

USAGE OF MANAGEMENT SYSTEMS IN THE CZECH REPUBLIC

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Abstract

Quality Management Systems (QMS) and Environmental Management Systems (EMS) are important voluntary tools used by the business sphere and other organisations in the world, as well as in the Czech Republic, for the management of the quality and the impacts of their activities, products and services on the environment. The paper presents QMS and EMS as a tool for the management of the quality and the environmental aspects and impacts of organisations, depicts the development of their implementation into the practice deployed by organisations around the world and in the Czech Republic in the last 18 years and highlights the systems' benefits for the society and for the organisations themselves.

Key words: management system, quality management system, environmental management system

JEL Code: M11, Q01

Introduction

A quality of processes and products and an organization's responsible approach to environment require many changes. These have to include not only specific rectifying measures, usually of technical and/or technological nature, but primarily the entire management system in the organization. Wider proactive attempts at the integration of quality, environment protection and sustainable development aspects into management systems were one of the most important factors of the business politics in the early 1990s. So-called Quality Management Systems (hereinafter referred to as QMS) and Environmental Management Systems (hereinafter referred to as EMS) have been formed and gained wide support from the business sphere.

Organisations often use ISO line 9000 international norms for the building of their QMS. The set of norms was approved in 1987, with the aim to help organisations of all types and sizes to implement effective quality management systems. The set has been updated repeatedly (most recently in 2008, in the Czech Republic as criteria norm ČSN EN ISO

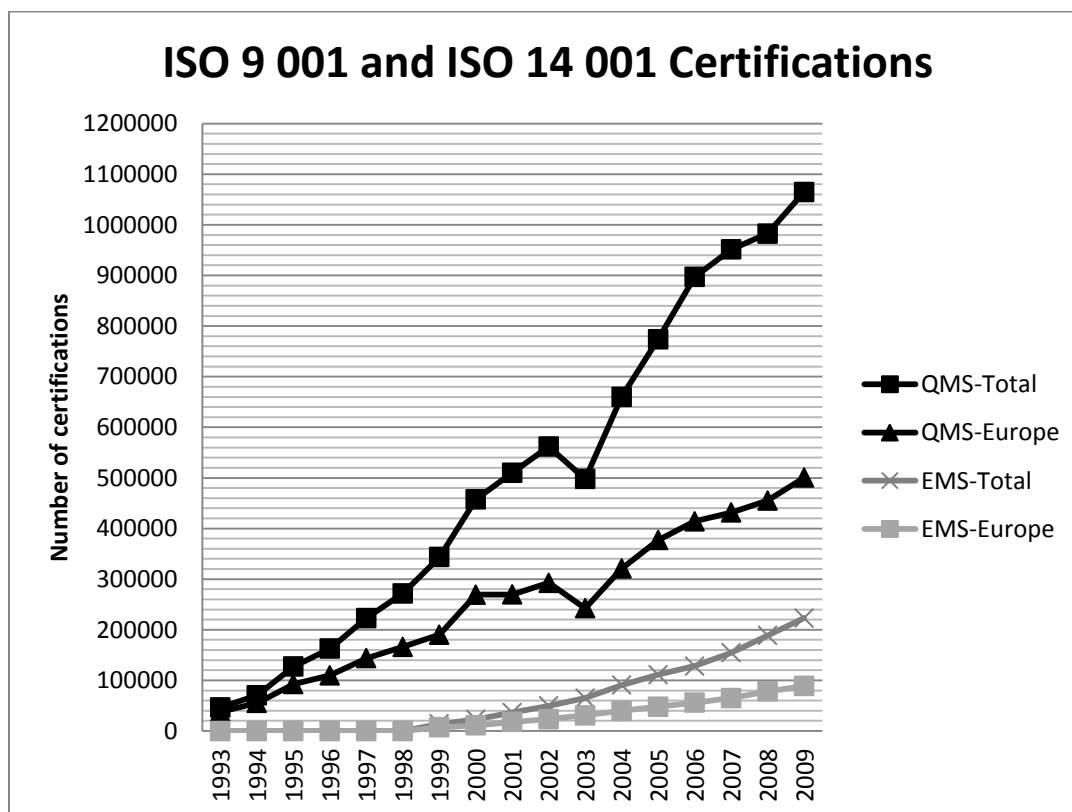
9001:2009). There are essentially two standards for the implementation of EMS: ISO 14000 line technical norms (represented in the Czech Republic primarily by the core norm ČSN EN ISO 14001) and a directive of the European Parliament and Council on voluntary participation of organisations in the corporate management and audit system from the point of view of environment protection (Eco-Management and Audit Scheme – hereinafter referred to as EMAS).

