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PROGRAM CYCLE:
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ANALYSIS OF RISK AND CRISIS MANAGEMENT GUIDELINES DEFINED BY VARIOUS SYSTEM STANDARDS AND REGULATIONS AT THE GLANCE OF BUSINESS CONTINUITY MANAGEMENT

Abstract
The continual existence of a particular organization within the framework of a national or international market largely depends on its ability to define internal risk and crisis management mechanisms in a timely manner. Risks and crises are most often a derivative of external stressors, while the organization's resilience is more intrinsic. In this sense, the priority of preventive behaviour at the organizational level is the preparation of various procedures for response to certain crises or risk events, whether in the field of occupational safety, environmental protection or informational safety management. In that sense, within this paper is presented system analysis of different guidelines for risk and crisis management provided by prominent system standards (ISO 9001, ISO 14001, ISO 450001, ISO 22301) or similar regulation (EMAS III) at the glance of business continuity management. The main conclusion of the paper is that, in addition to defined procedures, activities aimed to strengthen the competencies of employees have a key role in the adequate response of the organization to the risks it faces.

Key words: Business continuity management (BCM), system standards, risk, management

INTRODUCTION
In a world where natural and man-made disasters as well as financial risks can disrupt business continuity and quickly damage an organization's reputation, an organization must be prepared to respond in a timely manner. That is why organizations and companies must implement, maintain and improve their business continuity, quality, environment and safety and health management system. However, since internal planning documentation is not necessarily based on proper risk analysis, it can quickly become obsolete, which will make the organization vulnerable in the event of a particular emergency [1]. Herein, an efficient business continuity management system (BCMS) can significantly improve an organization's resilience to such stressors. That is why a resilient organization is one that can change over time. An organization that knows how to identify where it is vulnerable and has plans to mitigate risks, as well as react if it needs to. The ISO 22301 standard helps organizations identify and prioritize threats. It enables organizations to effectively implement their business continuity management system to be ready to respond to and recover from incidents with the least disruption to business [2]. Coupled with other system standards like ISO 9001, ISO 14001 or EMAS III regulation, ISO 45001, ISO 27001 it represents an efficient integrated management system that ensures continuity in sense of: business, quality of products and services, quality of the environment, information security, etc. For organizations that certainly work with hazardous materials, the complete business continuity management system is completed by fulfilling the requirements posed by the SEVESO III directive [3].

METHODS
For the research needs of this paper, a combined desktop and literature research was conducted, where the requirements of the various existing system standards and regulations linked with business continuity management were analyzed. The synthetic report of identified common characteristics are provided within result and discussion part of the paperwork. Also, this paper analyses relevant data provided by an online survey performed on provided by the ISO.
RESULTS

Direct and indirect aspect of BCM imposed by relevant ISO system standards

All previously mentioned system standards starting from 2015 have significantly unified content, organized mainly in 10 units (chapters, articles, clauses…) where the first three chapters are mostly informative, contain a review of important terms and definitions or related legislation, if there any. From the fourth chapter onwards, the structure of system standards contains specific requirements that the organization must meet in order to successfully establish a management system of quality, environment, occupational safety and health at work or business continuity. Identification of common requirements related to business continuity management, directly or indirectly, is given in Table 1.

Table 1. Common requirements of system standards and regulations related to resilience and business continuity

<table>
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Source: International Organization for Standardization, EMAS Helpdesk

For example, the ISO 9001:2015 standard, among other things, defines in Chapter 6 the requirements related to the analysis of risks and opportunities at the organizational level. When planning for the quality management system, the organization shall consider the issues referred to in clause 4.1 and the requirements referred to in clause 4.2 and determine the risks and opportunities that need to be addressed to:

- give assurance that the quality management system can achieve its intended result(s),
- enhance desirable effects,
- prevent, or reduce, undesired effects,
- achieve improvement.

Furthermore, the organization shall plan: a) actions to address these risks and opportunities and b) how to:

- integrate and implement the actions into its quality management system processes,
- evaluate the effectiveness of these actions.

On the other hand, in the ISO 14001:2015 standard, a specific focus is placed on the management of emergency situations that may jeopardize business continuity, through the provisions defined in Clause 8, specifically 8.1 and 8.2. Clause 8.2, entitled Emergency preparedness and response, says the organization must establish, implement and maintain the processes required to prepare for and respond to potential emergencies identified under Chapter 6, in a manner similar to the requirements of the previous standard. In this context, the organization must:

- prepare to respond by preparing measures to prevent or reduce adverse environmental impacts from emergencies,
- responses to actual emergencies,
- take measures appropriate to the scale of the actual emergency and the possible impact on the environment, in order to prevent or mitigate the consequences,
- periodically review planned response measures,
- periodically review and revise processes, especially after emergencies or testing,
- provide relevant information to relevant stakeholders, as well as relevant training materials and other information.
Within the ISO 45001: 2018 standard, employees, i.e. human capital (human resources) are recognized as a key factor in the successful operation of an organization, which is otherwise recognized in numerous scientific publications [4, 5, 6]. In the occupational safety and health management system established on the basis of the requirements of this system standard, in addition to the requirements related to business continuity that are defined in Chapters 4 and 6, special focus is placed on risk and crisis management procedures given in Chapter 8, specifically in Article 8.1.2 relating to the elimination of OHS risks, as well as in Chapter 8.2, which defines emergency preparedness and response. In terms of the requirements defined in Chapter 8.2, the organization must establish, implement and maintain the processes required to prepare for and respond to emergencies, including:

- establishing responses to emergencies, including first aid trainings,
- providing training for the planned emergency response,
- periodic testing and training of employee abilities,
- performance evaluation and revision of the planned response to emergencies,
- communicating and providing relevant information to all employees,
- communicating and providing relevant information to all stakeholders,
- taking into account all the needs and capabilities of all stakeholders.

A common requirement for all of these system standards is to keep documented information regarding planned emergency responses, audits, as well as experiences with performed exercises or emergencies that have actually occurred.

**Direct and indirect aspect of BCM imposed by EMAS regulation**

The Environmental Management and Audit Scheme (EMAS) is a voluntary instrument for environmental management, developed in 1993 by the European Commission. It enables organizations to assess, manage and continuously improve their environmental performance. The scheme is globally applicable and open to all types of private and public organizations. In order to register with EMAS, organizations must meet the requirements of the EU EMAS Regulation. As the premium tool for environmental management, the requirements of the EMAS regulation go beyond those of the ISO 14001 standard. EMAS requirements already covered many of the requirements that are new under the current ISO 14001:2015 standard. Registered organisations therefore only need to implement a few adaptations. Organisations will need to take these new requirements into account both in the environmental review and then again in the course of implementing the environmental management system [7]. Currently, more than 4,600 organizations and more than 7,900 sites are registered with EMAS regulation. The EMAS development in numbers within EU countries is shown on Figure 1.

