

Innovating of Management in Construction Industry as Integral Part of Environment Protection

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Abstract:

The perpetual changes met within the competitive environment require changing of management processes and present a constant and continuous demand for improvements in business operations. One of the results of this tendency is the project of organizational development and innovation of management in GRADIS group G d.d., including strategic planning of quality management and environment protection. In the project of restructuring of management, the key role is assigned to the innovating and optimizing of pivotal and support processes in the organization, also from the point of view of environment protection. The construction activity is one of the key activities exerting an essential and permanent influence upon the space and protection of environment. This influence starts already with space planning (architecture, etc.), preliminary works, construction, production and final utilization of a structure. Result of the organizational changes /which above all things alter the organizational culture and emphasize the significance of a multi-aspect and interdisciplinary cooperation/ is a new culture with clear objectives from the top management, adopted environmental values. An interconnected discharging of activities with emphasis on innovation of processes is one of the eventual factors that will pave way for a long-term subsistence and development of the construction industry, as well as continual development and protection of the environment. Such an approach should be reflected also in the economic effects of the operations of the construction industry.

Key words: construction companies, production processes, environment management, entrepreneur, innovation,

1 Introduction

The construction activity plays an important role in the Slovenian economy and is permanently confronted with a challenge how to improve the efficiency of the economic operations. The perpetual changes met within the competitive environment require changing of management processes and present a constant and continuous demand for improvements in business operations. One of the results of this tendency is the project of organizational development and innovation of management, including strategic planning of quality management and environment protection. In the project of restructuring of management, the key role is assigned to the innovating and optimizing of pivotal and support processes in the organization, also from

the point of view of environment protection. The construction activity is one of the key activities exerting an essential and permanent influence upon the space and protection of environment. This influence starts already with planning of space planning (architecture, etc.), preliminary works, construction, production and final utilization of a structure. The approach to the project of restructuring and innovating of management derives from the method of project management. The project management as the method of implementation of entrepreneurial opportunities has already become a well-established practice in numerous business systems, like in building industry where it represents a recognized business practice. The orientation towards the quantity of some specialized production has been replaced by the care for the

quality of a single product/structure tailored to the exact requirements of the investor. Spectacular changes in the expectations and demands on the part of the customers urge for the reduction of costs and increase of market competitiveness of business systems, which altogether requires the management to completely utilize all available resources. Nevertheless, the most precious elements of a business system remain the knowledge and creativeness of co-workers striving to the implementation of business vision. The shift from the classical hierarchic organization to the project management and innovation of business processes is perhaps a method of how to manage both human and material resources in order to achieve a better degree of utilization and competitiveness of the Slovenian economy within the common European region. At the same time, it also represents an opportunity to the management as well as encouragement to the co-workers.

Innovation is of vital importance not only for those who want to increase or sustain economic growth in a given area (region, state and the like) but also for those who benefit (in)directly. According to this, producing as much as possible is no more a central issue that should affect or change the economic course of development or improve quality of life. [16].

The entrepreneurial construction process is a complex and dynamic process that is difficult to manage without a comprehensive system consideration. Such an approach will soon bring to light the fact that both entrepreneurial and administrative types of management and conduction are interlaced in a company. The administrative conduction is focused on rational use of the existing production resources while the entrepreneurial method of management is focused on the searching and exploitation of business opportunities. Being that the vitality of business operations is achieved and confirmed through economic results scored by the company in the market, as great number of people in companies as possible should devote their abilities to a continuous searching, creating and exploiting of business opportunities. This is not far any more from the creative consideration in the sense of better efficiency.

2. Project management as the basic starting-point of management in building industry

New perceptions in the field of management direct business systems towards project execution of business processes. In the multitude of the great variety of tools

used for efficient conduction of business operations, project management is becoming one of the grips permitting decentralized and autonomous action and inclusion of both internal and external resources for an efficient responding to the challenges of market competition. In the field of building industry, project management represents a well-established practice. Project management as the central task of the managing process which is adequately connected with the tasks of company management is a professional managerial work requiring knowledge in the field of strategic planning of projects, preparation of project technology, time planning, preparation of project start-up, project economics, management, team work, etc. The point of view of environment protection is frequently overlooked. The project managers and their associates must therefore be qualified for an interdisciplinal and multi-aspect cooperation and incorporation of new points of view in mastering the construction process. This training is successful only in case when connected with particular projects. A successful project management can only be achieved by trained project managers and other leading personnel responsible for project execution. It is necessary to be acquainted with:

- theoretical starting-points for project management,
- methodology and tools for project management,
- role of project manager and collaborators,
- theoretical starting-points as basis for field execution,
- strategic preparation of projects ,
- preparation of projects start-up,
- role of management personnel in view of activities to be performed for better project management,
- analysis of efficiency of project management.