The paper presents QMS and EMS as a tool for the management of the quality and the environmental aspects and impacts of organisations, depicts the development of their implementation into the practice deployed by organisations around the world and in the Czech Republic in the last 18 years and highlights the systems' benefits for the society and for the organisations themselves.

1 QMS and EMS usage in the world and in the Czech Republic

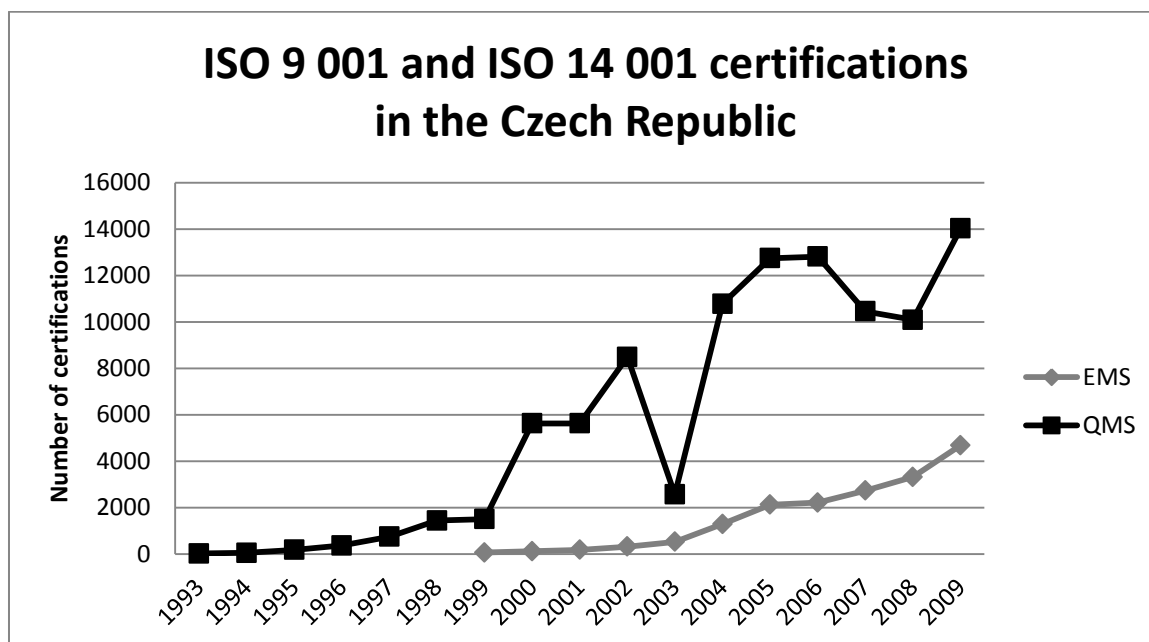
Figures no. 1 and 2 depict the development of the no. of organisations that have (or have had) management systems certified according to the norms ISO 9001 or ISO 14001. The no. of ISO 9001 certificate holders in the world was five times higher as of the end of 2009 than the no. of ISO 14001 certificate holders. The development in Europe was similar, as the no. of ISO 9001 certificate holders was 5.6 times higher than the no. of ISO 14001 certificate holders. The Czech Republic reported three times more ISO 9001 certificate holders than EMS certificate holders as of the end of 2009.

