UPRAVLJANJE RIZICIMA U INTEGRISANOM SISTEMU UPRAVLJANJA

RISK MANAGEMENT IN INTEGRATED MANAGEMENT SYSTEM

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ABSTRACT

An integrated management system is a system that connects individual management systems into the complete one with the aim to meet the requirements of all stakeholders and achieving business goals in accordance with the vision and mission of the organization. Risk is an unwanted potential event that can cause negative consequences for the successful achievement of the goal of the Integrated Management System. It is therefore necessary to establish a risk management system in order to avoid or at the very least mitigate the adverse events.Risk management is the process of identifying and processing risks in order to define control activities / measures. In doing so, the context and objectives of the organisation, the requirements of all stakeholders as well as the requirements (common and specific) of individual management systems are taken into account. The paper emphased the Quality Management System according to ISO 9001\as the basic system of the Integrated Management System, the Environmental Management System according to ISO 14001 as well as the Health and Safety Management Systems according to ISO 45001 as an upgrade.

Keywords: Integrated management system, risk management, ISO 9001, ISO 14001, ISO 45001

SAŽETAK

Integrisani sistem upravljanja je sistem koji povezuje pojedinačne sisteme upravljanja u jedan cjelovit sistem, s ciljem zadovoljenja zahtjeva svih zainteresiranih strana i ostvarenja poslovnih ciljeva u skladu sa vizijom i misijom organizacije. Rizik predstavlja neželjeni potencijalni događaj koji može prouzročiti posljedice negativne za uspješno ostvarenje cilja Integrisanog sistema upravljanja. Zbog toga je potrebno uspostaviti sistem upravljanja rizicima kako bi se izbjegli ili u krajnjem slučaju ublažili neželjeni događaji. Upravljanje rizicima predstavlja proces identifikacije i obrade rizika s ciljem definisanja kontrolnih aktivnosti/mjera. Pri tome se uzima u obzir kontekst i ciljevi organizacije, zahtjevi svih zainteresiranih strana, kao i zahtjevi (zajednički i specifični) pojedinačnih sistema upravljanja. Akcenat u radu je stavljen na Sistem upravljanja kvalitetom po ISO 9001, kao temeljni sistem Integrisanog sistema upravljanja, kao i Sistem upravljanja okolinom po ISO 14001 i Sistem upravljanja zdravljem i bezbjednošću na radu po ISO 45001, kao nadogradnja.

Ključne riječi: Integrisani sistem upravljanja, upravljanje rizicima, ISO 9001, ISO 14001, ISO 45001

1. INTRODUCTION

Due to the increasing demand of all stakeholders (owners, customers, employees, companies and suppliers) for quality, environmental protection, health and safety, as well as any other identified requirements, various individual standards of management systems have emerged, such as ISO 9001 (Quality management system), ISO 14001 (Environmental management system), ISO 45001 (Occupational health and safety management system) and others. The goal of those standards is to establish such management systems that will achieve the satisfaction of all stakeholders. In order to solve the problem of complexity and confusion in the implementation and application of individual standardised systems, an Integrated Management System was created. It offers more efficient management of the organisation as a whole as opposed to individual management systems. Organisations with an Integrated Management System improve market opportunity and gain a greater reputation in the business world. The individual standards ISO 9001, ISO 14001 and ISO 45001, which are the subject of this paper, are compatible, which facilitates their integration into a single management system. Each of them focuses on one of the dimensions of business: quality, environmental protection, health and safety at work, and are based on the PDCA concept (Figure 1.).