Successful, timely and optimal execution of projects with which the companies plan and perform their development are certainly criteria for their business successfulness. The strategies of the companies are put into life and successful and efficient business operation is ensured through the projects which are specially important for the survival and growth of companies. The projects thus play an important role in planning and development, taking into account that they always create something new and non-existing before. It can therefore be maintained that greatest achievements of the mankind, regardless of the field of activity, were performed as a result of projects execution. This fact has an exceptional significance in the construction business, considering its essential and permanent influence to the environment. The process of management must therefore be modified and innovated already when planning the structures, materials,

technologies, etc. so that the element of environment protection can be integrated in all final structural and purpose objectives. The gradual accomplishment of final target and purpose objectives leads to permanent development:

- FINAL PURPOSE OBJECTIVE: that final stage of a project as defined by the investor, representing also his desired final result;
- FINAL TARGET OBJECTIVE: representing such completion of a project ensuring all partial objectives for the accomplishment of the final purpose objective.

Project management is a collection of organizational tasks, techniques, skills and means required to run a project (according to DIN 69901). For a successful project work, the managing personnel of a company should fulfill the following requirements:

- defining of project objectives (with inclusion of environment protection objectives),
- providing of resources and financial funds,
- assigning of project trustee,
- providing the required information system,

The project manager, alone or acting within his project team, leads all the activities necessary for the execution of the project in compliance with the contract and valid legislation. While doing so, it is important to take into account the legislative aspect concerning environment protection and/or more than this, all in compliance with the requirements of ISO 14001:2004 standard .

3 Care for management innovation - care for environment

The term “innovation” is usually associated only with technology, in the strictest meaning of the word (new)products and new methods for making them). Nevertheless, innovation refers to the process of bringing any new, problem solving idea into use. Idea (as a step on their way to innovation) for reorganizing, cutting costs, putting in new budgeting systems, improving communication, or assembling products in teams are all innovations, provided the new idea is useful in its users’ judgement. Therefore, innovations in management methods and organizational practices constitute a wide range of opportunities for “corporate entrepreneurs” (Moss Kanter 1983: 20-21) as well as for other types of activating employees’ ability and motivation (eg. 20 keys method, environmental standards ISO 14001, social accountability standards-SA 8000, safety and health standards OHSAS 18001, TQM-total quality (as well as self-regulation and

business excellence) management and other innovation management methods) [16].

The inquiry for new products requires the improvement of administration measurement, to give up obsolete technologic products, procedures, personal and organizational culture, and so on. It is about two basic facts about the new period:

- 1) Things have been changing faster every day.
- 2) People are more and more different one from another.

The continual adaptation for enforcement of competitive ability of professional system dictates the stimulation of creativeness, intensity and novelty. Now business shows new context and new contrasts. [11].

WAS
“ Old Economy” Army
Steep, bureaucratic, with lots of “brass”
Slow but sure
Heavy and thus lethal
Overwhelming force, difficult to maneuver
Biggest Guns in Town
Soldiers in massed formation, riding in tanks and towing heavy artillery
Firepower-intense
Hierarchical, with independent units that relate via top-down command-and-control operations
Lots of friction, low coordination especially with other armed services and with government agencies
Very “real”
IS
“New Economy” Army
Flat, decentralized, with little “brass”
Fast and sure
Light but no less lethal
Precision munitions, able to “turn on a dime”
Smartest Systems on Earth
Units of five or ten “Army of One” soldiers, “armed” mostly with technology and capable of calling remotely upon an array of armaments
Information-intense
Network-centric, with interdependent groups that engage in ad-hoc operational planning
Friction-free, open communication – both within units and across organizational divisions
Very “virtual”

Figure 1: Contrasts between “Old and “New” Economy [11].

