

A New Look at Enterprise System Management

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Abstract: The study deals with the analysis of system management. It attempts to form a new approach to system management introducing concepts of collective leadership and collective thinking.

Key words: System, system management, collective leadership, system-related goal, Russia

INTRODUCTION

In recent decades, much emphasis has been placed on the analysis of system management. The major developers of the theory of system thinking and analysis at various times were Ludwig von Bertalanffy, J. O'Connor, S. Optner, B.S. Fleishman, I. Ansoff, A. Kam, S. Monk, G. Guda, R. Makola, Ch. Hitch, R. McKean, A. Hall, D. Cleland, V. King, R. Ashby, V.N. Toporov, S. Bir, Ch. Davis, Yu.I. Chernyak, S. Yang, D.H. Meadows, D.L. Meadows, J. Renders, Yu.G. Karpov, D.Yu., Katalevsky, V.N. Sidorenko, V.N. Volkova, F.I. Peregudov, A.I. Ujomov, N.N. Moiseev, V.I. Mukhin, E.M. Korotkov, N.V. Mineeva, M.E. Motyshik, A.V. Ignatieva, S.P., Zvyagintseva, A.M. Starostenko, N.V. Yakushina, O.G. Apolov and others.

Nevertheless, this topic remains relevant today. Despite numerous developments in the field of system management a lot of issues concerning management require further elaboration. Based on the results of the systems theory analysis, we would single out three approaches to system management in terms of three types of systems.

A system as a mechanical device, (e.g., clock). This is a system of interconnected processes and sequential actions. If a certain part of the clock's mechanism is out of order or malfunctions, the result, i.e., indicated time will be incorrect or the clock will run down.

MATERIALS AND METHODS

A system as a single entity consisting of multiple mutually complementary parts supporting each other and helping each other to achieve the common result (like the human body); the aim of such a system is survival. A system as a complex of different elements existing in the same time and the same place but being at odds with each other and fighting for a better life (the world system).

Input	Process	Output
External market, competitors and customers analysis	The enterprise policy system	Quality, price, recruitment, fiscal and technology policy

Fig. 1: Constituent elements of the system

The world has existed for ages under conditions of war and confrontation which are always caused by the competition for resources and goods. Nevertheless, the world system continues existing (Davies, 2004). Based on these premises, we can further classify the system into three types:

- A system that requires external intervention such as a sick body which is unable to cope with the disease itself
- A self-destroying system such as a world system which destroys itself from the inside without any external influence, however evolving and changing, though unable to recover
- A self-regulating system which restores itself and resists foreign bodies in an effort to survive

Each system consists of subsystems with their own objectives; in the meantime, the common goal remains unchanged and ultimate for all subsystems. The management system of a road construction company must be self-regulating, aiming at survival in any economic environment. Subsystems of a road construction company are divisions with their specific objectives as well as services and functions. It should be also kept in mind that each of them has its own specific objectives and targets. Such a system is characterized by the sequence of input- process-output (Fig. 1 and 2).