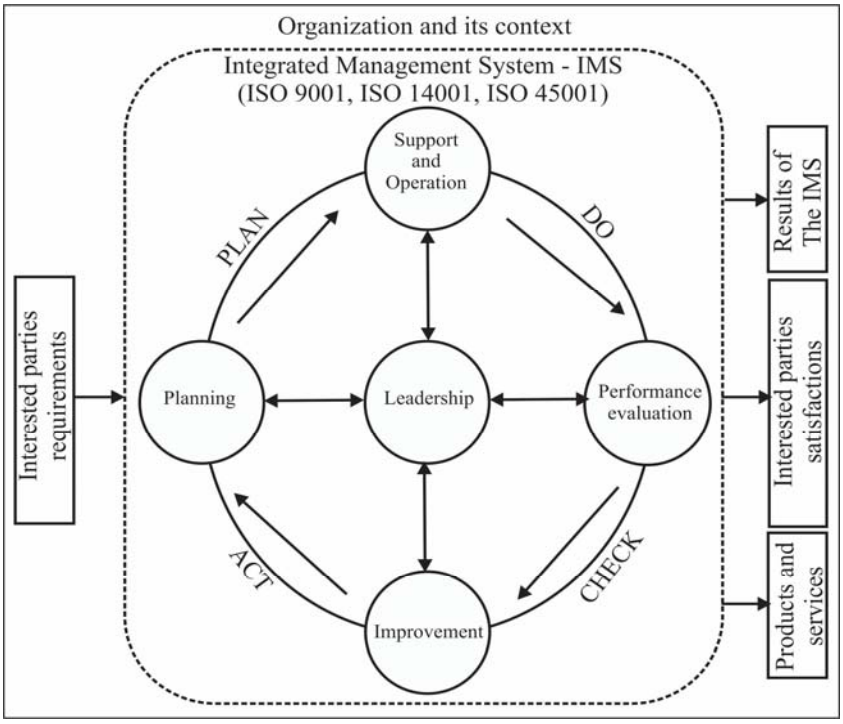

Figure 1. The PDCA cycle

One of the common requirements of all three standards is the risk management requirement. Each of these standards allows the organisation to do "risk-based thinking." It allows an organisation to identify factors that could influence its processes and its quality management system to deviate from planned results, to establish preventive controls to minimize negative effects and to make the most of opportunities when they arise.", was stated in the ISO 9001: 2015 standard. It is therefore possible to establish a risk management system at the level of the Integrated Management System which will cover all risks in terms of achieving product and

service quality, environmental protection and occupational health and safety, meeting stakeholder requirements and applicable legal and regulatory requirements. The goal of the risk management process is to provide confidence that the Integrated Management System can achieve the intended results, increase the desired effects, prevent or reduce side effects and achieve improvements.

2. INTEGRATED MANAGEMENT SYSTEM AND RISK MANAGEMENT

Integrated management system is a comprehensive management tool that connects individual management systems into the complete one with the aim to meet the requirements of all stakeholders and achieving business goals in accordance with the vision and mission of the organization (Figure 2).

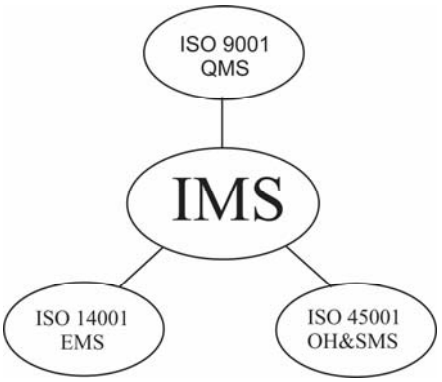

Figure 2. Integrated management system

Risk is the possibility of the occurrence of any adverse event that may disrupt the implementation of the planned activity and thus cause negative consequences for the successful achievement of the goal, in this case, the goal of the Integrated Management System. It is impossible to identify risks if it is not known what is being tried to achieve and what may also be endangered. The goal of the Integrated Management System is to meet the requirements of all stakeholders and achieve business goals in accordance with the vision and mission of the organisation. Successful functioning of the Integrated Management System and achieving significant results require avoiding possible dangers that may disrupt the implementation of planned activities and achieving a defined goal. So, it is necessary to manage risks, to identify them, analyse, evaluate and then define appropriate measures in order to avoid them. Risk management is related to activities and processes in the organisation and should be understood as a preventive tool to improve the functioning of the Integrated System. The result of successful risk management is a reduction in the probability of the risk occurrence and a reduction in the consequences that cause the risk.

