels may be blocked, thus protecting the system from the impact of certain impulses, which is good from the standpoint of system management. Specific channels may be blocked in the following cases:

a) if a manager knows which impact to the system and its components is exerted by impulses coming from external environment;

b) if a manager has resources needed to block the channel that transforms the impulses, causing the collapse of the system.

In our opinion, the solution to the problem of managing open non-equilibrium systems is possible if situational and impulse method is applied, the essence of which is described by impacting the system with an impulse that causes the response desired by the manager.

For successful management within the framework of situational and impulse method it is suggested to decompose the system into stand-alone components (method of decomposition) that affect the results of system operations and are interconnected, with definite functional dependencies.

The decomposition of the system into subsystems allows avoiding chaos in management and eventually becoming successful. Subsystems are stand-alone in terms of the following factors:

a) production process is conditionally closed (the result of activity will be a certain half-finished product or a stand-alone product);

b) assessment of production activities is very individual;

c) system of functioning is special - different from other segments. That is the result is individual.

From the standpoint of cybernetics, management process is the process of processing and transfer of information as a part of management system per certain program by movement and counteraction of tangible media of this information.

To make management process possible while implementing situational and impulse method it is necessary to make sure that the following conceptual conditions are fulfilled:

1. Presence of cause and effect relation between management object and management subject.

2. Presence of dynamic managed system.

3. The system must be capable of responding to the manager's signal.

4. Presence of feedback between a subject and an object of management.

5. Presence of stable system allowing it as an object of management to remain a solid entity, retain stability to quantum impacts, both external and internal.

6. Subject of management must clearly realize the goal of system management,

7. Management system must be functional.

Conditions listed above enhance the manageability of the economic system and therefore, allow performing efficient management. The source of variance in social and economic management is a human being with his purpose-oriented, self-organized activity, therefore:

a) the subject of management is interested in the maximum unification of values of object of management that is the managed team;

b) the values of the subject and object of management must coincide to the maximum extend to each other;

c) the subject of management must enrich the arsenal of methods and techniques of management by augmenting its intellectual level, that is the ability to resolve emerging problems, studying and understanding management and functioning of the system managed by it.

So, to optimize the efficiency of management within the framework of situational and impulse method, once feedback is received from the points of contact, it is logical to narrow the

range of impulse impact on subsystems such that to ensure the development (change) of system via the parameters required by the subject of management.

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