Figure 1. EMAS development in numbers for the period 2005 – 2021

Source: EMAS Helpdesk

Among other demands, in order to register with EMAS an organisation must establish effective environmental management system which represents part of an organisation's management entailing
structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy and managing the environmental aspects. Within these EMAS demands, particularly important group of environmental aspects are large-scale accidents and incidents that can affect BCM. Large-scale accidents and incidents can significantly endanger or degrade the environment and the safety and health of employees in the organization and people in the immediate or wider environment of the organization. They can have huge economic consequences for the organization, particularly in the BCM sense, so the risk of their occurrence and the consequences of adverse events should be reduced. Emergency preparedness and emergency prevention program is based on learning from previous risky events and accidents and recognizing potential dangers, accidents and emergencies. Environmental hazards are assessed quarterly after each audit through a rapid review form. Accident response exercises should be conducted at a minimum once a year.

DISCUSSION

In addition to aforementioned standards or regulations, there are a significant number of other system or transitional (hybrid) standards, regulations or guidelines that provide different approaches to managing the business continuity of an organization [8]. For example, for an organization that deals with the collection, processing and distribution of drinking water, it is essential for business continuity to ensure the continuity of production and delivery of drinking water, since this is the main activity for which such an organization exists. In the context of such business continuity, the provisions of the World Health Organization and European norms EN 15975 are essential. For an organization that processes large amounts of confidential information, the essential guidelines for business continuity are defined by the ISO 27001 standard. Food production organizations are aimed at the requirements of ISO 22000 standards. For operators who store large quantities of hazardous substances, the requirements of the SEVESO directive are the most important, while for large industrial operators, the requirements of the IED directive are the most important one, etc. In this sense, in addition to the general guidelines defined by the ISO 22301 standard, a complete framework for business continuity management provides integration with one or more system standards or regulations, which regulate in more detail the exemplary activities of the organization.

CONCLUSION

Business continuity disruption is a key concern for many modern organizations. With increasing dynamics and a broader picture of external risks, organizations must continuously expand their insights and knowledge about the hazards to which they are exposed. Having only a emergency management plan as reactive instrument is no longer enough. Organizations need to know what they are obligated to prepare for and in which areas to hone their understanding of critical risks in order to sustain their business under any adverse circumstances.

REFERENCES


Other materials

Regulations
- Zakon o standardizaciji, ("Službeni glasnik RS", br. 36/2009 i 46/2015)
- Zakon o bezbednosti i zdravlju na radu, ("Sl. glasnik RS", br. 101/2005, 91/2015 i 113/2017 - dr. zakon)
- Zakon o smanjenju rizika od katastrofa i upravljanju vanrednim situacijama, ("Sl. glasnik RS", br. 87/2018)
- Pravilnik o listi opasnih materija i njihovim količinama za određivanje vrste dokumenta koje izrađuje operater Seveso postrojenja, odnosno kompleksa ("Sl. glasnik RS", br. 41/2010, 51/2015 i 50/2018)

Standards
- ISO 9000:2015, Quality management systems — Fundamentals and vocabulary
- ISO 9001:2015, Quality management systems — Requirements
- ISO 14001:2015 Environmental management systems — Requirements with guidance for use
- ISO 22000:2018 Food safety management systems — Requirements for any organization in the food chain
- ISO 22301:2019 Security and resilience — Business continuity management systems
- ISO 45001:2018, Occupational health and safety management systems — Requirements with guidance for use
- ISO 46001:2019, Water efficiency management systems — Requirements with guidance for use

Internet
- The European Committee for Standardization, https://www.cencenelec.eu/ (10.04.2022.)

Internal documents
- Dokumentacija internog sistema kvaliteta, Univerzitet u Nišu, Fakultet zaštitne na radu u Nišu, 2022
• Dokumentacija internog sistema kvaliteta, Javno preduzeće “Elektroprivreda Srbije”, 2022
• Dokumentacija internog sistema kvaliteta, Javno komunalno preduzeće “NAISSUS”, 2022

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ANALYSIS OF THE REQUIREMENTS OF ISO 22301 – BUSINESS CONTINUITY MANAGEMENT IN THE CONTEXT OF SAFETY

Abstract
Business continuity management is an approach to the whole business that consists of policies, procedures, guidelines, related resources, organizational roles, responsibilities, authorities, and planning of activities that enable operation in case of unforeseen circumstances. ISO 22301 – Business continuity management is the international standard that helps organizations put business continuity plans in place to protect themselves and to recover from disruptive incidents when they occur. In the context of safety, the implementation of ISO 22301 – Security and resilience – Business continuity management systems is extremely important, so this paper discusses the methodology contained in the said standard as well as its requirements. The paper also presents the numbers of valid certificates in the Western Balkans.

Key words: ISO, BCMS, business continuity management, safety, risk.

INTRODUCTION
Any organisation, regardless of its size and activity, encounters some form of risk trying to achieve its goals. Risk is an unavoidable part of doing business, and in times when enormous amounts of data are processed at ever-increasing speeds, risk identification and mitigation poses an immense challenge. Thus, it is common for many agreements and insurance agreements require firm evidence of good risk management practice [1]. Risk can take many forms, e.g. financial insecurity, project failure, technological insecurity, organization’s environmental impact, impact on the competition, etc. [2]. In the global quest for improved efficiency and reduced risk, international standards provide management systems. The International Organization for Standardization (ISO) is a global entity involving membership of national standardization bodies of countries worldwide with the idea of providing a universal perspective and procedure for different standardization needs. Consequently, different standards give special attention to risk management through their requirements. Although risk has been a part of different ISO standards for some time, it has become an even more prominent part in recent versions of standards. The most recent versions of ISO 9001 and ISO 14001 require organizations to use risk-based thinking when managing processes through performance evaluation, operation, and planning. Figure 1 shows a schematic of risk-based thinking.
Organizations decide whether they want to develop a broader risk management methodology, because not all processes of the management system pose the same level of risk. Risk-based thinking is essential for an effective management system for quality, the environment, occupational safety and health, etc. ISO 22301 is one of the standards based on a high-level structure representing a common framework for all new management system standards (ISO 9001:2015 and ISO 14001:2015). This helps maintain consistency, harmonize different management system standards, offer subclauses that correspond to top-level structures, and use a common language in every standard. Its implementation makes it easier for organizations to include their business continuity management system (BCMS) in their base operational processes, to be more efficient, and to engage top management [4].

METHODOLOGY

This paper is based on a research of online and printed sources, involving several important documents pertaining to ISO standards and risk management. The paper analyses ISO 22301 requirements within the context of safety and a survey by the ISO. The survey shows the number of valid certificates according to ISO management standards for which every country applies every year. The ISO survey enumerates certificates issued by the IAF (International Accreditation forum) accredited certification bodies. The latest results of the survey are for 2020, showing the estimated number of valid certificates on 31 December 2020. The results contain three sets of data: number of valid certificates for each country for 12 ISO management system standards, number of locations covered by the certificates for each country for 12 ISO management system standards, and number of sectors per country included in 10 ISO management system standards [5]. The following section presents the identified ISO 22301 requirements and analyzes the ISO survey.

