

CONSIDERATIONS ABOUT THE CHANGE RISK MANAGEMENT OF THE ENERGY SYSTEMS

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O serie de puncte de vedere în legătură cu riscul, schimbarea și managementul schimbării sunt reliefate în lucrare.

Lucrarea se referă la particularitățile aplicării acestor concepte în sistemele de energie.

A series of points of view about the risk, the change and the change risk management are bringing in the work.

It refers to the particulars of the feasibility of these concepts in the energy systems.

Keywords: risk management, change risk management, energy systems

1. Introduction

The uncertainty, the severe economic competition and the time pressure lead astray a much more reactive behavior in many firms. Reactivity is caused by external constraints and decisions are made in the emergency conditions, having a vision on very short term. Decisions are often of survival than of development or perenniarity.

When we get time to watch the past we can identify the overwhelming trends – time pressure, overloading resulted from planning, large number of decisions made in real time – which increase exponentially. We cannot imagine to live or to survive them without think of our practices and kinds of management. We learn to manage through risks, increasing reactivity, going faster and faster. How far will we succeed?

Even in this uncertain environment we are able to imagine and to perform a more skilful, more agile and more efficient way of life.

It can moot a question of choosing between an offensive management, of fight, and a social management, more solidarity. J.C. Serres appreciates that it is not a good point; in his work [1] he suggests ways, methods and tools in order to

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get out of this duality, from this endemic opposition and to deal with a principle of reality: we have to manage in a more and more uncertain environment.

In the implementation of the process of **risk management (RM)**, the pilot of the project has to provide acceptance and comprehension of the expression 'taking risk in the organizational culture and in the social context'.

The crisis of the power resources characterizes our times. It increases the risk and the uncertainty on many levels because of the risen complexity of phenomena: power suppliers and consumers, regulation organisms and authorities have to appeal to integrated planning of resources but also to programs of consumption regulation and of power preserving; the development of competitive market of energy in Romania has to lead to increased performances of the energy systems and not only, the power market plays a more and more important role.

It takes place a series of major changes which imply big risks that have to be managed.

Under the circumstances it has to emphasize the elements that contribute to the success of a change (equation (1)) [2].

$$C = V + N + M + R + F \quad (1)$$

where: C – successful change;

V – vision;

N – need;

M – practical means of performing;

R – rewards that stimulate behaviors compatible with vision about change;

F – feedback that has to exist in all stages of change process in order

to monitor the progress and to provide information required for continuous improvement.

Equation (1) is a simplified relation; in reality, there are interdependences difficult to quantify among these terms.

Factors, which make the optimization of the achieved outcomes easier after the established change of some energy systems and not only, have to take into account the effective conditions from our country at present.

2. Change risk management (CRM) in the energy systems

Risk management is a process compared with a health control: the patient exposes the symptoms; the physician sets a diagnosis, recommends a cure and after the cure is done the patient comes again at control.

Risk management, generally, and change risk management, particularly, implies a logical succession of six steps/phases as follows [3]:

1. Defining objectives;

2. Identifying risks;
3. Evaluating risks;
4. Choosing the best solution to deal with risks;
5. Implementing the best solution;
6. Monitoring processes.

Starting from the risks classification: optimal (level 1), important (level 2), state of crisis (most accidental) (level 3), overall, the main objectives as to the risks are settled at the strategic level of the firm, objectives such as: company's survival, providing adequate resources, tension removal in case of damage, minimization of the costs associated to pure risk, persons protection in case of accident.

Identifying risks is an important function of risk management. A group evaluation of these risks is necessary to quantify the critical factor CF given by equation (2), the feasibility of the actions that will be undertaken FA - equation (3) - , the combined analysis of the time of detection and the time of reply TR.

$$CF = G \times D \times P \quad (2)$$

$$FA = E \times C \times TR \times A \quad (3)$$

where: G – level of gravity;
D – difficulty of detection;
P – probability of appearance;
E – efficiency of risk reduction;
C – cost;
A – acceptability and settling in time.

Sectorial risks evaluated as important will be regrouped and shown in a synthetic table. At some level of the firm (project, process, enterprise) risk manager choose four or five themes of important risks (threatening or opportunity), which can be problems, causes or risk factors. The purpose is to give sense orientations that will be remembered, to assign resources specific to each of these themes, to place under control unfurling actions. It is worked on collective to evaluate the relative criticism of the themes, to identify one or many strategies (solutions) for each theme, to evaluate their relevance (weighting of feasibility). It is a brainstorming work, followed by a well-balanced vote, in order to get to the simplest solution. In the sophisticated version, each project has to be formalized and presented with a record card that includes the evaluation of the resources, strategic decisions and so on. It may continue performing a detailed weighting of CF and FA and even the evaluation of the level of confidence of each factor.