Effectiveness and successfulness are characteristics for these most developed, that basis on the price, quality, uniqueness and choice of tendered. But also of

environmental effectiveness. It is about the enforcement with the knowledge, creativeness, culture, where in its broadest meaning belongs also the permanent development and environment protection. In the near future the professional systems will be estimated and compared, they will compete also with it. Every day much more. Today many enterprises still compete with the environment unkind products and high energy consumption. The care for the enterprise dominates over the environment management. It is possible to preserve the competitive advantage especially with the totality between the planning, administration, control and comprehension of entrepreneur operation content. The domain of permanent development and dealing with the environment is very sensitive domain of the whole proceeding. For this reason the care for energy consumption is the component part of responsibility and obligations of management. The care for the energy depends first on administrative workers and their collaborators on all hierarchic levels. The classical operation, limited on the expectation of competitive success in the mass production is exceeded with innovative operation, that achieve the competitive position with different point of view, interstructural collaboration. To achieve this, it is necessary to influence on the starting point of most influential people in administration and content of administration-deciding. "That's why with system and systematic research and innovation of relationship between the people in the enterprise, who has for consequence also the product or service, it appears with them equivalently the system and systematically innovation of starting point for the individual (professional) deciding, that has for the consequence the knowledge examination, communication and professional label or (entrepreneur's) culture. [13]

In Slovenia's development strategy program through 2006, the sustainable concept of development was emphasized indicating that Slovenia's key future development goals will be directed toward balanced and total development of economic, environmental and social processes.

More than anything else, the transition to sustainable development paradigms requires companies to avoid economic decisions that undervalue environmental and social capital. In recent years, all European countries have been giving special attention to environmental and social issues and, as a result, environmental protection is among the key areas of future economic development [14].

4 Approach to environment management

The inclusion of enterprises in the international market, the care for reputation, that the enterprise profit with the environment protection and permanent development, places the politics of environment protection to the base of the professional politics.

The innovative operation is operation that, according to the production and all other its components is found on innovations. That's why the following characteristics indicate it:

- Each cost is basically unnecessary. It gets really unnecessary when we know and want to work in more intelligent way.
- Each product or procedure falls sooner or later out of use. So we must incessantly doubt about all given habits, although we count them (still) for perfect and correct. Otherwise we cannot achieve the contemporary quality of life.
- Everyone is concerned about the quality of life and for this reason (as possible as perfect!) Everyone is also concerned for quality of the whole operation and its all components. That's why we have to develop our brains and activate the creativeness of everyone.
- We should search constantly and everywhere the possible novelties! Only rare of them will become innovations, but without intended search, there will be even less of them, probably not enough.
- For this reason we should work as clever people and not as crazy people [2].

The basic aim of the environment audit is to increase the process efficiency or rather lower the loss of efficiency. This is why we determine where in the system the environment process was used efficiently and where environment losses were made on the basis of mass and environment balances.

Possible measures, which the environment audit can encompass, include the fields of organizational measures, reconstruction of existing installations and buildings, the use of modern equipment and techniques as well as the introduction of new technologies. In data acquisition, the quality of the cooperation between the conductor of the environment audit and the expert team working for the entity requesting the audit is of vital importance. The authenticity of data is a key to the successful execution of an environment audit. The presentation of an energy audit is an event, whereby we are educating the customer, investor, business financier, the user and in fact all participants in the decision-making process with regard to efficient energy use and investments. A presentation of an

environment audit is the first step to the implementation of organizational measures and establishment of favorable conditions for the implementation of investment proposals of the environment audit. An organization should implement an effective environmental management system in order to help protect human health and the environment from the potential impacts of its activities, product or services; and to assist in maintaining and improving the quality of the environment. Having an EMS can help an organization provide confidence to its interested parties that:

- a management commitment exists to meet the provisions of its policy, objectives and targets;
- emphasis is placed on prevention rather than corrective action;
- evidence of reasonable care and regulatory compliance can be provided ; and
- the systems design incorporates the process of continual improvement.

An organization whose management system incorporates an EMS has a framework to balance and integrate economic and environmental interests. An organization that has implemented an EMS can achieve significant competitive advantages [15].

Economic benefits can be gained from implementing an environmental management system. These should be identified in order to demonstrate to interested parties, especially shareholders, the value to the organization of good environmental management- It also provides the organization with the opportunity to link environmental objectives and targets with specific financial outcomes and thus to ensure that resources are made available where they provide the most benefit in both financial and environmental terms.