RESULTS AND DISCUSSION

Requirements of ISO 22301 standard

ISO 22301 – Security and resilience – Business continuity management systems is an international standard that helps organizations establish a business continuity plan, which is intended to protect the organization and accelerate the recovery from any disruptive incidents. It also helps identify potential threats to the organization and build capacities to tackle any unpredictable events. Additionally, the standard helps protect business operations and reputation, ensures agility and resilience, and minimizes the impact of unplanned disruptions. Whether an organization is large or small, its ability to quickly and efficiently respond to unexpected circumstances is essential to its survival. Therefore, the existence of a strong BCMS such as ISO 22301 may be regarded as one of the most comprehensive approaches to enhance the resilience of an organization [4].

ISO 22301 provides a framework for planning, establishment, implementation, operation, performance assessment, review, maintenance, and continual improvement of the BCMS [6]. Its application is
expected to help organizations with disruption prevention, preparation, response, and recovery. The standard is compliant with ISO requirements for management system standards. These requirements primarily include a high-level structure, identical basic text, and common terms with basic definitions, designed so as to be of use to organizations that implement multiple ISO management system standards, regardless of the type, size, and nature of the organization.

ISO 22301 comprises 10 sections, better known as clauses. As in most other ISO management system standards, ISO 22301 requirements are stated in clauses 4.0-10.0. Similar to ISO 27001, an organization has to meet all the requirements from clauses 4.0-10.0 and may not declare one or more clauses as non-applicable.

Clauses 1 to 3 refer to the scope, normative references, and terms and definitions used in the standard, respectively. Clauses 4 to 10 contain the requirements used to evaluate compliance with the standard.

ISO 22301 is based on the Plan-Do-Check-Act (PDCA) cycle, also known as the Deming wheel (Figure 2). The PDCA cycle can be applied not only to a whole management system but also to each individual element in order to ensure a constant focus on continual improvement.

**Figure 2. PDCA (Plan, Do, Check, Act) cycle applied to ISO 22301**

Since the first three clauses are the same for all 2015 standards (such as ISO 9001 and ISO 14001), the following analysis will focus on the remaining clauses beginning with clause 4.

Clause 4 introduces requirements necessary for establishing a BCMS context applicable to the organization, as well as the needs, requirements, and the scope. The organization needs to determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcome of its BCMS. These issues will primarily be influenced by the organization’s general objectives, its products and services, as well as the amount and type of risk that it may or may not take.

When establishing its BCMS, the organization needs to determine the interested parties that are relevant to the BCMS as well as the relevant requirements of the interested parties. The organization also needs to implement and maintain a process for identifying, providing access to, and assessing the applicable legal and regulatory requirements related to the continuity of its products and services, activities, and resources, to ensure that these applicable legal, regulatory, and other requirements are considered when implementing and maintaining its BCMS, and to document this information and keep it up to date. With regard to the scope of the BCMS, the organization needs to determine which of its parts will be included in the BCMS, taking into account its location, size, nature, and complexity and to identify products and services to be included in the BCMS. When defining the scope, it is necessary to document and explain exclusions. In keeping with the standard’s requirements, the organization needs to establish, implement, maintain, and continually improve its BCMS, including the necessary processes and their interactions.

Clause 5 summarizes the specific requirements for top management in the BCMS and how it communicates its expectations to the organization through its policy statement.

Top management needs to demonstrate leadership and commitment regarding the BCMS by:

- ensuring that the business continuity policy and business continuity objectives are established and are compatible with the strategic direction of the organization;
- ensuring the integration of the BCMS requirements into the organization’s business processes;
- ensuring the availability of the resources needed for the BCMS;
- communicating the importance of effective business continuity and compliance with the BCMS requirements;
- ensuring that the BCMS achieves its intended outcome;
- directing and supporting persons to contribute to BCMS effectiveness;
- promoting continual improvement;
- supporting other relevant managerial roles to demonstrate their leadership and commitment.
Top management needs to establish a business continuity policy that is above all suited to the purpose of the organization, to provide a framework for setting business continuity objectives, to include an obligation to meet applicable requirements, and to include a commitment to continual improvement of the BCMS. Top management also needs to ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization.

Clause 6 describes the requirements for determining strategic objectives and guiding principles for the BCMS as a whole. When planning for the BCMS, the organization needs to consider the issues pertaining to the understanding of the context of the organization and to the needs and expectations of interested parties, and to determine the risks and opportunities. Once the risks and opportunities have been determined, the organization needs to plan actions to address them by integrating and implementing those actions into its BCMS processes and by assessing their efficiency. While planning how to achieve its business continuity objectives, the organization needs to determine what will be done, what resources will be needed, who will be responsible, when it will be completed, and how the results will be evaluated. Clause 7 supports BCMS operations pertaining to the establishment of competences and the communication (if needed) with the interested parties, while controlling, maintaining, and retaining the required documented information. The organization needs to determine and provide the resources needed for the establishment, implementation, maintenance, and continual improvement of the BCMS. In terms of competence, the organization needs to determine the necessary competence of persons doing work that affects its business continuity performance, to ensure that these persons are competent based on adequate education, training, or experience, to take actions to acquire the necessary competence (where applicable), and to retain appropriate documented information as evidence of competence. When creating documented information, the organization must ensure appropriate identification and description, format, as well as review and approval for suitability and adequacy. Documented information has to be controlled to ensure its availability and adequate protection.

Clause 8 defines business continuity requirements, determines how these will be addressed, and develops procedures for organizational management during disruptions. The organization is required to implement and maintain the process for analysing the business impact and assessing the risks of disruption of its key activities. The purpose of conducting a business impact analysis is to allow the organization to identify its business continuity requirements and priorities. Risk assessment is intended to identify risks to the organization’s prioritized activities and to their required resources, to analyse and evaluate the identified risk, and to determine which risks require treatment. The results of business impact analysis and risk assessment will allow the organization to determine an appropriate strategy and the solution required to respond to and manage the disruption until regular business operations have been restored. The selection of business continuity strategies and solutions should be based on the ability to meet the requirements to continue and recover prioritized activities within the identified time frames and specified capacity, on reducing the probability and shortening the period of disruption, on the organization’s susceptibility to risk, and on considerations of costs and benefits.

