



DEVELOPMENTS AND TRENDS IN INTEGRATED MANAGEMENT SYSTEMS

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Abstract: *The paper is dealing with development and approaches to integration of management systems that have become an increasingly important issue for forward-looking organisations. Any certified management system often does not lead to high productivity and competitiveness if it is understood as an isolated system. The contemporary trends aim to complex integration of management systems when to quality management system (QMS), environmental management system (EMS) and occupational health and safety system (OHSAS) are incorporated other organization management sub-systems, e.g. risk management system, corporate social responsibility, energy management, etc. The degree of the management systems integration depends upon the specific needs of the organization. This integration approach brings many benefits but also some limitations.*

Keywords: *management, quality, environment, health, safety, risk*

INTRODUCTION

The current period is the era of quality since the quality of products, services, materials and software is today very important aspect because their offer is higher than their sale. Regarding the market satiety, creation of products interesting for customers ready to pay for them is dominant in comparison with the production growth. The focus has transferred from quantity to quality. The times of goods and services shortage in the market and when the customer bought anything are far away. At present the demands of customers are more different and require goods and services at higher and higher level. Products supplied by the firms have to meet demanding requirements and also must conform to the social requirements for protection of natural environment, health and safety and so to meet demanding requirements resulting from laws, regulations and also moral codex. Whereas in the past injuries of persons, damages and pollutions caused by defected products or services were not accepted as decisive matter, today the producer is legally responsible for these matters [5].

1. INTEGRATION OF ISO 9000, ENVIRONMENTAL MANAGEMENT SYSTEMS AND OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS

The first compact field, where the management of the Slovak industrial enterprises has gained any experience, was the quality management system according to the ISO 9000. This system has become necessary marketing-commercial condition and basic assumption of products and services saleability for the majority of the Slovak enterprises.

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The **ISO 9000** family of standards (1.version 1987) have their origin in the USA military standards. Within several years practically all industrial countries adopted these standards to their national systems. In 1994 so called “small revision” of the ISO 9000 was realized. The ISO 9000:1994 family of standards had universal character and in consequence of this the formulations were too general, uncertain and some especially beginning organizations were not able to master the application of the standards requirements into practice. They presented file of minimum requirements that should be implemented in organizations; the principle of continuous improving was missing. In 2000, the great principal revision of the ISO 9000 family of standards, that are based on the system access to quality and use of managerial methods and tools, was realized.

From the above mentioned follows that the system of ISO standards is constantly developing and enhancing and not only from the view of the range of including fields but also from the view of approaching to the other aspects of human activity, human needs and interests, e.g. safety and health protection, protection of natural and working environment, data protection and security, social responsibility of organizations, etc., that cannot be omitted at any level [2].

The greatest damages to natural ecosystems are caused by business sphere. In the past, many industrial enterprises did not feel directly the impacts of their negative acting on the natural environment and therefore they did not deal with these problems. Therefore it was necessary to force them to be active in the natural environment protection through legislative and environmental politics. At present, the enterprises have to respect more and stricter requirements for natural environment protection including integrated prevention and control of pollution and a lot of legal regulations related to natural environment. The Environmental Management System (EMS) enables to master these tasks and also to obtain the competitive advantage.

At present two systems of environmental management are applied in Europe [6]:

- **EMS** (Environmental Management System) presented by the ISO 14000 family of standards that proceeds from ISO 9000, it is concentrated not on the quality but on the impact of production and services on natural environment.
- **EMAS** (Eco-Management and Audit Scheme) based on the Council Regulation (EEC) No.1836/93.

OHSAS 18001 (Occupational Health and Safety Management System) is international standard that presents requirements for safety management system and occupational health protection, enables to manage relating risks and improve the enterprise performance. OHSAS is applicable for each organization that is going to certify the system of the safety and health protection at work [3].