Scientific thinking encourages this type of approach that comfort; adequate means and objective are delicate. We are confronting with the lack of

time, resources and competences: double compulsion of the operational lack of comprehension and also of the method. In order to go from the problem to the solution we have to solve the issue (on the one hand, in terms of having certain means of inquiring, the wish of perfection leads us to require more resources, on the other hand, the number of problems to solve and the requirement connected with rapidity of solving do not allow us to mobilize the best resources at the right moment), to surpass the deadlock, to assume 'methodological' risks.

The strategies common to many themes are more attractive than the ones isolated, nonfederal and, probably, less efficient on the whole.

Choosing the best solution to solve the risk is based on the accounting of various tools used in risk management and in making decisions. It refers to the best combination of techniques, methods and models to approach a problem. It has in view:

- avoiding the risk;
- reducing the probability to cause damage or decreasing its magnitude;
- transferring the risk to other places that include the insurance;
- maintaining or tolerating risk inside the firm.

There are established costs and other consequences of using each combination of tools/methods, taking into consideration the current financial position of the company, its general policy as concerns risk management, specific objectives.

The implementation of the adopted decision supposes actions and new making decisions in the organization. If the endorsement of an insurance contract is chosen, it has to establish the adequate security, the convenient insurance money, the insurance company, the terms of contract and the roles in the process of translating the insurance into life. If it is used risk control it has to decide who takes the responsibility: the staff of the firm, when it makes the decision what specialist will be (from the Risk Management Department or from other compartments), or specialists from an audit firm, when it has to make the decision how to motivate or to stimulate the personnel in order to become efficient in work team. The purpose of this stage of the treatment is to reduce the risk impact, which has to be managed, respectively, to elaborate and implement a risk management plan when potential risk becomes effective risk.

The implementation of the best solution has to be monitored in order to see if: the possible change of the conditions requires other alternatives; the indicated way is the followed way, the consequences are those foreseen. It is necessary:

- to establish standards;
- to implement methods;
- to note if the standards are complying with;

- to make decisions about corrections.

Risk management plan is revised, improved, brought up to-date.

Total removing of the risk is a utopia or, nevertheless, an inefficient option from the costs viewpoint. Risk has to be monitored when risk limit - from the probability and the impact viewpoint - becomes unacceptable, risk reduction is required.

The ostrich strategy, the prayer strategy, the denial strategy (often used) did not come to any results.

In our times, characterized by uncertainty, when changes took place ceaselessly, beside the traditional management, the management by objectives and the transversal management, the contextual management is imposed to be used in change risk management. This requires: more competence, consistency in practice and mental representations, more agility and directivity at the various levels of the organization that is more autonomy, adaptability and resilience from the actors and of each process, too.

Contextual management supposes:

- Change of hierarchy object; functions do not form on the hierarchical system but flow and processes as regards the three risks classes lead to a multiple organizational hierarchy of steering: risks hierarchy, indicators hierarchy, objectives and actions plan hierarchy;
- Each actor, regardless of mission and level of responsibility, is confronting with uncertainty and has to meet many internal and external expectations; it can be considered as a micro enterprise which assumes risks and deals with them in his or her area of autonomy, it has to be adjusted at the operational level and to organize the work in divided time, it has to develop permanently competences, it is more and more responsible and has to meet the expectations of the involved parts, it becomes the only responsible for its future utilization and for its plan of development.

J.C. Serres suggests changing the usual imaginary of the management, dissociating it into two imaginaries:

- 1) The imaginary of the management system – the ensemble of decisions made by each actor can be represented through a systemic dynamic and chaotic model; management system takes into consideration the ensemble of interactions of essential decisions adopted by each actor of the enterprise in order to master its dynamics and to preserve its agility to reduce chaotic effects; also, it will react as a macro regulator PID (proportional, integrator, derivative) at the various risks of unpropitious incidents, weak signals and other variations of the steering indicators;

2) The imaginary of the person as his or her own manager or as a manager of his or her relationships with others (hierarchical or not) – systems and actors – managers work thus to be adaptable to the context and to the level of risk; they are transversal (transversal management) and over the hierarchical or legal structure of the firm; to manage becomes an essential competence as the one of communication or the one of using data processing tools, a generic competence for everybody.

Contextual management as an intelligent agent responds to the risks of unpropitious incidents, inherits competences of the traditional management, processes of the management resulted from the overall organization, rules attitudes and behaviors of the actor inside the firm (self management), it is equipped with features and processes of improvement.