When determining the resources required to implement the business continuity solutions, the organization needs to consider the internal and external resources, such as people, information and data, infrastructure, equipment and consumables, ICT systems, transportation and logistics, finance, etc. Based on the results of selected business continuity strategies and solutions, the organization needs to establish a response structure and implement management plans and procedures in case of a disruption. These procedures are supposed to identify immediate steps to be taken during a disruption, to be flexible to adapt to the changes of internal and external conditions of a disruption, to minimize the impact of a disruption, and to assign roles and responsibilities for tasks within them. The response structure should comprise one or more teams responsible for disruption response and management. Roles and responsibilities for each team need to be clearly defined and the teams need to be competent to assess the impact of a disruption and activate an adequate business continuity response. The response structure should also include procedures for communicating with internal and external interested parties, authorities, and the media.

The organization needs to document and maintain business continuity plans and procedures, as well as processes to restore business activities after a disruption. To validate the effectiveness of its business continuity strategies, solutions, and plans over time, the organization needs to establish a programme of exercising and testing its business continuity arrangements. Finally, through evaluating its business continuity documentation and capabilities, the organization needs to assess the adequacy and efficiency of its business impact analysis, risk assessment, strategies, solutions, plans, and procedures, to conduct evaluations of the business continuity capabilities of relevant partners, to assess compliance with
applicable legal and regulatory requirements, and to timely update documentation and procedures. These evaluations should be conducted at planned intervals, after an incident or activation, and as a response to significant changes.

Clause 9 summarizes the requirements for business continuity performance measurement, BCMS compliance with the standard, and management review. Within this requirement, the organization needs to assess the performance and effectiveness of its BCMS in order to achieve the desired results. It is necessary to determine what needs to be measured, which monitoring and measurement methods will be used, and how the results will be evaluated. The organization should plan its audits and designate the auditors based on their competence and impartiality. An internal audit is necessary in order to verify BCMS efficiency and to identify all weaknesses and opportunities for improvement. The internal audit should verify whether the BCMS meets the requirements of the organization and the standard, how consistently the processes and procedures are implemented, and whether their implementation produces the intended results. The evidence of monitoring and measurement activities and the results thereof needs to be documented.

Clause 10 is aimed at identifying BCMS nonconformities and ensuring continual improvement through corrective action. Any corrective action to resolve identified nonconformities should be taken promptly and documented. The organization needs to retain documented information as evidence of the nature of nonconformities, of any subsequent action taken, and of the results of corrective action. Corrective action should be reviewed to determine its effectiveness.

**Implementation of ISO 22301 across the globe and in the Western Balkan countries**

The versatility of threats that can disrupt the business continuity of organizations ranges from cyber-attacks to global pandemics and natural disasters. In the past, business continuity planning was reserved only for vulnerable national infrastructure and large corporations, but nowadays the issue of business continuity affects almost all organizations. Statistical data indicate that 80% of organizations facing significant business discontinuity without appropriate plans for ensuring business continuity do not “survive” a disruption [7]. Figure 3 shows a chart of the total number of valid certificates across the globe from 2014 to 2020.

![Figure 3. Total valid certificates](image)

Source: [5]

The above chart indicates that business continuity management has evolved during the previous decade as an efficient tool for ensuring the delivery of key products/services of organizations during various disruptive events [8]. The level of organizations’ business continuity is directly associated with their level of resilience, i.e. organizations that implemented their business continuity plans are more resilient than those that did not [9]. Figure 4 shows the implementation of ISO 22301 in the Western Balkan countries.
Figure 4. Implementation of ISO 22301 in the Western Balkan countries

Source: [5]

Over the past three years, Serbia has recorded an increase in the number of ISO 22301 implementations across different fields, primarily production, transportation, storage, communication, construction, IT, etc. As the organizational culture develops further and as the awareness of the importance of resilience to the ever-increasing challenges grows, it is expected that this number will continue to grow.

CONCLUSION

The key benefits of implementing ISO 22301 include avoiding disruptions that affect the quality and continuity of products/services, improved compliance with legal and other requirements, consumer trust, trust of other interested parties, profitability, and greater employee dedication [10]. However, in addition to the direct benefits, there are some indirect ones, such as the possibility of correlation with other safety standards that ensure business continuity, e.g. ISO 9001 for quality, ISO 14001 for the environment, ISO 45001 for occupational safety, and the European standard 15975 “Security of drinking water supply – Guidelines for risk and crisis management” for water supply. Likewise, ISO 22301 can be correlated with the EMAS regulation, since several procedural steps in its implementation include prevention of hazards and emergencies, EMAS monitoring, and continual improvement, which is an interesting topic for future scholarly consideration.

REFERENCES


Internet

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COVID-19 PANDEMIC AND THE ROLE OF EMPLOYERS AND EMPLOYEES IN BUSINESS CONTINUITY MANAGEMENT - LEGAL ASPECTS

Abstract
Covid-19 pandemic has raised many issues in the business world regarding employers and employees as subjects of employment. It poses a serious threat to the business of many organizations and has caused serious problems so far. As such disruptions can affect the survival and business continuity of organizations, employers have to be acquainted with the risks to their organizations in order to sustain their operations even in crisis, such as the current pandemic. Employees, as a party to the employment relationship, are a key resource of any organization. During the pandemic, they are always expected to adapt to new circumstances and be very flexible. Their interest is often the survival and successful operation of the employer. For all these reasons, the subject of research in this paper is the labor-law framework of the Republic of Serbia, where the subjects of employment can adjust their actions during the Covid-19 pandemic in order to ensure business continuity.

Key words: subjects of employment, regulations, business continuity management, Republic of Serbia

INTRODUCTION
The coronavirus pandemic was first reported on 31 December 2019 in Wuhan City, Hubei Province of China as a cluster of pneumonia cases of unknown cause. It quickly became an infectious-disease outbreak of rare global proportions. Countries around the world have begun to implement various measures to combat the further spread of the virus and preserve public health. Various strategies were established, such as social distancing, lockdown measures, and later, with the development of vaccines, Covid-19 certificates and the like [1]. These public health instruments have given some results in combating the spread of the virus, but at the same time have strongly affected the economies of entire countries, but also a large number of employers who needed to adapt to new circumstances quickly. Numerous companies have stopped operating due to the inability to withstand economic pressure (e.g. travel agencies, restaurants, hotels, etc.). Gradually, as the registration of vaccines began, which increased the number of vaccinated people, economies around the world started to "wake up" and employers intensified their business activities and adapted them to current circumstances.

In addition to the states and employers, this health crisis has had a strong impact on employees. In many sectors there has been a reduction in the number of employees or a reduction in their earnings [2]. Also, with some employers there was an increase in working hours, overqualified employees, part time jobs, reduction of the amount or abolition of bonuses, transition to the minimum wage, etc. Numerous statistical data and conducted research testify to this. For example, the current underemployment rate in Australia is 9.1% and can increase up to 15% in the coming months due to the shutdown of most industries. In Hong Kong, in the period from January to March 2020, the unemployment rate increased from 3.7% to 4.2% and the underemployment rate increased from 1.5% to 2.1%. As per the report of the Center for Monitoring Indian Economy in India, urban unemployment rate climbed to 30.9% and overall unemployment rate rose to 23.4% because of the impact of COVID-19 on the economy. It was roughly estimated that in just two weeks of lockdown, 50 million people lost jobs in India. In Canada the shutdown of the economy due to COVID-19 came as a shock for the Canadian labor market as more than 1/3 of their potential labor force did not work at all or worked for less than half of their usual hours in the month of April 2020 [3]. Many more such statistics can be found in the literature.

