

Safety Management System- A Part of Environment Protection

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Abstract:

The article focuses on the issue of safety management system as a precondition for environment protection. The limited human and environment resources demand managers of organisational systems to perform alternative measures in managing organisational systems. Integrated Safety, Environmental and Quality Business Processes is becoming an important goal of entrepreneurial activity. Following a holistic approach to competitiveness, safety and environment protection is becoming an important tool in improving organization efficiency and increasing competitive power on the global economy market.

Key words: business , dialectic system, health, innovation, environment, management, safety, protection

1 Introduction

Health and Safety Management is important because of:

- Ethical,
- Regulatory,
- Economic reasons,
- Corporate[1].

Environmental management system integrated the same requirements. Integrated both systems with innovation has an important role in the future. The role and significance of health and environment protection is becoming ever more important in the competitive market. Safety management system is part of environment management system and environment management system is a part of safety and health system. All together with innovation are of vital importance of business system. They are 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 [15].

The task held by management is orientated towards changing the organisational culture, structure, business processes, and products. It is about a new approach in managing the organisation, safety and environment resource planning in society.

2 Safety and Environmental Management Systems

Organizations of all kinds are increasingly concerned with achieving and demonstrating sound safety and environmental performance by controlling the impacts of their activities, products and services on the environment and health, consistent with their safety, health and environmental policy and objectives. They do so in the context of increasingly stringent legislation, the development of economic policies and other measures that foster safety, health and environmental protection, and increased concern expressed by interested parties about safety and environmental matters and sustainable development [13]. 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's judgement [7]. 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) [15].

2.1 Safety Management Systems

In efforts for the improvement of position on the purchaser's market the companies must also consider accordance of operation with valid safety and health protected prescriptions in field of process consumer. The inclusion of enterprises in the international market, the care for reputation, that the enterprise profit with the safety protection and permanent development, places the politics of safety protection to the base of the professional politics [6]. Fourteen elements of the OSHA Process Safety Management (PSM) Standard (29 CFR 1910.119) are:

- Employee participation,
- Process hazards analysis
- Operating procedures
- Training,
- Contractors,
- Pre-start-up safety review,
- Mechanical integrity,
- Hot work permit,
- Management of change,
- Incident investigation,
- Emergency planning and response,
- Compliance audits,
- Trade secrets [1].

OHSAS 18001:1999 Occupational Health and Safety Management Systems (International) based on:

- Health and Safety Policy,
- Planning,
- Health and Safety Organization,

- Implementation and Operation,
- Checking and Corrective Action,
- Management Review.

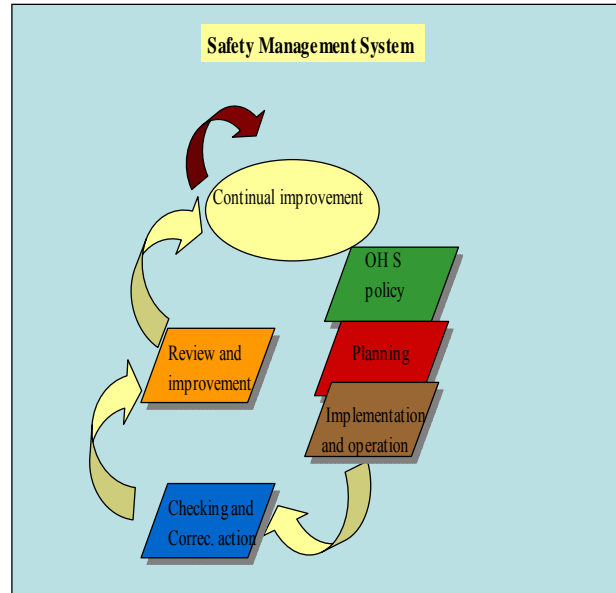


Figure 1: Safety Management Systems

2.2 Environmental Management Systems

The environment protection and permanent development is too a basic component of the basic politics and it is confirmed by the highest administration agency. It is about the important decisions about the basic goals of operating and development. It is about the acceptance of basic principles values and rules. The current position of an organization with regard to the environment can be established by means of an initial processes, innovative operations and management review. The innovative operation is operation that, according to the production and all other its components is found on innovations. The initial review can cover the following:

- identification of legislative and regulatory requirements;
- identification of processes, innovative operations;
- identification of environmental aspects of its activities, products or services so as to determine those that have or can have significant environmental impacts and liabilities;

- evaluation of performance compared with relevant internal criteria, external standards, regulations, codes of practice and sets of principles and guidelines;
- existing business, processes, innovations, environmental management practices and procedures;
- identification of the existing policies and procedures dealing with procurement and contracting activities;
- feedback from investigation of previous incidents of non-compliance;
- opportunities for competitive advantage;
- the views of interested parties;
- functions or activities of other organizational systems that can enable or impede environmental performance [14].

The process and results of the initial environmental review should be documented and opportunities for EMS development should be identified. Such a partial approach can lead to technically and economically inappropriate solutions. It was conceived in the frame and interdependence of both objective and subjective starting points of initial change agents as well as from process knowledge of process managers. New dimensions like business excellence, production processes innovation, companies' capacities and opportunities for continuous innovation, as well as values, knowledge, skills and feelings of change agents, will be added to the basic model [15]. Possible measures, which the lean organization can encompass, include the fields of organizational measures, reconstruction of existing processes and products, the use of modern equipment and techniques as well as the introduction of new technologies. The dimensions of business excellence, especially production excellence, of production processes renovation, a company's or other organization's capacity to innovated as well as the values, knowledge, skills and feelings of production processes innovation agents, are added to the basic model [4]. Figure 1 presents an approach to environmental management system integrated with other management requirements.

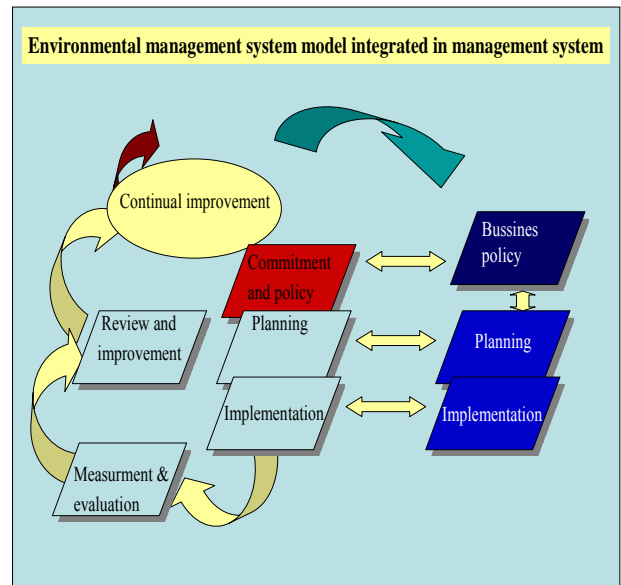


Figure 2: Environmental management system integrated with other management requirements [10].

3 Planning

An organization should formulate a plan to fulfil its business policy. Business policy should integrate safety, environmental and quality policy. New economic 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. These have previously been free goods without an assigned market value, while the environment has been an agent for the neutralisation of wastes and emissions of production and consumption [3]. 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 environmental goals into the system of entrepreneurial policy, with safety, environmental and quality policy, is so vital. In theory, we can distinguish the ones, which pertain to the inflow (rational use of raw materials, materials, energy, etc.), and those, that relate to the outflow (absolute limitation of waste and emissions), with the simultaneous maximisation of waste re-use [12].

Managers engage in certain basic activities. These activities are often grouped into conceptual categories

called the functions of management. These categories are:

- **Planning** – deciding what objectives to pursue during a future period and what to do to achieve those objectives.
- **Organizing** – grouping activities, assigning activities, and providing the authority necessary to carry out the activities.
- **Staffing** – determining human resource needs and recruiting, selecting, training, and developing human resources.
- **Leading** – directing and channeling human behavior toward the accomplishment of objectives.
- **Controlling** – measuring performance against objectives, determining the cause of deviations, and taking corrective action where necessary [9].

The environmental and safety management system elements relating to planning include:

- identification of environmental and safety aspects and evaluation of associated environmental and safety impacts,
- legal requirements,
- safety and environmental policy
- internal performance criteria,
- safety and environmental objectives and targets,
- safety and environmental plans and management programme.

