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A SYSTEM APPROACH TO OVERCOMING THE EXTREME CIRCUMSTANCES CONSEQUENCES DURING A FORCED LOSS OF CONTROLLABILITY

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Abstracts

The relevance of this study is to identify objective prerequisites that help the system manager find solutions for the timely exit of the organization from the crisis state. This is achieved by imposing new projects of corrective nature on the current model of objective control of the organization's activities. The control function is reduced to identifying adverse events that cause loss of stability. In the absence of mechanisms for exiting such situations, the situation is recognized as abnormal and gets into the list of applications of a complaint nature. The procedure for responding to the correction of the next complaint is carried out as part of system-forming means. Thus, the organization returns to the state of stable functioning. The availability of adapted instructions taking into account the requirements for the selection of options for improving the system ensures approaching the final goal and revealing the growth potential by overcoming events of a destructive nature. Under the pressure of such events, system developers are forced not only to change the methodological support in a timely manner, but also to train all participants in the organization. The developed system associated with a timely response to emergency situations is configured to eliminate the contradiction between the uniqueness of the adopted innovations and the universality of the established approaches. As a result, the proposed approach allows the system developer to develop the skill of recognizing and distinguishing proposals for improving the system. Moreover, such a skill is revealed as the developer's powers increase and his status of responsibility increases.

Keywords: procedure, overcoming, consequences, control, quality, objectivity, program

I. Introdution

The system of support of non-staff operations, focused on destructive events, is developed taking into account the interests of all participants involved in the growth of professionalism of system developers.

Proposals for improving the skills of managers involved in the development and support of systems are specially selected. Descriptions of innovative proposals that do not disclose the so-called principle of "Physical and logical independence" contradict the safety requirements of the Engineering Systems methodology. If such a proposal is implemented, then in the future it will negatively affect the professional qualities of the system manager. The abundance of ineffective proposals is the source of numerous errors "launched" into the system. All this affects the reputation of the system and the developer. As a result, the unpreparedness of the manager leads to the collapse of the system, as well as the loss of material resources, a decrease in image and much more, due to which potential users will stop appreciating the development of the backbone industry and lose interest in system research. When developing complex systems, it is necessary to follow the program setting: "If the developer does not know exactly what can cause the destruction of the system at a certain stage of its development, then the death of the system is inevitable." The focus on clarifying such knowledge, which requires fundamental training and deep immersion, allowed us to identify the research problem. Its essence is revealed in the following formulation: "It is impossible to ensure the safety of system maintenance in the absence of a scientific justification for the changes made to the next version of the system." In other words, if among the innovations there is no proposal aimed at eliminating a destructive claim, then the system will collapse. In this situation, the system developer does not know the location of the next destruction, since he does not know the 2/98 rule. The hidden long-range (overview) effect applies to him. The fact is that the system, which has been in an unstable state for a long time, its developers, who have not found an effective solution during this time, show confusion. Thus, the inability to control the consequences of a missed extreme event is revealed. In this regard, the object of the study is a device that ensures control over the full range of responses of an organization operating under conditions of unforeseen circumstances of various types, degrees, durations, and influences. Such a device, ensuring independence, helps protect the system from the hostile influence of the external environment. As a result, the principles presented in the context of the Engineering Systems methodology are applied to the development of the system. This methodology is the best system-forming tool in organizational terms. Its effect extends to both the process and the product. It should be noted

that the application of the System Engineering approach is aimed at improving only the product.

The subject of the study is a methodology that allows for objective conclusions to be made about an innovation in the context of its type, extent and duration of impact on the organization throughout its life cycle. Thus, the action of the Engineering Systems methodology is manifested, which is capable of not only finding a place for possible destruction, but also developing countermeasures to get out of a difficult situation. Such measures are implemented in the form of an investment project developed taking into account the technique of multivariate analysis and selection and debugging of the most effective development scenario. It should be added that the Engineering Systems methodology is focused on the toolkit of diagnosing the effectiveness of a system throughout the entire life cycle of an organization.