3. RISK MANAGEMENT PROCESS

The risk management process can be represented by the following basic steps (Figure 3.), [5]:

1. Goal definition and activity analysis
2. Risk identification and assessment
3. Defining measures/control activities in response to risks
4. Monitoring and risk reporting.

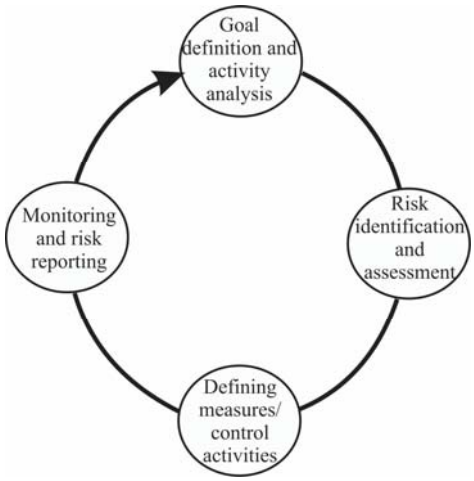

Figure 3. The risk management process

3.1. Goal definition and activity analysis

First of all, it is necessary to define the goal that needs to be achieved by the functioning of the Integrated Management System, which is to meet the requirements of all stakeholders in terms of quality, environment and health and safety at work, as well as applicable legal and regulatory requirements:

- achieve the ability and responsibility of the organisation to deliver products and services of satisfactory quality while promoting a culture focused on growth and continuous improvement,
- achieving the organisation's capacity and responsibility for sustainable development through environmental protection by preventing or mitigating harmful effects on the environment,
- prevention of work-related injuries and impairment of workers' health and provision of safe and healthy workplaces, meeting the requirements of employees.

After the set goal, it is necessary to record the processes necessary to achieve the goals in accordance with the quality policy, environmental policy and the policy of health and safety at work. By analysing the activities of the process, the characteristics crucial for quality, environmental aspects and dangers to human health and safety are to be identified. Environmental aspect is to be defined as an element of an organisation's activity, product or service that is or may be in a relationship with the environment[2]. For example: noise, wastewater, gases, dust, use of energy and raw materials, ... Hazard is a source that has the potential to cause damage or dangerous situations or circumstances having the potential for exposure that leads to injury and impairment of health [3]. For example: process, material, working conditions, ...

3.2. Risk identification and assessment

The second step involves the identification of risks that represent certain obstacles, events, circumstances that may prevent the achievement of the goal, or identification of the following:

- quality risks as adverse events that may impair the implementation of activities for which the key quality characteristics have been previously identified,
- environmental risks related to environmental aspects,

- health and safety risks related to hazards.

Before the risk assessment itself, it is necessary to clearly formulate, i.e. describe the identified risk, taking into account the cause/source of the risk and the potential consequences it like its impact on the goals/activities. Risk assessment is a procedure by which an assessment is performed in a systematic way, determining the probability of occurrence and the consequence it causes. The probability of occurrence of risk can be expressed as low, medium or high probability. The consequence of the risk can be classified as large, medium and small. Risk assessment determines the level of significance of risks in terms of quality, environment and human health and safety. The level of significance of the risk can be classified as [5]:

- unacceptable/high risk,
- tolerable/moderate risk,
- adequate/low risk,
- acceptable/very low risk.

3.3. Defining measures / control activities in response to risks

After the risk assessment, possible control measures are to be defined which can influence the acceptability of the risk, i.e. reduce the level of significance of the risk to an acceptable level. They are established to achieve the objectives of the integrated management system by reducing risks to an acceptable level. Special attention should be paid to high and moderate risks. Common techniques used in defining measures are: risk avoidance, risk transfer, risk acceptance and risk reduction by introducing control activities. Careful approach should be taken in selecting the best measure/control activity, which will satisfy the efficiency, effectiveness and economy of its implementation.