5 Environment management as competitive ability

New environment issues dictate the redefining of economic interests in the wake of the recognition, that the natural environment is a limited production factor and not, as had previously been considered, only the supplier of raw materials [17].

The integral-orientated mentality represents a deviation from the previously established linear way of thought and activity, which is no longer sufficient in the light of the contemporary complexity of events. However, these one-dimensional elements are soon faced with insurmountable obstacles. This is why the integration of energy goals into the system of entrepreneurial policy is so vital. In theory, we can

distinguish the ones, which pertain to the inflow (rational use of raw materials, materials, energy), and those, that relate to the outflow (absolute limitation of waste and emissions), with the simultaneous maximisation of waste re-use [10].

To effectively manage environmental concerns, the EMS elements should be designed or revised so that they are effectively aligned and integrated with existing management system elements. Management system elements that can benefit from integration include:

- organization policies;
- resource allocation;
- operational controls and documentation;
- information and support systems;
- training and development;
- organization and accountability structure;
- reward and appraisal systems;
- measuring and monitoring systems;
- communication and reporting [15].

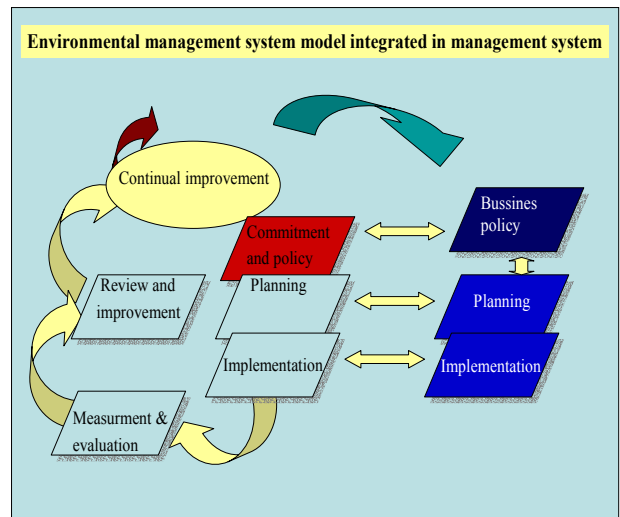


Figure 2: Environmental management system

The continual adaptation for enforcement of competitive ability of professional system dictates the stimulation of creativeness, intensity and novelty. and innovations [1].

The care for the environment and the permanent development depends first on administrative workers and their collaborators on all hierarchic levels. "That's why with system and systematic research and innovation of relationship between the people in the enterprise, who has for consequence also the product or service, it appears with them equivalently the system and systematically innovation of starting point for the individual (professional) deciding, that has for

the consequence the knowledge examination, communication and professional label or (entrepreneur's) culture. [3] The care for the enterprise and so the care for environment and permanent development claim (dialectic) system .

In the coming years the relationship to the environment management will be the key component of competitive ability. The role of leadership is so directed to the change of starting points of professional philosophy. [9]

One point of view of administrative measurement is substituted with many points of view, inter structural creative collaboration. Experience show that the environment protection and permanent development as a part of entrepreneur's philosophy is not carried into effect enough; this is so because of administrative workers, who were used to make decisions independently without collaboration of other experts. Without participation of everybody in the chain sequence and from here resulting co dependence it is not possible to expect the good results. The partial solution gives the partial results. The business system is not isolated from the environment, but it is co indedently interweaved with other business systems, that's why the environment protection and permanent development are also results of social environment.

The whole process of creative problem solving is a complex system in itself, dynamically changing over time, with permanently interacting system elements, it requires a systems thinking perspective in order to be understood and applied [2].

6 Conclusion

The potential benefits associated with an effective EMS include:

- assuring customers of commitment to demonstrable environmental management;
- maintaining good public/community relations;
- satisfying investor criteria and improving access to capital;
- obtaining insurance at reasonable cost;
- enhancing image and market share;
- meeting vendor certification criteria;
- improving cost control;
- reducing incidents that result in liability;
- demonstrating reasonable care;
- conserving input materials and energy;
- facilitating the attainment of permits and authorizations;
- fostering development and sharing environmental solutions;
- improving industry-government relations [15].

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