Bearing in mind the overall circumstances, the question of the role of employers and employees in maintaining the business continuity of the organization can be raised. In the past two years, many authors have discussed the role of states and their measures to preserve business continuity, but it seems that
more attention should be paid to the opportunities available to employers to preserve or even improve their business and working conditions. Employees can also deal with business continuity and development of an organization, so it is desirable to explore these possibilities in more detail.

**CHALLENGES FOR EMPLOYERS AND EMPLOYEES AND COVID-19 PANDEMIC**

COVID-19 is a pandemic affecting many countries globally. It has become a social phenomenon and a dominant feature affecting the world of work in many respects. The pandemic has changed and seriously redefined the nature and characteristics of the relationship between employers and employees. It has had a strong impact on both employers and employees. Its reflections are numerous and vary depending on the country. Countries have coped with the challenges in the world of work more or less successfully in view of the current overall circumstances and the Republic of Serbia was no exception. Our healthcare system has been seriously affected by the pandemic, especially given the cultural habits of the population that oppose key epidemiological recommendations for self-isolation and physical distance [4].

A lot of research has dealt with the challenges faced by employees during the pandemic, and to a lesser extent, the subject of interest was the challenges for employers. In this sense, several dominant problems faced by employers and employees can be singled out. Employers encountered various business problems during the pandemic. This is evidenced by the results of a survey conducted by the Union of Employers of Serbia in cooperation with the International Labor Organization in the period from September to November 2020 [5]. The results show that almost 90% of the surveyed companies managed to operate during the emergency measures in Serbia (second quarter of 2020), and more than half at full capacity, either in business premises or through teleworking. Larger and medium-sized enterprises were more successful in adjusting their business, while micro-enterprises were the most affected by the situation. The International Labor Organization itself was of the opinion that some employers have to close their companies. Laws, such as safety regulations or regulations related to emergencies, prevention or control of infectious diseases, can give the government a wide range of powers that can affect business, including orders to close businesses or restrict the movement of people. In such circumstances, a violation of the rules enacted by the Government is considered a criminal offense punishable by a fine or imprisonment. Due to the crisis caused by the COVID-19 virus, some companies were forced to stop working due to government orders. Businesses may also be forced to close due to lack of goods or customers, unavailability of stocks or denied access to trading partners [6]. According to the mentioned research, the most affected sectors were catering, hotel business, provision of personal services. The most common problem was declining demand for products and services, as well as delays in customer payments. The research also shows that 69% of companies did not anticipate any changes in the number of employees, and that layoffs can be expected more often in smaller companies, but even if that happens, a large number of employees will not be dismissed (less than 20%) [5].

Some employers still faced the problem of redundancy in the current circumstances and the ILO recommended possible actions. According to the ILO, some labor laws or collective agreements may contain provisions that give employers the right to send workers on unpaid leave during certain periods. This may be the case for companies that are affected by import/export restrictions due to the pandemic, which results in no jobs for workers, or in circumstances where work is suspended for any reason beyond the control of the employer. For example, in Australia, the Fair Work Act gives employers the right to send workers to unpaid leave in a period when they cannot be "usefully employed" due to a strike, malfunction of machinery or equipment, or suspension for any reason for which the employer cannot be called to account [6]. The Labor Law of Serbia provides similar possibilities stipulating that employers have the opportunity to direct employees to a leave of absence, the so-called "forced annual leave", during 45 working days or longer, but with the consent of the line minister [7]. This is the case of paid leave of absence.

With regard to employees, research indicates certain problems that frequently occur. Thus, one of the problems is job insecurity. This means that people are employed mainly for a certain period of time, through some form of flexible employment (often it is a part-time employment relationship and work from home). Employment is an important part of life as it provides a means to earn a living, improve the standard of living and social status, a sense of self confidence and self-respect. The pandemic increased underemployment. Such workers involuntarily engage in low paid jobs or work less than usual hours or get those employments which are not appropriate or productive. They have to settle for those lower level jobs for which they are overqualified. Despite being capable of working full time, they have to work part time and are paid lower wages. This is a serious problem because even though people
are employed, they are not able to work as per their capabilities and capacities. Moreover, the research has shown that full time workers exhibit lower stress levels and depressive symptoms while unemployed or part time workers have more stress, unhealthy eating habits and consumption of cigarette and alcohol [8]. In the literature, there are opposing views regarding the relationship between job insecurity and productivity at work. Some authors believe that employees will work harder and be more productive, while others are of the opinion that these circumstances reduce the focus on work and increase stress and other health risks [9].

Another important consequence of the pandemic is the problem of safety and health at work. Employers, especially at the very beginning of the pandemic, were not ready to procure sufficient quantities of personal protective equipment in the short term. Therefore, some of them were working without the equipment needed for personal protection against the virus. Due to the fear of job loss, some employees were working without protective equipment, and others did not wear face masks due to breathing problems. In addition to mandatory face masks, restrictions such as compulsory body temperature tests and social distancing have sometimes led to resistance to occupational safety measures [10]. Furthermore, the fear of the virus itself negatively affected the motivation, commitment and engagement of employees. These are just some of the consequences of workplace stress, now being caused by COVID-19. Today, job insecurity and insufficiently well-defined work engagement, frequent work-life imbalance as well as excessive emotional investment in the work environment inevitably lead to stress at work. The causes of stress at work can vary from bad company policy, bullying of an individual (e.g. various types of mobbing), to those that are a direct consequence of the socio-economic conditions of a society [11]. Apart from these stressors, we should indicate the importance of the pandemic and its consequences for the individual, i.e. employee. Workplace stress itself can further lead to more serious conditions such as burnout syndrome. This is a particular threat to healthcare workers during the pandemic, which should be supervised by occupational safety and health professionals in healthcare institutions. [12, 13].

POSSIBLE SOLUTIONS

Depending on the specific circumstances in one country, there are many ways and measures that can be applied in order to preserve the continuity of business companies while protecting the interests of all social partners. Some measures have a stimulating character, while others are repressive. Thus, some of the economic measures can be introduced in order to ensure business continuity. In view of worsening unemployment and increasing poverty levels since the majority of households who are in informal sectors are extremely vulnerable when governments institute lockdowns measures, there is a need for security provision in the form of cash transfers for vulnerable people. In order to minimize the effects of the COVID-19 pandemic on business operations, countries can allow for tax delays and suspensions, and can create fiscal stimulus packages. As micro-enterprises are most affected by the crisis, in order to provide lifeline and safety nets for small businesses, the government has to provide tax exemptions to them [1].