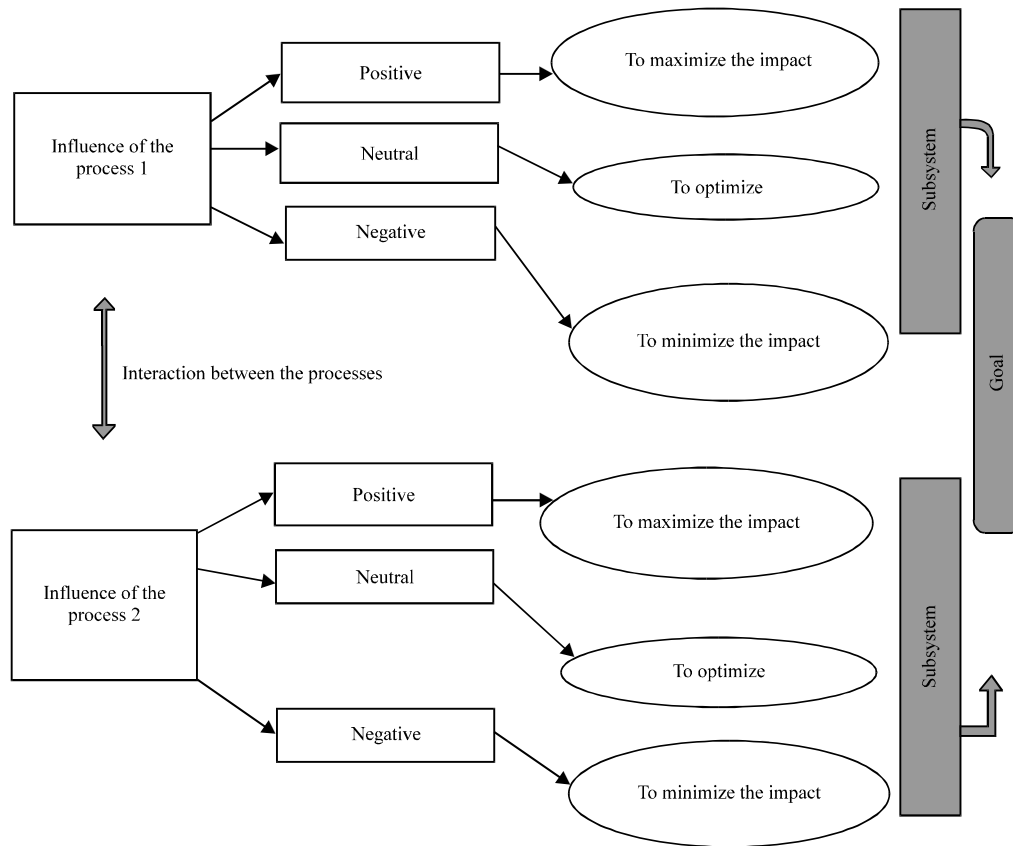


Fig. 2: The influence of processes on the common goal

RESULTS AND DISCUSSION

Each process affects the ultimate goal, though the influence can be either positive or negative or neutral. Each management system has its own opportunities and constraints. Opportunities of the system are composed of competencies and desires but at the same time they are limited by the volume of resources. Limitations mainly result from external factors. In order to achieve the system goal, several prerequisites are necessary, the main of which are desire and strive for the best possible result but these must be linked with the obtained final product for both the company and each employee (Fig. 3 and 4) (Anonim, 2008, 2013).

Each process has its specific goal. Every employee endeavors to obtain a better and more highly paid position and to achieve results using subordinate's knowledge and expertise. In this case, achievement of maximum efficiency is the top management's task, since their incomes directly depend on the profit (Bramer, 2007).

Unlike process approach which suggests that the decision rests with the executives, i.e., managers, system

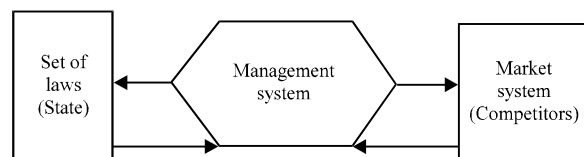


Fig. 3: Scheme of the interaction between management system and external environment

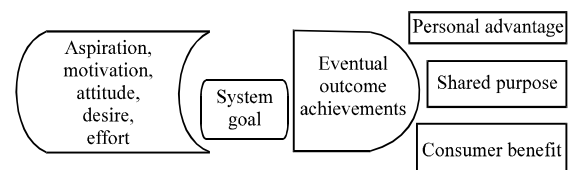


Fig. 4: Achieving shared purpose and personal advantage

approach may admit collective leadership with the responsibility for the decision falling on everybody and the common result coinciding with each employee's personal advantage. The system approach is devoid of competition, though the company may use the

competition between the units and employees in order to add to the team's experience and to foster its skills. (<http://www.vedomosti.ru/newsline/top/politics/news/2017/01/27/675231-ukraina> and 2015/05/28/29404).

Ad hoc management leads very often to such a bureaucratization that the performer's main goal becomes the fast response to the received assignment, i.e., formal reply. The words of G. Gref are relevant here: "When the machine is not focused on result, it generates the process. Not the citizens are clients of this machine but chief executives who in turn, without getting result, give new assignments in even more rigid form. Fear makes machine to generate even more documents, trying to guess the will of the principal, tearing away from the content". As we have already noted, each process has its objective. Sometimes the objective can be accomplished through changing the assignment (Pressman, 1997). Sometimes, it is possible to specify the ultimate goal without defining the process. But if the whole system is meant to the process rather than to the result, it begins to reproduce more foam, generating more problems. The top managers begin to produce more assignments and instructions since they do not obtain the satisfying result.

CONCLUSION

In a road construction enterprise, the formation of redundant control elements administering all the processes, monitoring of all work stages starting from

down management, may eventually result in the transfer of responsibility for production to the administration company which is fundamentally wrong. Therefore, there should be limits of the control in the system management defined by the demarcation points on each management level. Within their area of responsibility, each level of the system management should be responsible for creating efficiency aiming to achievement the company's common goal. Words of P. Drucker: "To create an effective organization, one needs to replace power with, responsibility" are fully in line with our attitude. Thus, the efficiency of the management system depends on the degree of its systematization and the formation of interconnected relations between its subsystems and elements.

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