Fig. 1: Development of the no. of certified organisations around the world and in Europe in 1993 – 2009



Source: Processed acc. to ISO (2012)

Fig. 2: Development of the no. of certified organisations in the Czech Republic in 1993 - 2009



Source: Processed acc. to ISO (2012)

1.1 Implementation and certification of QMS in the world and in the Czech Republic

QMS built in compliance with the ISO 9001 norm are very frequently used in the world, as well as in Europe. The development of the no. of certifications from 1993 until 2009 (see Fig. 1) indicates¹:

- At the end of 1993 “only” 46,571 organisations from 60 countries of the world had a certified system; more than 81 % of the organisations were European. As of the end of 2009 there were more than a million certified organisations (1,064,785 organisations from 178 countries of the world), led by European organisations (47 %) and organisations from the Far East region (East and Southeast Asia, 37 %). The highest increase in the monitored period was registered by the no. of certifications in the Far East region (primarily China and Japan).
- The highest absolute increase in the no. of registered organisations occurred in 2004 (up more than 162,000 organisations); the highest relative increase (81 %) was registered between 1994 and 1995 (this growth was caused by the implementation of the systems in Far East countries).
- In 2003 the no. of organisations with certified QMS dropped more than 64,000 y/y (i.e. 11 %). The decline is related to the application of the amended ISO 9001 norm, as some of the organisations failed to comply with the new requirements or decided not to renew their certification.
- China had the highest no. of certified organisations as of December 31, 2009 (over 257,000 organisations). Italy ranked second with more than 130,000 certified organisations, followed by Japan on the third position (68,500 certified organisations).
- Italy had the highest number of certifications among European countries as of the end of 2009 (see above), followed by Spain and Russia (more than 50,000 certified organisations each).
- USA ranked 9th globally in the no. of certified organisations as of the end of 2009 with almost 29,000 organisations.
- The countries with the highest increase in the no. of certified organisations in 2009 included Russia (up 37,000 organisations), China and Italy. The Czech Republic ranked 6th with growth by almost 4,000 certified organisations, i.e. up 39 % on 2008.

¹The conclusions stem from the data published by ISO (2012).

- Industrial companies accounted for 84 % of the certified organisations as of the end of 2009. The highest no. of organisations with certified systems were from the industrial sector of construction.

In the Czech Republic, organisations began implementing and certifying QMS acc. to the ISO 9001 norm already after the first version of the norm had been released. Totally 18 organisations had their systems certified in 1993, as compared to already 14,031 organisations at the end of 2009 (see Fig. 2). The Czech Republic exceeded the no. of 10,000 certified organisations in 2004. The biggest absolute increase in the no. of certified organisations was registered in 2004. The no. of certified organisations dropped substantially in 2003 (down almost 6,000 on the end of 2002), this is due to the application of the amended ISO 9001 norm. Organisations continued to maintain the system, but have no longer certified it. The second highest increase in the no. of certified organisations was registered in 2000 (up more than 4,100 organisations). In 2009, the Czech Republic ranked 6th globally in terms of the increase of the no. of certified organisations (up almost 4,000 organisations, i.e. 39 %, on the end of 2008). Higher growth rates were reported only by Russia, China, Italy, Japan and Romania².

The development of the no. of certified organisations in the Czech Republic and in the world indicates growing demand from organisations, and primarily industrial companies from all business sectors, in the usage of QMS built acc. to the ISO 9 001 norm. This indicates that organisations view QMS as an important tool for the management and proving of the quality of their processes and products.

1.2 EMS usage in the world and in the Czech Republic

EMS are being implemented around the world and in the Czech Republic both according to ISO 14001 and according to EMAS.

As of the end of 2009, a total of 223,149 organisations held EMS certificates compliant with ISO 14001; this is 16 times more than at the end of 1999 (see Fig. 1)³. The highest increase in the number of certified organisations was registered in 2009 (up 34,334, i.e. 18 % on the total number of certified organisations registered as of December 31, 2008). In Europe, the certificate was held by a total of 89,237 organisations as of the end of 2009 (in 48 countries/economies). The highest increase in the number of certified organisations in

² Processed acc. to ISO (2012).

³ The conclusions stem from the data published by ISO (2012).

Europe was registered in 2008 (up 13,021 organisations, i.e. 20 % on December 31, 2007). Europe is thus the no. 2 continent in the number of certificate holders.

At the end of 1999, most of the certified organisations were located in Europe (52 % of the organisations). The share of organisations from the Far East region grew continually over the following years to more than 46 % by the end of 2007. The Far East region became the territory with the highest no. of certified organisations in the world (71,500 certificate holders). The region registered the highest increase in the no. of certified organisations in 2009 (certificate holders were present in 22 countries in East and Southeast Asia).