Although the requirements of the above mentioned standards ISO 9000, ISO 14000 and normative recommendation OHSAS are different concerning their scope, their structure of requirements, processes for their implementation and maintenance are very near (Figure 1).

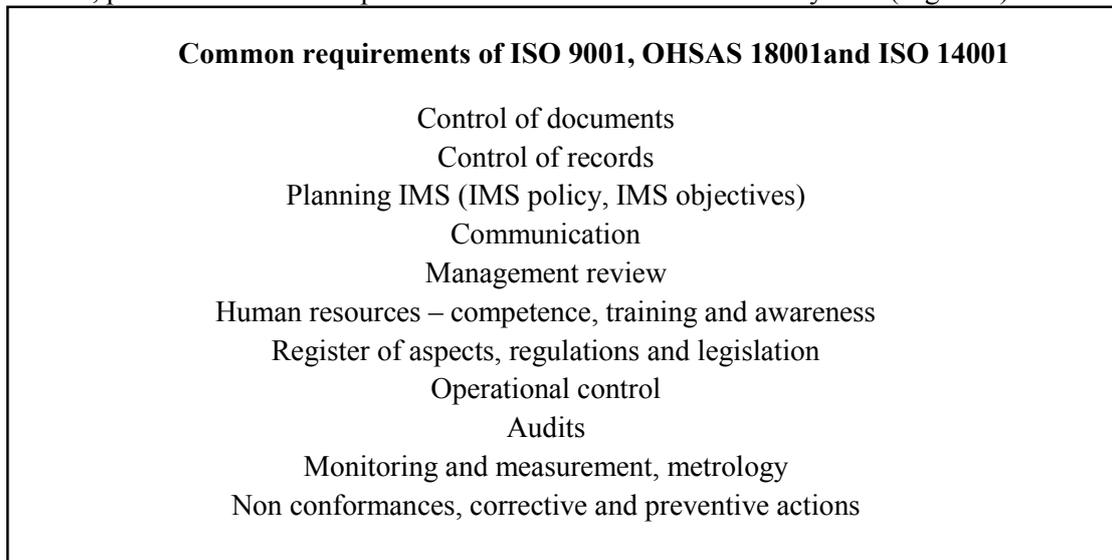


Figure 1 Common requirements of ISO 9001, OHSAS18001 and ISO 14001

From this follows that assurance of these requirements within integrated management system (IMS) is less demanding especially from the view of costs in comparison with autonomous isolated systems. Integrated system involving requirements of standards ISO 9001, ISO 14001 and normative recommendation OHSAS 18001 is one of the most often introduced integrated management system. Deming model of continuous improvement PDCA, that presents the basic platform of all three above mentioned systems, brings the compatibility among their requirements and enables to synchronize the requirements of individual systems into one integrated management system [3].

From the view of actual trends the QMS, EMS a OHSAS systems are joined by other subsystems of enterprise management, e.g. risk management system, data security system, energy management, corporate social responsibility and other systems necessary for assurance enterprise competitiveness. Especially the importance of the risk management is going to increase considerably in the near future.

2. DIMENSIONS OF THE INTEGRATION OF MANAGEMENT SYSTEMS

Each enterprise, in accordance with its own objectives, concentrates on satisfaction of the requirements of the five groups of its stakeholders that include staff, customers, suppliers and partners, owners and investors, neighbours and the public. Requirements of these stakeholders refer to work conditions, motivation, quality, service, reliability, value enhancement, risk management, environmental protection, etc.

When designing an IMS it is useful to break down it into several dimensions (Figure 2).