The purpose of this study is to develop a procedure that ensures a full-scale measurement of effectiveness in the context of improving a system configured for survival within the framework of the technology for overcoming extreme consequences. In accordance with the stated goal, the following main tasks were formulated:

1. Current analysis of the executive skills of managers who are entrusted with process management functions. Responsible for operations performed outside of routine catastrophic situations that arise as the duration of the life cycle increases;

2. Selecting an option for improving the system from the position of managing the activity, taking into account the implementation of priorities aimed at overcoming the consequences of losing objectivity in extreme conditions;

3. Implementing a medium-term scenario of the program that monitors the survival of the organization, based on identifying boundaries that prevent the organization from falling into an inadequate state at all stages of life;

4. Developing a methodology for analyzing the implementation of effective operation within the framework of superposition and voluntary support.

The fourth task belongs to the class of promising studies. Within the framework of this work, two clarifications are made regarding this task. Firstly, superposition involves mastering the technique of imposing new options on an effective development scenario. Secondly, voluntary support is an analysis of the reactions of professionals to this technique. In other words, the technique includes a detailed description of the process of embedding a new element into a new version of the system.

A brief description of the three remaining tasks is carried out as part of the proposed device for organizing the embedding of an element into the system, without losing the property of systematicity.

II. Organizational structure outline

This device is used to ensure the organization's vital functions under the influence of extreme circumstances. Such a device helps the system developer to move to fundamentally new mechanisms for constructing systems. The basis of the approach is the development of methodological constructs that allow for prompt and effective response to complaints. Fig. 1 shows a large-scale diagram of the device.

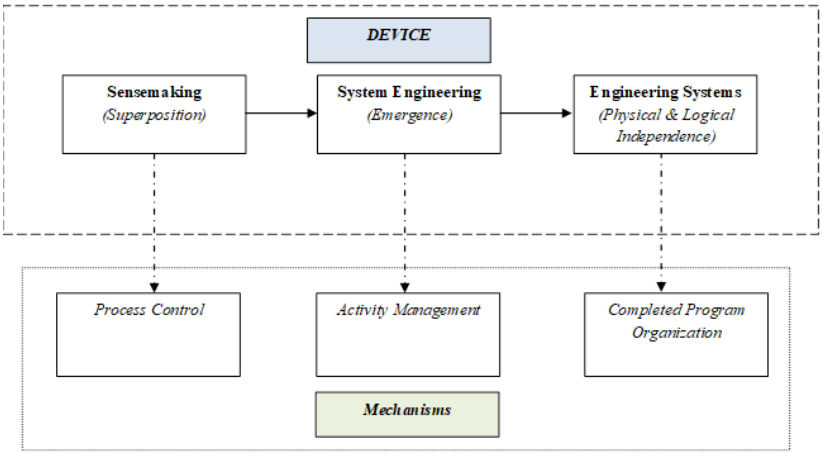

Figure 1. Scheme of the device for embedding a new element into the system

The device consists of the following structures.

The first structure is intended for selecting effective proposals, which are included in the new version of the system in the form of investment projects. The construct functions as part of the process management mechanism.

The second structure is an efficiency measurement unit, the functioning of which is carried out using the detail management mechanism.

The third structure performs the function of observing the Physical & Logical Independence principle. The mechanism for organizing a completed program is used as a diagnostic tool.

Below is a brief description of the three mechanisms.

III. Process Control Mechanism

This mechanism is a combination of three technologies.

Fig. 2 shows a detailed diagram of the mechanism.

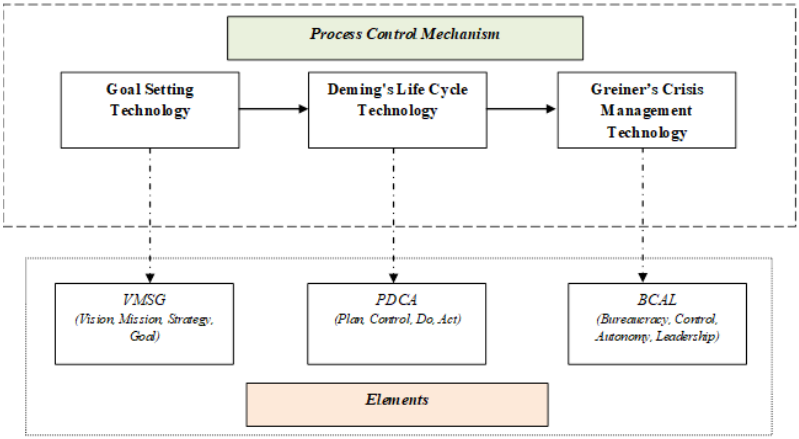

Figure 2. Process control mechanism diagram

The mechanism is being developed according to the Physical & Logical Independence principle.