China had the highest no. of certified organisations as of the end of 2009 (55,316), followed by Japan (39,556) and Spain (16,527). The Czech Republic ranked 10th in the global comparison with 4,684 certificate holders. CR placed first among EU member countries with comparable population (10 mln). The highest increase in the no. of certified organisations in the Czech Republic was registered in 2009 (up 1,366 organisations, i.e. 41 %), when the country ranked 7th among the countries with the highest increment of certified organisations (see Fig. 2). Very significant growth was registered also in 2004 (the no. of certified organisations grew by 769, i.e. 248 %) and in 2005 (up 834 certified organisations, i.e. 165 %).

The EMAS programme registered (as of July 03, 2012) 4,547 organisations of various sizes and activity sectors on the territory of the European Union; the highest no. of organisations registered with the EMAS programme is reported by Germany (1,335), Spain (1,258) and Italy (1,150) (European Commission, EMAS, 2012). There are 26 organisations from the Czech Republic that are registered in the programme, most of them from the industrial sector of construction.

2 Management systems' benefits for organisations

The organisations' demand for the usage of QMS as an instrument for the management and proving of the quality of processes and products is growing. Properly functioning quality management systems provide organisations with many benefits. Process quality management may contribute significantly towards higher productivity and reduction of products' production costs and reduces the risk of sanctions substantially (e.g. contractual sanctions for the supply of low-quality products etc.). QMS implementation and functioning brings order and system to the organisation and contributes to stress removal – see e.g. (Spejchalová, 2010). Routine activities are documented within QMS and exact procedures are set and have

to be observed. This guarantees higher probability of successful fulfilment of the required tasks. QMS affect also the organisations' workers. Increasing requirements on product quality create room for the raising of the qualification, personal development of workers, teamwork, effective communication and knowledge sharing. All this is subsequently reflected in changes to the organisational structure. The aim is to support quality work for the benefit of all customers of the organisation. Another major benefit of QMS is the application of process management principles in the organisation's practice. QMS highlight the need to manage individual activities that are integrated into processes. In each process, the focus is on its purposefulness, efficiency and flexibility, with the aim of providing the perfect product to the customers.

Surveys in organisations – see e.g. (Hyršlová, Branská, Špaček, 2006) – showed that there are two main reasons for the implementation and certification of QMS:

1. QMS is a major tool for surviving on the market or for the acquisition of new markets (QMS is requested by business partners).
2. QMS is a tool for the management and assurance of quality, whose importance for the boosting of organisations' performance is growing. The organisations notice the contribution of the systems towards the improvement of the processes and thus to higher customer satisfaction. They are aware of the importance of the systems for the engagement of all workers in the process and product quality management.

The benefits of EMS may generally be perceived on environmental, economic, social and organisational level (this classification of benefits is stated e.g. in (Kreuz, Vojáček, 2007)). The environmental benefits include the mitigating of the impacts of economic activities on the environment, primarily thanks to savings in material and energy consumption. The preventive nature of the systems contributes towards the improvement of the preparedness for accidents. The economic benefits of EMS include their contributions towards competitiveness. An organization with responsible approach to environment protection that communicates its environmental performance to the interested parties becomes a credible (business) partner. The economic benefits are formed by the material (raw material) and energy savings, i.e. the savings in the area of operating costs. The costs of waste disposal are also reduced. Higher engagement of the employees into the operation of the organization forms the social benefit of the implementation of the system. Thanks to regular training and education programmes, the employees identify with the issues of effect on the environment and propose measures for improvement business activities. Internal communication and relationships on the workplace improve as well. Organisational benefits include the benefits achieved through better

organisational structure, which determines the responsibilities of individual employees for allocated tasks exactly.

The fact that EMS transfer the organisation's efforts at responsible approach to environment to the segment of prevention is viewed as an indisputable benefit of EMS; EMS are not an ad hoc attempt at achieving something, but a dynamic systems with the aim to move forward continually, i.e. to consistently improve the environmental performance.