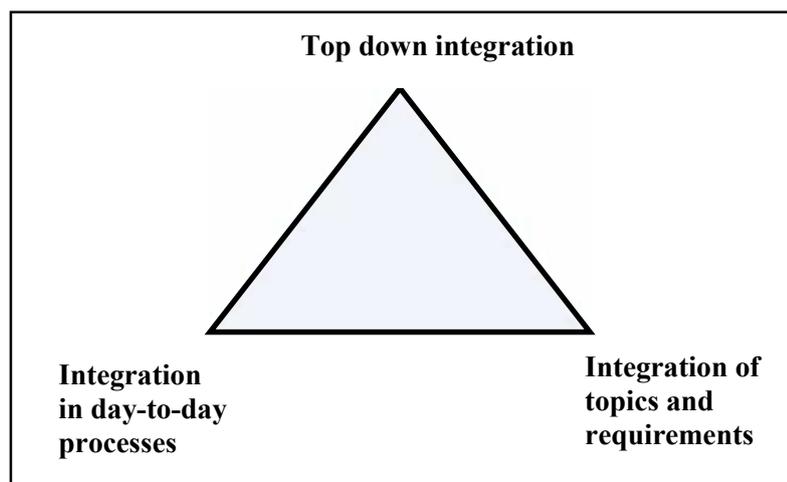


Figure 2: Dimension of the integration of management systems [1]

The top down integration is a basic requirement that means the enterprise mission and strategy will be reflected in its processes since the value is added just through the best possible integration in the value-oriented processes. Integrated management system requires a consistent leadership framework that allows understanding the different requirements of the individual management systems and so to satisfy them in accordance with the enterprise values.

The integration of topics and requirements is usually given the maximum priority when designing an IMS. The requirements of the individual stakeholders often correspond with the requirements resulting from standards. While in the past these requirements were perceived in an isolated manner, at present understanding the connections and interrelations of processes is required. This enables to integrate the different requirements and keep the documentation of the IMS simple, understandable, easy to amend and enhance.

The integration in day-to-day processes considers the fact that a lack of consistency is more probable in implementation than consistent practice. So the importance of the leadership tasks of implementation and enforcement becomes apparent. Rooting the management system in day-to-day processes brings alive and effective economic benefit [1].

3. APPROACHES TO INTEGRATING MANAGEMENT SYSTEMS

At present the principle not to look at various but closely coherent systems as isolated and mutually independent systems is generally applied and the effort to put them on common base – modern management of processes is pursued. Based on the experience of people working with IMS, the following ten approaches to IMS have been defined [1]:

- **Approach through stakeholders** - ensures balance and reconciliation of interests. It is important to take into account the requirements and expectations of all stakeholders and to find an adequate balance. ISO 9004 approach to integration is based on the five stakeholders of employees customers, owners, suppliers and society.
- **Approach through strategy** - consolidates the operating business. Top down integration should be consistent, target-oriented action in all important fields of enterprise. Harmonisation and consistency of the targets down to the process and process indicator levels should be supported by the management system.
- **Approach through organisation** - creates effective structures. Documents as organisational chart, jobs description, position descriptions, etc. and process model (structure) should be reviewed and supplemented by requirements from the models to be integrated.
- **Approach through employees** - fills a management system with life. The involvement of the staff, increasing their awareness of the IMS advantages, further development and the avoidance of discouragement are major factors of success.
- **Approach through process management**- provides a basic framework for designing processes. The enterprise process model forms the important basis for the integration of additional topics relating to the environment, safety, health, risk and further specific requirements.
- **Approach through key performance indicators** - makes effects measurable. It is important to put the key performance indicators into an appropriate context, process them together and to use them jointly for decision-making in the future.
- **Approach through legal certainty**- creates a court-proof organisation.
- **Approach through rules and standards** - creates an overview and synergies. Overlapping requirements are worked on and documented only once in an integrated management system. So the regulations resulting from this process cover overlapping requirements and the overall system documentation is lean.
- **Approach through documentation** - reduces effort and boosts acceptance. The aim is to create a single integrated, self-contained set of rules for mapping several requirement models. Duplications and possible contradictions are identified and avoided.
- **Approach through established methods** - makes successful implementation easier. Methods (PDCA, Q7, M7, 5S, FMEA ...) reduce complexity and support the visualisation of challenging situations and the decision - making process, taking into account all relevant aspects. It is important to have professional competence when working on a specific task.