3.4. Risk monitoring and reporting

Monitoring is the most important phase in the implementation of the risk management process. Managers at all levels of management are obliged to check whether the proposed risk control measures work in practice and whether they prevent or mitigate a certain risk or give the expected result. The assessment of the efficiency of control activities after the implementation is to be done by re-assessing the risk, from the aspect of probability and consequences of risk, regularly according to the established plan or extraordinary due to changes in business circumstances. The result of this step is the level of residual risk. The implementation of control activity will be effective if the obtained assessment of the residual risk level is lower than the previous assessment. Depending on the assessed level of residual risk, the risk management activities are to be updated.

It is also necessary to perform regular reporting on risks through an internal document - Risk Register. It needs to be updated regularly and should contain all the information about the risks so that they can be managed, such as, [5]:

- review of identified risks with possible consequences,
- risk level assessments based on the probability and consequences of the risk,
- necessary control activities that will reduce the risk consequences,
- deadlines for performing control activities,
- persons responsible for carrying out certain activities,
- frequency of monitoring and
- assessments of residual risk levels.

4. CONCLUSION

When integrating individual management systems, among other things, it is necessary to simplify the implementation of the requirements of the standard where possible. Since the risk management requirement is common to the standards ISO 9001, ISO 14001 and ISO 45001, observed through quality, environment and health and safety at work, it is possible to define a common procedure that would include the implementation of risk management activities presented in this paper. The quality management system enables the organisation to have a tidy state of business, where responsibilities, authorities, what and how to do, in order to achieve the required quality of products and services. Having in mind that what is being done does not cause a significant impact on the environment (which is enabled by the Environmental Management System) and that all actors in the processes have been ensured health and safety at work (which is enabled by the Occupational Health and Safety Management System) then there is a successful functioning of the Integrated management system (ISO 9001, ISO 14001 and ISO 45001) meeting the requirements of all stakeholders and applicable legal and regulatory requirements.

5. REFERENCES

[1] BAS EN ISO 9001:2015: Sistem upravljanja kvalitetom - Zahtjevi, decembar 2015;

[2] BAS EN ISO 14001:2017: Sistemi okolinskog menadžmenta- Zahtjevi, januar 2017;

[3] BAS EN ISO 45001:2019: Sistemi upravljanjazdravljem i bezbjednošću na radu - Zahtjevi, juni 2019;

[4] BAS EN ISO 31000:2016: Upravljanje rizikom - Principi i smjernice, 2016;

[5] Pobrić, S., Bajramović E., (2019). Upravljanje rizicima kao preventivni alat za unapređenje sistema upravljanja kvalitetom, 12th International Scientific Conference Development and Modernization of Production, RIM 2019;

[6] Miloš Sprčić D., Puškar J....: Primjena modela integriranog upravljanja rizicima – Zbirka poslovnih slučajeva, Sveučilište u Zagrebu, Ekonomski fakultet, Zagreb, 2019.;

[7] Kozarević S., (2010). Rizik menadžment i osiguranje, Ekonomski fakultet Univerziteta u Tuzli, Tuzla, 2010.;

[8] Marek Bugdol, Piotr Jedynak: Integrated Management Systems, Faculty of Management and Social Communication Jagiellonian University Kraków Poland, eBook, Springer, 2015;

[9] M. Drljača: Modeliranje integriranih sustava upravljanja, Zbornik sažetaka 11. hrvatske konferencije o kvaliteti i 2. znanstvenog skupa Inovativna primjena kvalitete, Hrvatsko društvo za kvalitetu, Zagreb, Vodice, 2011;

[10] J. Lisičar: Uvođenje, primjena i održavanje Integriranog sustava upravljanja (ISO 9001, ISO 14001 i OHSAS 18001) u graditeljskoj organizaciji, 7. Naučno-stručni skup sa međunarodnim učešćem „KVALITET 2011“, Neum, B&H, 2011;

[11] Delić E., Šišić R., Upravljanje rizicima kao standardizovana procedura, dostupno na: http://www.atex.ba/extern/documents/ex-tribine/2012/tema4/401%20%20Delic, %20Sisic %20 -%20Upravljanje%20rizicima%20kao%20standardiziran.pdf.