In figure 1 [1] are shown the four fields of activity – the processes from the contextual management with its levels of risk and characteristic strategies and the autonomous management.

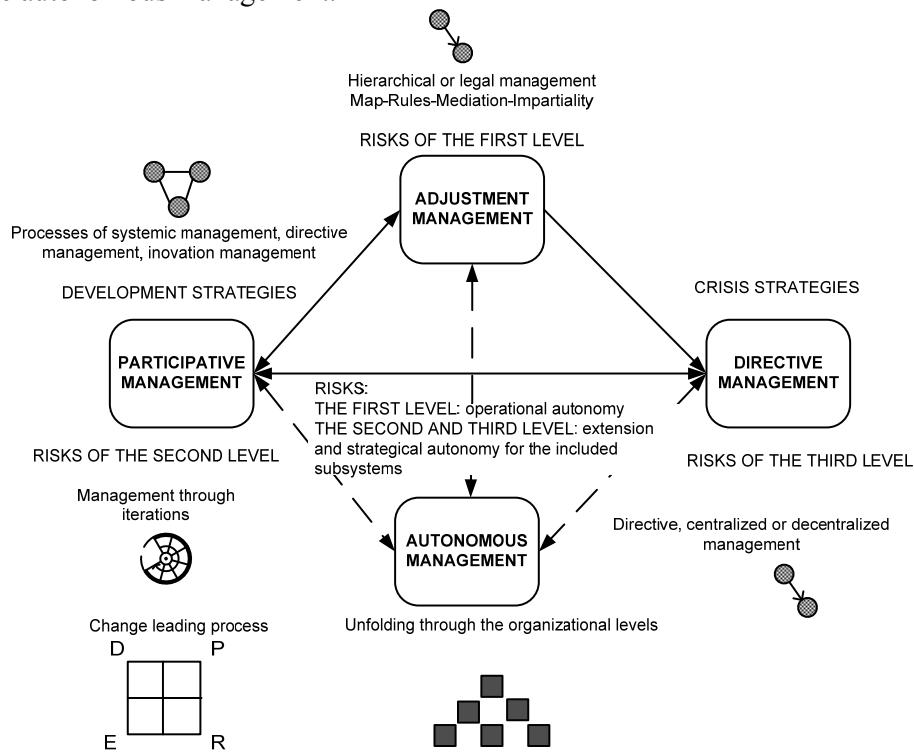


Fig. 1. The tetrahedron of the contextual management system

The representation can characterize a firm, a person – endowed with a system of management – but also a group of partner enterprises.

This model, applicable in change risk management (CRM), has as an objective the increase of agility (capacity of anticipation, of reaction and of adjustment) through the adoption of the parameters of working depending on context. The risks of unpropitious events and the signals that will permit the adaptation of the system will be given by the evolution of the contexts and the level of the overall risk.

CRM supports the creation of the new, of the double imaginary of the management; it allows each person to minimize different risks at which he or she is liable to deal with the increase of uncertainty and of disloyalty – on all levels: professional, personal, familial, civic – to achieve the required conditions in order to get the loyalty of the relationships, the decrease of the uncertainty and the reduction of the overall risks.

Management has to establish the actors' participation through mediation. It assumes implication, mobilization and motivation.

Motivation is made through a motivational management with the following parts:

- classical motivation (in the style used by coach in big competitions) which is very effective in situations of crisis or of competition but may become a boomerang on long term;
- collective mobilization on a certain project which is, however, consumer of important resources;
- personnel implication to perform tasks for which it is rewarded – through good communication as concerns the objective and the stake, delegation of getting solution, carrying out plans of action, respectively, a semi directive management: directive as regards the meaning (prescriptor), the objective (the pilot or the head of the mediator project), participative and autonomous concerning the chosen solutions, taking into account that the actor is a resource who creates added value and not a simply performer of the pre-established advice.

The system of management through mediation or “triangular management” is shown in figure 2 [3].

The introduced model allows to rationalize and to improve making and fulfillment decisions with positive effects on the efficient utilization of resources, generally, and of power resources, particularly, which are limited.

The change, with all associated risks, requires that all involved actors to be synchronized. In order to fulfill it, the basic elements of the change leading and those of the systemic management are combined. The result is dealing with and accelerating the change in a complex and less predictable environment. It is necessary to implement a participative management as to change on the

organizational and behavioral level assumes risks, an attitude of repulsion in the first stage and it has to sound current or put up-to-date problems of ethics, ambitions, values, fear and uncertainty, integration, individual or collective social image, without straight relationship with the initial target of the change.