Using the targeting technology, the location of a possible destruction is determined. Then the algorithm is debugged, within the framework of which the system is transferred to a stable state. Within the framework of the crisis overcoming technology model, diagnostic tools are being developed (see Fig. 3).

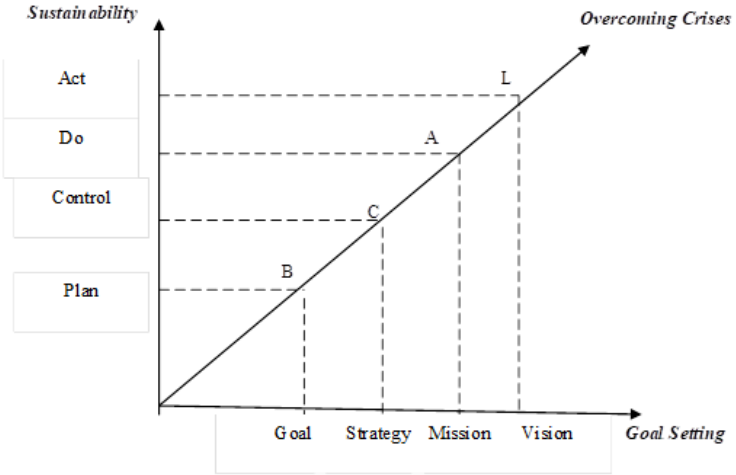

Figure 3. Model for selecting innovations to return the system to its original state

In the process of selection, means are formed on the basis of which the system returns to a stable state. Thus, the "Superposition" function as part of the "Sensemaking" technology was debugged.

IV. Activity Management Mechanism

The second mechanism is designed to measure the effectiveness of the organization taking into account the implementation of new proposals. The basis of the mechanism is algorithms that help not to leave the management at a specific stage of the organization's life cycle. The duration of the cycle depends on the implemented corrective means in the composition of the new strategy. Management of activities is carried out in conditions of increasing responsibility standards. At the same time, compliance with the Physical & Logical Independence principle occurs thanks to the Arie De Geus algorithms. Such algorithms are used to create viable companies (see Fig. 4).

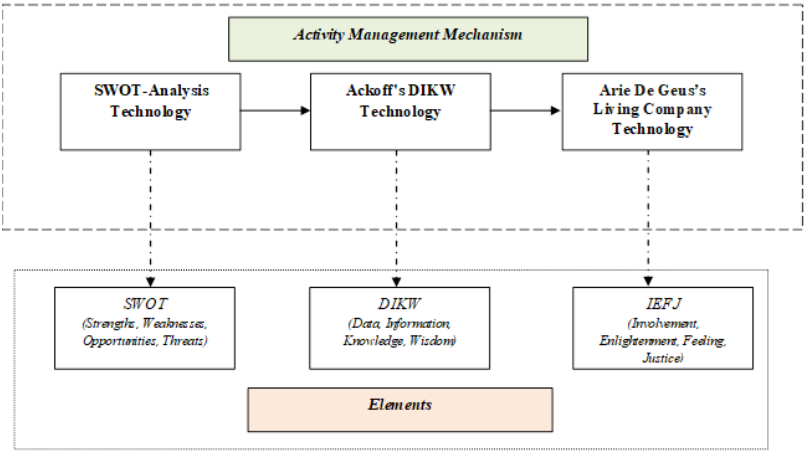

Figure 4. Scheme of the mechanism for managing activities

The viability of the organization is ensured by combining the DIKW & SWOT models. As a result, it becomes possible to measure the four states. At the same time, during the measurement of efficiency, experience is gained in obtaining value in the process of processing business information. Fig. 5 shows the efficiency measurement model.