State aid to employers can involve providing funds in order to encourage and keep workers in employment. Serbia is also applying this measure. Also, it is possible to increase labor prices for night and overtime work of those employed in healthcare, social services, the Ministry of Interior and the like [14]. To ensure the effectiveness of these measures, it is important that employers are well informed about the opportunities for assistance provided by the state. They should apply for assistance in a timely manner and follow the prescribed procedures. Such measures help employers to keep workers without terminating their employment contracts [14], which is directly in the interest of workers.

Working from home is one of the measures that has been widely used by many employers [15], including those in Serbia in periods when the number of Coronavirus cases was high. This form of work has existed in the Labor Law since its enactment in 2005, but it was only in these conditions that it came to light. In order to reduce the number of employees coming to the workplace, employers used the opportunity to organize work from home whenever possible. There are various criticisms of this form of work, but it is certain that it has many advantages and it will be applied in the future even after the end of the pandemic. To avoid negative consequences for the employee, there are recommendations on how to organize work from home [16].

One of the stimulative measures is to organize awareness campaigns and training of employees to understand COVID-19 issues. As a preventive measure, employees should be educated so that they fully understand the effects and ways of managing Coronavirus. Trade unions need to play a significant role
in educating and communicating with workers on the nature and impacts of COVID-19 in the workplaces. The same unions should negotiate with management to provide personal protective equipment and all occupational safety measures.

In addition to stimulative measures, some other measures could be repressive. Some research shows that corporate managements believe that disciplinary action should be taken against employees who breach OHS measures established for COVID-19. This could be a measure applicable to the Republic of Serbia, as there is legal framework for its introduction. The employer may prescribe in its internal act (rulebook on occupational safety and health, work regulations, collective agreement with the employer) through the provision that non-compliance with COVID-19 occupational safety measures is a violation of work obligations. According to the Labor Law, violation of the labor obligation can be the basis for penalty, the termination of the employment contract being the most severe [7].

Although an unpopular measure, the labor inspectorate should intensify its work during the pandemic by controlling the protection of employees from the virus. In particular, the use of personal protective equipment should be controlled [17].

The work of inspection bodies should not necessarily involve penalty. The emphasis should be on prevention, which means acquainting employers, employees and occupational safety and health professionals with regulations, rights and obligations regarding protection during the pandemic. There are many measures to preserve business continuity during the pandemic, some of them being the introduction of shift work wherever possible, flexibility of working hours, introduction of standby duty, wider application of some more flexible forms of work such as zero-hour contract, use of internet platforms for meetings, conferences, lectures, etc.

CONCLUSION

Man mastering nature is the legacy of modern civilization. However, modern man tends to overestimate this power and underestimate the power of nature, as shown by the experience with the pandemic [4]. The COVID-19 pandemic undoubtedly brought economic and social hardships across the globe. Even though there is great uncertainty regarding the duration and economic impact of the COVID-19 pandemic, many experts and organizations make unfavorable predictions. The World Trade Organization argues that the impact of the pandemic on global trade volumes will exceed the drop in global trade witnessed during the height of the 2008–2009 global financial crisis [1].

In addition to financial consequences for the state as a whole, there will negative effects on the operation of many businesses and their employees. Therefore, it is important to emphasize that employers need to respect the fundamental rights of workers, especially those enshrined in the UN Universal Declaration of Human Rights, and the ILO. Also, states should strengthen the trust of employees in institutions and science in order to ensure the necessary level of health culture and behavior in terms of compliance with occupational safety measures in general, including the COVID-19 measures [18]. Safety must be ingrained in the organization’s culture where it serves as the driver of every deliberate activity. Leadership might be key to this goal [19]. All this shall result in healthy workers who engage to provide the employer with business continuity and profit, as well as their own earnings. Accordingly, we can conclude that an efficient and productive organization is of little value if it is achieved at the expense of safety, health and well-being of employees.

REFERENCES


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Darko Palaćić

EMERGENCY PREPAREDNESS AND RESPONSE IN OCCUPATIONAL HEALTH AND SAFETY IN THE CONTEXT OF THE APPLICATION OF BUSINESS CONTINUITY MANAGEMENT

Abstract

The purpose and goal of occupational health and safety is to create safe working conditions to prevent injuries at work, occupational diseases, other work-related illnesses and other emergencies, and to ensure an effective response in the event of emergencies. Emergency preparedness and response is an integral part of the implementation of occupational health and safety activities. In this area, any emergency situation can have some impact on business continuity. Thus, preparedness for emergency situations in occupational health and safety becomes an integral part of business continuity management. Business continuity is capability of an organization to continue to delivery of products and services within acceptable timeframes at a predefined capacity during a disruption. In the first part of the paper, the theoretical assumptions of business continuity management and occupational health and safety are presented. The second part of the paper presents the business continuity management model for emergency preparedness and response. The discussion and conclusion provide opportunities and recommendations for improving emergency preparedness and response in the context of applying business continuity management.

Key words: business continuity, emergency preparedness, model, occupational health and safety.

INTRODUCTION

The importance of preparedness and response in occupational health and safety

Occupational health and safety generally is defined as the science of the anticipation, recognition, evaluation, and control of hazards arising in or from the workplace that could impair the health and well-being of workers, considering the possible impact on the surrounding communities and the general environment. This domain is necessarily vast, encompassing many disciplines and numerous workplace and environmental hazards. A wide range of structures, skills, knowledge, and analytical capacities are needed to coordinate and implement all “building blocks” that make up national OSH systems so that protection is extended to both workers and the environment. [1]

Economically, morally, and legally, occupational safety and health has become an important issue. Companies are attempting to remain profitable in an ever more competitive global economy. For these companies, addressing safety, health, and environmental issues may mean more than good business practice. [6] Occupational health and safety in practice is terminologically identified with occupational safety. Since security is the superior term to the term protection, it can be concluded that terminologically these two terms cannot represent and mean the same thing. Therefore, safety at work can be defined as a system of technical, health, legal, psychological, pedagogical, and other activities, which detect and eliminate dangers and harms that can endanger the life and health of people at work. [12] In the theoretical definition of the concept of occupational safety, there is no unified position on what occupational safety is. Although it is defined differently by different authors, it can be said that neither definition is in contradiction with the other, so in essence they complement each other. The science of occupational safety aims to find measures and procedures that will exclude the causes that lead to injuries and occupational diseases at work.