The degree of enterprise management systems integration depends upon its specific needs. Each enterprise should evaluate its applied management systems and then decide how the processes within those systems can be integrated to achieve the best results. Although the enterprise is able to integrate the systems, the consultations with specialist to ensure that regulatory requirements are identified, met and continually improved are necessary.

4. BENEFITS AND LIMITATIONS TO INTEGRATING MANAGEMENT SYSTEMS

Development towards the integration of management systems is required also by actual worldwide trends of enterprise management. But there is no just one rule how to integrate the management systems. Each enterprise has to consider the nature of its business when deciding how far the integration will be applied to bring the best results.

There are many **benefits** to integrating the enterprise management systems that include [7]:

- **Simplification of systems** – employees use only one set of working instructions and so the confusion, resulting from the use of documents from different management systems that can be sometimes conflicted, is minimized.
- **Optimized resources** – if one system meets the requirements of all systems, then the resources for development, implementation and maintenance of one integrated system are minimized in comparison with resources required by separate systems.
- **Improved organizational performance** – a formal system, that helps to identify potential problems and risks, can reduce also costs associated with these risks.
- **Integration of management systems objectives into the overall business strategy** – this fact indicates the importance of the effective complex enterprise integration as a base for the enterprise competitiveness.
- **Established framework for continual improvement of the integrated management system**- the goals and objectives of the IMS are reviewed at the regular intervals, necessary corrective and preventive measures are accepted and also the opportunities are defined. This results in improved enterprise performance.

There are also **limitations** to integrating the enterprise management systems that include [7]:

- **A tendency to develop over-documented bureaucratic processes** – it is necessary to avoid writing uselessly lengthy procedures and working instructions that “do not let the people do their business”.
- **Turf battles** – if the QMS already exists in the enterprise, professionals from other fields often resist tackling their requirements onto the existing QMS. And likewise, the quality professionals do not like requirements in their system that do not relate to quality.
- **Limits on degree of integration** – some management systems are highly compatible, but requirements of some of them is not possible easily integrate with existing quality system.

CONCLUSION

The integration of management systems is a very important tool to reduce the complexity of enterprise management system and therefore it is becoming more and more important. This integrated view of management systems is supported also by the International Organisation for Standardisation (ISO). The ISO members have made considerable progress in the harmonisation of texts and standards structures what leads to the holistic concepts in enterprise management e.g. context of enterprise, leadership. It is expected that in the future the enterprises will be able to meet all requirements only through a single comprehensive integrated management system that will contribute to the enterprise success.

LITERATURE

- [1] Quality Austria: Integrated Management Systems The Position of Quality Austria. Edition 02/2012/[online]. [cited 17March 2012]. Available at: <http://www.qualityaustria.com/0112011>
- [2] Nenadál, J. et al: Moderní management jakosti. Praha: Management Press, s.r.o., 2008. ISBN 978-80-7261-186-7
- [3] Veber, J. et al: Management kvality, environmentu a bezpečnosti práce. Praha: Management Press, s.r.o., 2010. ISBN 978- 80-7261-210-9
- [4] Makýš, P., Šlúch, M.: ISO 9001: 2008 a jeho interne audity v praxi. Trenčín: PrintCity Slovakia, s.r.o., 2009. ISBN 978-80-970150-2-0
- [5] Kmet', S. et al: Komplexný manažment kvality. Žilina: EDIS - Vydavateľstvo Žilinskej univerzity, 1998. ISBN 80-7100-562-2
- [6] Mateides, A. et al: Manažérstvo kvality. Bratislava: Ing. Miroslav Mračko, 2006. ISBN 80-8057-656-4

[7] McDonald, M., Mors, T., Philips: A.: Management System Integration: Can it be done? In: Quality Progress. October 2003. ISSN: 0033-524X.

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