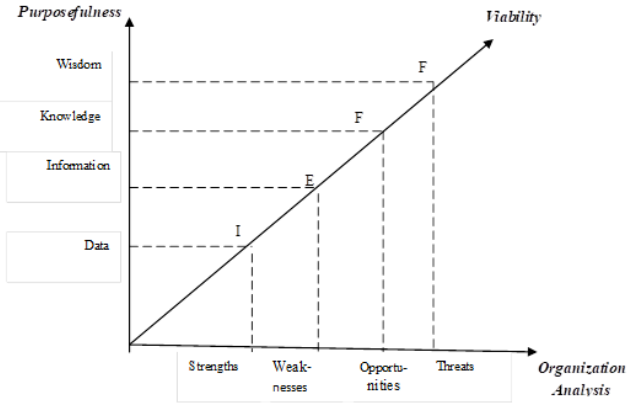

Figure 5. Model of confirmation of the property of emergence

When a system property is violated, the losses incurred are measured and related to the value of the efficiency indicator. The system manager has the skill of finding the places where the organization is destroyed.

V. Completed Program Organization

The developed models, presented in Fig. 3 and 5, were the basis for developing a program for diagnosing the state of an organization under extreme circumstances. Such a program is aimed at developing the resilience of the system manager, capable of overcoming crises of various levels, ensuring the viability of the system (see Fig. 6).

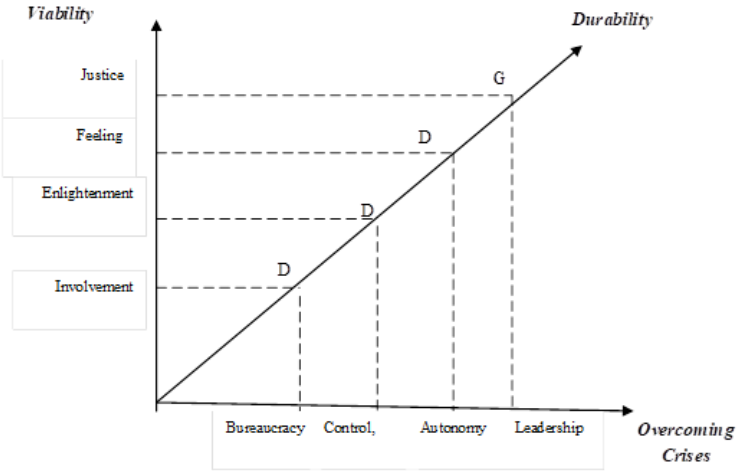

Figure 6. Model of the organization program

The DDDG (Destruction, Distribution, Development, Growth) model provides a basis for developing a methodology that allows the system developer to be freed from the consequences of the long-range effect. First, the approach considered increases the time the system stays in a stable state. Second, having the ability to act proactively, the skill of finding an effective solution in crisis situations is practiced. The system manager, acquiring leadership qualities, is eliminated from confusion. In addition, it was found that the investments made in the new version of the system were spent fairly. Thus, the developer's involvement in the system developed in the context of the Engineering Systems methodology was carried out. This program can be used in training professionals in various fields of activity, including

astronauts. In conclusion, it should be noted that the development of the methodology is a promising direction of this study.

VI. Conclusion

The practical value of the study is that the results of testing the developed procedure reveal the causes of extreme motivation leading to death. They are based on objective prerequisites identified during a full-scale measurement of crisis conditions, modeled taking into account the conditions of emergency operations. Thus, the so-called "extreme degree boundaries" embedded in the new version of training systems are expanded, which not only contributes to increasing the objectivity of training, but also provides the ability to extend the life of an organization in previously insurmountable situations. The scientific novelty of the study lies in the development of a device for embedding a new element in the system. The mechanisms included in the composition made it possible to develop a model for overcoming confusion in situations from a long stay in an unstable state. The program for strengthening confidence in the developed methodology reveals deeper properties of personal self-determination of each participant involved in supporting the system. In the course of the analysis, obvious arguments are formed to remove resistance from opponents of the methodology, who initially did not accept the evidence proposed in the program. This is especially true for the facts of stopping activities. The program includes both the process of training system developers in conditions of increasing tension, and the results of overcoming long-range (overview) effects, including unsuccessful ones, and also offers new levers of growth, such as increasing the objectivity of thinking as opposed to traditional reasons of a subjective nature. At the same time, the role of quality control and objectivity in the proposed system of values and the author's position increases.