Taboršak views occupational safety as an area of occupational science, ie ergology, which includes work organization, ergonomics, work psychophysiology, occupational medicine, work culture, work philosophy, labor law, work sociology, cybernetics and work safety. [16] The employer is responsible for the organization and implementation of occupational safety on the basis of objective responsibility,
regardless of whether it has hired an occupational safety expert, or organized an occupational safety service or has contracted cooperation with an authorized person for occupational safety, institution or company for occupational safety. [14]
The state of safety at work, in other words, the efficiency and effectiveness of the prevention of injuries at work and occupational diseases, depends on the success of the implementation of occupational safety in relation to the existing risks at work. Therefore, the key precondition for the planning and implementation of occupational safety is the assessment of occupational risks, and further and continual management of occupational risks. Risk management is a preventive process by which risks at work are identified and further procedures are carried out to avoid and/or reduce them. The evaluation of risks in the workplace starts with the identification of the types of hazards existing at the facility. Establishing a process to ensure hazards are identified as the primary goal of a progressive organization with a strong safety management program. The organization eliminates or reduces the risks associated with those hazards to the lowest achievable and reasonable level. [6]
It is evident that in the area of occupational health and safety crises occurs and are resulting in the damage to health, injuries, deaths, and environmental pollution. Such situations can be predicted and business organizations can act preventive in order to prevent crisis situations to not occur, or prepare in advance effective way to counter the anticipated crisis. In order to create the necessary preconditions for effective crisis management in the field of occupational health and safety the business organization must define and implement emergency preparedness and response processes. [15]

Aim and purpose of the research
The aim of occupational health and safety is to prevent occupational risks, occupational injuries, occupational diseases, occupational diseases and other material and non-material damages at work and in connection with work. Also, the goal of occupational health and safety is to organize adequate action in case of emergency, through evacuation and rescue, and through the implementation of measures to mitigate the emergency. Therefore, it is extremely important for the business continuity of an organization.
Occupational safety health and is part of the organization of work and performance of the work process, and is achieved by performing occupational safety and applying the prescribed, agreed, as well as recognized rules of occupational safety and ordered measures and instructions of the employer. The purpose of occupational safety is to create safe working conditions in order to prevent delays in the conduct of business (work) processes with possible consequences for the health and life of workers.
The aim and purpose of the research is to analyse and show the importance of evacuation and rescue procedures, and actions in emergency situations in occupational health and safety in the context of business continuity management.

Research tasks
In accordance with the set goal, the research tasks are:
– analyse and present the basic theoretical settings of occupational health and safety
– analyse and present the basic theoretical settings of business continuity management
– demonstrate basic evacuation, rescue and emergency preparedness requirements
– show the importance of evacuation, rescue and emergency preparedness procedures in the context of business continuity management.

METHODS
Based on the identified problem, set goal and tasks of scientific research, appropriate scientific methods that make up the methodology of work have been selected. Research methods are a way to solve problems purposefully. For this purpose, a number of scientific methods are applied, which by their combination and sequence form the established research methodology that should meet the requirements of the planned theoretical research.
The method of studying documentation and content analyzes:
– basic assumptions of the theory of occupational health and safety
– basic theoretical assumptions of business continuity management
– requirements related to dealing with emergencies
– how to organize actions in emergency situations.
The settings of the theory of occupational health and safety are analyzed from selected scientific literature. Also, in order to detect the application of business continuity management requirements, relevant international standards are analyzed. A combination of deductive and inductive analysis is used in order to classify and summarize the theoretical foundations of the research subject. The method of content analysis is used to analyze theoretical assumptions. The description method describes the essential features and the importance of preparedness and emergency response in health and safety at work. After the analysis and comparison, the essential properties are synthesized and conclusions are drawn.

RESULTS AND DISCUSSION

Business process
A process is in itself a system, that is a certain logical structure composed of elements, sub-processes, process steps, activities, arranged according to a certain logical sequence of events and has its function. Building a process in an indirect way is building a whole business system or a system of functioning of something, which consists of a number of subsystems. [3]

A process is defined as a series of logically connected activities of which it actually consists, with clearly defined inputs and outputs from the process. [7] Business processes describe the way something is done in an organization. A business process is a series of logically related activities that use the resources of an organization whose goal is to meet the needs of customers for products or services of appropriate quality and price, in an adequate time, while achieving some value.

The business process with its activities uses certain business resources in order to meet the needs of users that can be in a narrower and broader sense. Business resources, depending on the specific needs of the process, can be human, material, financial, information, etc. The output of an individual process achieves the goal of the process while achieving new value for the organization, and this output can be an entry into another process. Process management enables an organization to be more efficient, effective, and capable of change than if it were functionally oriented, with a traditional hierarchical approach to management. Business process management is an area of business management that focuses on improving corporate performance through the management and optimization of a company's business processes. It can therefore be described as a process optimization process. In theory, there are 4 process management methodologies: Total Quality Management (TQM), Six Sigma, Lean and ISO 9001. [2]

In order for an organization to successfully implement its strategic goals and business activities, it is necessary to design efficient business processes and measure the performance and optimize existing processes aimed at the future of business and quality towards customers. For this purpose it is necessary:

- define and understand the specific nature of the process
- model and shape processes
- align processes with business strategy
- analyse and measure performance
- optimize the content and the way the process takes place
- continuously monitor and improve processes in accordance with changes and business needs
- manage process continuity.

Business continuity management
Business continuity is the strategic and tactical ability of an organization to plan and respond to incidents and business interruptions in order to continue with business activities at a level it has previously defined as acceptable. [8]

Business continuity (BC) is the ability of an organization to maintain operational functionality during and after a disruption. Disorders can cause damage to any type of organization, making continuity management a critical component. Continuity management allows the organization to continue to provide its products and services during interruptions or disruptions, and to return their business to normal as soon as possible.

Business continuity management is the process of identifying potential impacts that threaten an organization and establishing a prevention and recovery environment that increases the organization's resilience to business interruptions to protect the organization's reputation, name, and value. [5]

Business Continuity Management (BCM) describes the process of event planning. Organizations do this by identifying potential threats and analyzing their impact on day-to-day operations. An effective BCM ensures that an organization can deliver an acceptable service or product in the event of a disaster,
accident, or other incident, helping them maintain their reputation and retain revenue. Business continuity planning is actually a form of insurance, which reduces uncertainty for organizations by knowing that, even if a disaster occurs, the damage will not be great. The importance of the BCM became clear in the midst of the pandemic, as business leaders realized how much they could be affected by the incidents. The introduction of social distancing rules meant that many organizations were forced to change the way they worked, including creating rules for working remotely and adopting Cloud technologies. For the most part, these tools have been extremely popular - to the extent that telecommuting is still in place despite easing pandemic-related constraints. However, organizations may not have that luck with other disruptions and incidents.