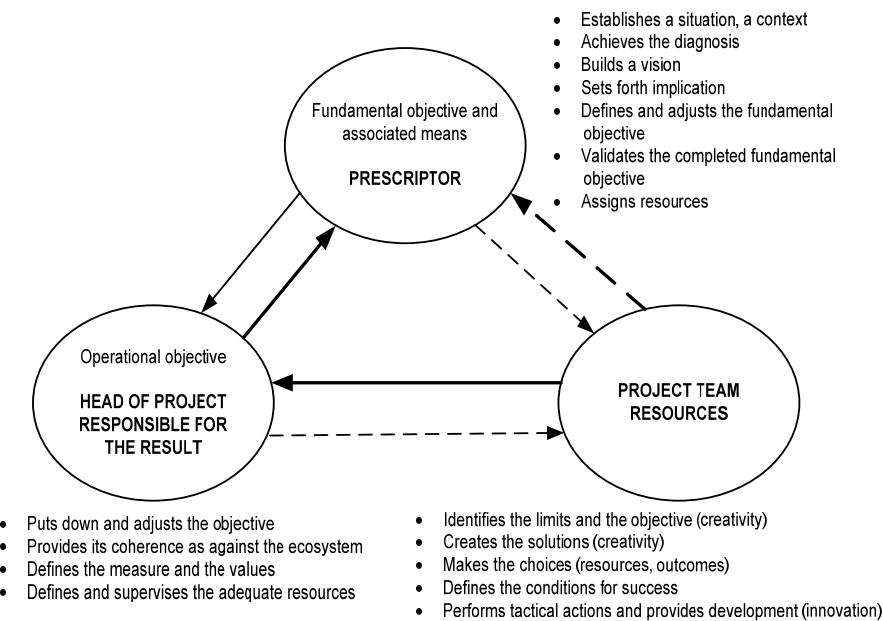


Fig. 2. Mediation management – The triangular relation

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The issue is more difficult in the energy systems, which have specific characteristics about: the large volume of the involved investments, the decrease of the existing power resources used on terms of the assurance of a sustainable development, the pollution determined by them, quasi simultaneity of the energy

production and consumption, big variations of charge (determined by consumers, suppliers, weather conditions, state of equipment, available information and so on).

Change management, generally, and change risk management, particularly, has to use creativity tools resulted from the practice of complex thinking.

The method of complex thinking was shown by E. Morin in his work 'La méthode'. It allows us to build in order to work out the sense, to operate and to communicate, answering the questions: Why? How? What are we doing? The three levels can be modeled through the SEA acronym: Sense, Energy, and Aspect. It is a model of fractal type, for each level we need to take into account each of the three sublevels: S (s;e;a) E (s;e;a) A (s;e;a). Therefore, it can build a synthetic complex mental representation which is in the spirit of SD 21000 guide of the sustainable development.

Innovation plays an important role in change risk management with consequences on the materialization of SD 21000 guide recommendations, which suggest, as part of an eco-conception to minimize material and energy required for working out, using and destroying any new product that is conceived. We can think up the map of the eco-management if we take into account the five principles: precaution, prevention, responsibility, implication and solidarity. It could turn the saving of material and physical energy into a saving of cognitive energy, a decrease of the informational pollution, a reduction of the present or future troubles of the involved parts.

Taking these aspects into consideration, in order to make progress in the practice of a contextual management system it must exist a series of factors of competences (shown in figure 3) [1].

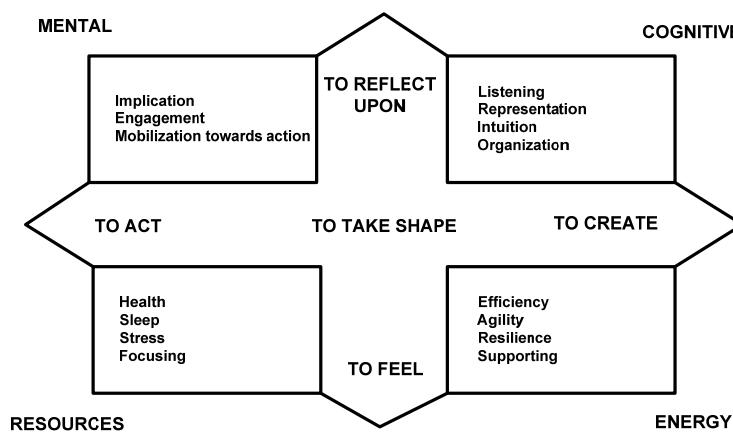


Fig. 3. Factors of competences

3. Conclusions

In the energy systems being under some permanent changes with significant consequences over the entire society, it is important to adopt the change risk management.

In the work it is suggested the application of contextual management and of triangular (mediation) management in order to manage change risks in connection with energy systems.

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