Even though the environmental performance is related to environmental aspects and concerns the impacts of the activities and products on the environment, the organisations perceive its influence on the success of the business. The environmental performance is (especially in the case of some industrial sectors) linked closely to the economic and social performance of the organisation. The implementation of measures mitigating the impacts of business activities on the environment does not necessarily have to induce higher costs, i.e. cut the organization's profit. The improvement of the environmental performance may be accompanied by major cost savings. The improvement of the environmental performance goes hand in hand with innovations that may boost the efficiency of the organization's processes significantly. Savings are achieved in the consumption of materials and energies, as well as the waste disposal costs. The organization is generating substantial savings, as fewer input materials leave through waste flows. Improvements occur also in the field of safety and health protection, and the costs incurred as a consequence of negative events (e.g. accidents, incidents, work injuries) are also reduced. New work procedures may results also into an increase in the value of the product for customers. The improvement of the environmental performance contributes towards the improvement of the organization's image; this may have a significant effect on customer and employee loyalty. The organization may also gain access to new markets. Its position in the segment of public contracts gets improved, for instance. The environmental performance is linked closely to the economic and social performance; an organization's approach to the environment influences also its shareholder value (Schaltegger, Wagner, 2006).

Conclusions

QMS and EMS are tools frequently used by the business sphere for the management of quality and environmental aspects and impacts.

The organisations have various motives for implementing the systems. The most important motives include primarily business reasons (e.g. the customers' requirements that

their suppliers have to hold certificates, the legal norms on public contracts etc.). The certification may also be used as a tool for improving the organisation's image, not only in the eyes of the customers, but also e.g. the public and other interested parties. The systems also represent an important tool for the management of aspects whose importance for the raising of the organisations' performance is growing (i.e. a tool for the securing of process and product quality and a tool for the management and improvement of the environmental performance). The organisations should, however, not aim "only" at implementing and maintaining the system – i.e. achieving the certification. To enjoy all the benefits of QMS and EMS (from the point of view of both the society and the organisation), the systems have to be integrated into the overall management system. The aim is to meet the organisation's targets, incl. economic performance and the environmental performance.

QMS and EMS principles may be included successfully into integrated management systems (hereinafter referred to as IMS), which usually include system integration of quality management (QMS), environmental management (EMS) and safety management (Safety Management Systems - hereinafter referred to as SMS) (Hyršlová, Špaček, Souček, 2011). The condition for the implementation and operation of IMS is the organisation's transfer to process management and implementation of process management attributes (definition of main, supporting and management processes, the creation of process maps, definition of "process owners", setting of a model for continuous improvement of processes, definition of metrics for the assessment of process effectiveness etc.). The integration of QMS, EMS and SMS into a single system leads to many material, technical and economic benefits for the given organisation. Management of quality, environmental impacts and safety principles is no longer just a mere extension of operating processes, but penetrates the processes organically, thus securing continuous compatibility of individual elements of the organisation's value creation chain (input logistics, production preparation, production, marketing, trade and output logistic) with the principles of quality, environment and safety management principles in the entire chain. The implementation of IMS, even though it is often perceived as a massive economic burden, brings substantial effects and savings to the organisations, as the integration of IMS features into the process structure eliminates the possibility of the failure of the processes significantly, thus eliminating the costs incurred as a consequence of these failures.

References

“EMAS Report.” *European Commission, EMAS*. 03 July 2012 <<http://www.emas-register.eu/>>.

Hyršlová, Jaroslava, Lenka Branská, and Ladislav Špaček. “Transformation of Company Management Systems in Czech Chemical Industry.” *Sci. Pap. Univ. Pardubice, Ser. A* 12 2006: 157-170.

Hyršlová, Jaroslava, Ivan Souček and Miroslav Špaček. “Systémy environmentálního managementu jako nástroj řízení environmentálních aspektů a dopadů podniku na životní prostředí.” *Chemagazín* 21 2011: 23-26.

“ISO Survey of Certifications 2009.” *ISO*. 03 July 2012 <<http://www.iso.org/iso/survey2009.pdf>>.

Kreuz, Jaroslav, and Ondřej Vojáček. *Firma a životní prostředí*. Praha: Nakladatelství Oeconomica, 2007.

Schaltegger, Stefan, and Marcus Wagner. “Managing and Measuring the Business Case for Sustainability.” in Schaltegger, Stefan, and Marcus Wagner (eds.). *Managing the Business Case for Sustainability*. Sheffield: Greenleaf Publishing, 2006.

Spejchalová, Dana. *Management kvality*. Praha: VŠEM, 2010.

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