The function of management are merely categories for classifying knowledge about management. Because management functions overlap, it is difficult to classify them purely as planning, organizing, staffing, leading or controlling. But for safety and environmental management system are important [10]. Categories for planning are:

1. Perform self-audit-determine the present status of the organization.
2. Survey the environment (safety).
3. Set objectives.
4. Forecast future situation.
5. State actions and resource needs.
6. Evaluate proposed actions.
7. Revise and adjust the plan light of control results and changing conditions.
8. Communicate throughout the planning process [10].

For safety and environmental management system necessary categories are:

1. Hazard Identification
2. Risk Assessment
3. Risk Prevention and Control
4. Emergency Planning

4 Hazard Identification

The environment and safety identification is a complex process. An organization's policy, objectives and targets should be based on knowledge about the safety and environmental aspects and significant safety and environmental impacts with its activities, products or services. This can ensure that the significant safety and environmental impacts associated with these aspects are taken into account in setting the safety and environmental objectives. Important is, that the identification of the safety and environmental aspects is an ongoing process that determines the past, current and potential impact (positive or negative) of an organization's activities on the safety and environment. This process also includes the identification of the potential regulatory, legal and business exposure affecting the organization. It can also include identification of health and safety impacts, and environmental risk assessment [15]. The identification of safety and environmental aspects and the evaluation of associated safety and environmental impacts is a process that can be dealt with four or more steps.

Step 1 – Select an activity, a product or service

The selected activity, product or service should be large enough for meaningful examination and small enough to be sufficiently understood.

Step 2 – Identify safety and environmental aspects of the activity, product or service

Identify as many safety and environmental aspects as possible associated with the selected activity, product or service.

Step 3 – Identify safety and environmental impacts

Identify as many actual and potential, positive and negative, safety and environmental impacts as possible associated with each identified aspect.

Step 4 – Evaluate significance of impacts

The significance of each of the identified safety and environmental impacts can be different for each organization. Quantification can aid judgement [15].

In this process the role of management is shown in creativeness for the support of collaborators' creativeness. The administrative innovation is so a segment in the innovative business safety and environmental system. In the example of safety and environment protection it is necessary that we are as much collaborative, creative and target directed as possible [8]. To the purpose of safety and environment preserving development, the aims of environment protection are also:

- Changes in production and samples of use, that contribute to the minimisation of natural sources use and creativeness of waste,
- Development and use of such technologies, that decrease and suppress environment charges,
- Use of harmless and decomposed chemicals and substances that have not been accumulated in alive organisms, etc. [12].

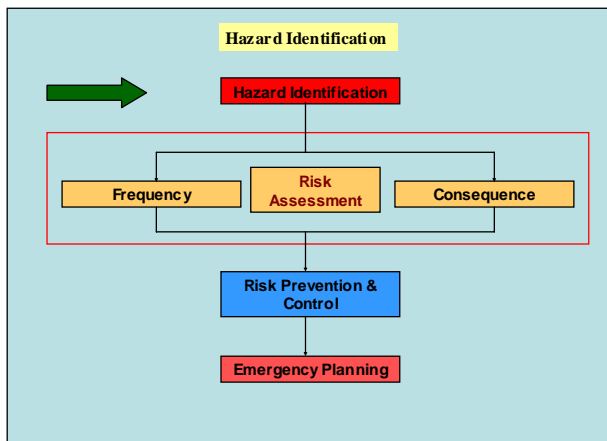


Figure 3: Safety and Environmental Hazard Identification

Some methods in the process hazard identification are:

- HAZOP (Hazard & Operability) Studies,
- "What is" Analysis,
- FMEA (Failure Modes and Effects Analysis,
- Checklists,
- Task Analysis,
- Delphi
- Safety and Environmental audits, etc.

5 Conclusion

Top management has a key role to play in building awareness and motivating employees by explaining the organization's safety and environmental values and

communicating its commitment to the safety and environmental policy. It is the commitment of the individual people, in the context of shared safety and environmental values, that transforms an safety management system, as a part of environment protection, from paperwork into an effective business process.

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