The best defence of an organization against unwanted incidents and disruptive events is effective business continuity planning. Such an approach gives employees guidance on what to do if their normal work processes are affected, providing a comprehensive approach to organizational resilience. Effective business continuity management enables organizations to update, control, and implement effective plans, taking into account organizational contingencies and capabilities, as well as business needs. Business continuity management can help an organization prepare for any type of disruption or emergency, including:

- natural disasters - earthquakes, floods, etc.
- man-made disasters - road and rail disruptions
- technological failures - damage to production facilities
- human error - work contrary to the rules of safety at work
- infrastructural damage - bursting of pipes or other installations
- cyber-attacks - various viruses
- sabotage - file theft or damage to equipment.

**Basic principles of business continuity**

ISO 22301 specifies requirements for the introduction, maintenance and improvement of business continuity management systems so that organizations can be adequately prepared to respond to and recover from incidents and disruptions. Business continuity management system is a framework or process that deals with potential threats that may disrupt the work of the organization. An important aspect of the business continuity management system is the PDCA cycle, which provides instructions for proper implementation, maintenance and continuous improvement of the organizational BSMS. The organization must understand this process and the basic principles of BCMS.

The basic principles of business continuity include:

- top management responsibilities - top management must actively support and promote initiatives within the organization, and BCMS is no exception. In order to raise and promote organizational resilience / resilience, senior management is responsible for implementing awareness raising policies, procedures and programs. When considering the possible effects of downtime, employee health and safety are a top priority. When responding to a disruption due to some type of event or disaster, top management must change their priorities and resources to provide the best possible solution for a quick and complete recovery without compromising one’s health and safety.
- preparedness for major disruptions - Being prepared means predetermining how the organization will respond to major disruptions. Some disruptions can significantly affect an organization’s ability to deliver products and services. A business continuity plan helps an organization act properly and proactively if such a disruption occurs.
- communication - effective communication is crucial during disruptions or other forms of potential threat to business continuity. All members of the organization should be involved in the communication process. Effective communication is especially important in the early stages of a disorder, because at that point it allows you to determine the nature and extent of the disorder and decide whether to implement a business continuity plan.
- Testing - The organization should regularly test its business continuity plan to ensure that all employees understand and know their role. The tests are designed to consider potential scenarios so that authorities can assess how effective the plan is and update it, if and when needed.

**Benefits of business continuity management applications**

The implementation of business continuity management systems (BCMS) for the organization itself brings certain advantages. Benefits are realized in business, finance, stakeholder and internal...
One of the most significant benefits of applying business continuity management system is strengthening the organization's internal processes. This includes an improved ability to maintain efficiency during a disruption (incident) through overactive controls of all operational vulnerabilities identified. It also includes strengthening its preparedness and emergency response processes.

Disruption means an incident, whether foreseen or unforeseen, that causes an unplanned, negative deviation from the expected delivery of products and services in accordance with the goals of the organization. There is a whole range of incidents that can sample disruptions that cause unplanned, negative deviations from expected delivery of products and services, including incidents arising from occupational health and safety risks. [13]

Slika 1. Benefits of business continuity management applications

![Benefits of business continuity management applications](image)


The financial benefits of business continuity management systems include the reduction of direct or indirect losses associated with disruptions and minimized legal and financial risk.

It benefits from a stakeholder perspective which includes ensuring the protection of life, relevant property and the environment. The stakeholder gains confidence that the organization is ready to address disruptions and maintain business continuity. [4]

**Evacuation, rescue and emergency preparedness in occupational health and safety**

Occupational health and safety as a systematically organized action is an integral part of the organization of work and performance of work procedures, which the employer achieves by applying basic, special and recognized rules of safety at work in accordance with the general principles of prevention.

The employer is obliged to take fire protection and rescue measures, draw up an evacuation and rescue plan, determine the workers who will implement the measures and ensure the call and enable the public services responsible for fire and rescue, in accordance with special regulations.

The employer is obliged to determine and ensure the number of workers, their qualifications and necessary equipment in accordance with the regulations governing fire protection and rescue, depending on the nature of the work process, the size of the employer and the total number of workers. In the event of immediate and significant risks to the life and health of workers, the employer is obliged to:

- immediately inform them of the risk to which they are or could be exposed, as well as of the measures that are or should be implemented in order to prevent or reduce the risk to life and health
- take actions and give instructions on termination of work, ie leaving the place of work and referral to a safe place
organize the continuation of work only after eliminating the risk.

The employer is obliged to train workers in case of immediate and significant risks to life and health, to which they are exposed or could be exposed, and cannot inform the responsible person, they can independently take measures and carry out procedures in accordance with their knowledge and available technical means to eliminate or reduce risks.

Training of workers includes acquainting workers with the evacuation and rescue plan in case of an emergency and conducting a practical evacuation and rescue exercise in accordance with national regulations.

The employer is obliged to carry out occupational health and safety at workplaces endangered by explosive atmospheres in accordance with the implementing regulations and rules of occupational health and safety. (Zakon o zaštiti na radu, N. N. 71/14, 118/14, 94/14, 96/18)

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**Emergency preparedness and response in occupational health and safety in the context of the application of business continuity management**

Business Impact Analysis (BIA) is a systematic process for determining and assessing the potential effects of the interruption of critical business operations as a result of a catastrophe, accident or emergency. The BIA is an essential component of an organization's business continuity plan. It includes a research component to detect all vulnerabilities and a planning component to develop risk minimization strategies. The result is a business impact analysis report, which describes the potential risks specific to the study organization. The purpose of BIA process is to prioritize the various organizational components so that the delivery of products / services can continue in a predeterminated order after the disruption.

Business impact analysis is performed to predict the consequences that may interfere with the regular conduct of business processes. [9]

The objectives of the business impact analysis are to determine the most important business functions and systems, staff and technological resources needed for optimal operations and the time frame within which the functions must return in order for the organization to restore business as normal as possible.

In this context, the organization needs to prepare for all possible emergencies. Emergency preparedness ensures a high level of business continuity. In order to prepare for emergency events, the organization should conduct a business impact analysis and risk assessment in the field of occupational health and safety. For this purpose the organization shall establish, implement and maintain a process(es) for hazard identification that is ongoing and proactive.

The process(es) shall take into account, but not be limited to:

a) how work is organized, social factors (including workload, work hours, victimization, harassment and bullying), leadership and the culture in the organization;

b) routine and non-routine activities and situations, including hazards arising from:

   1) infrastructure, equipment, materials, substances and the physical conditions of the workplace;
   2) product and service design, research, development, testing, production, assembly, construction, service delivery, maintenance and disposal;
   3) human factors;
   4) how the work is performed;

c) past relevant incidents, internal or external to the organization, including emergencies, and their causes;

d) potential emergency situations;

e) people, including consideration of:

   1) those with access to the workplace and their activities, including workers, contractors, visitors and other persons;
   2) those in the vicinity of the workplace who can be affected by the activities of the organization;
   3) workers at a location not under the direct control of the organization;

f) other issues, including consideration of:

   1) the design of work areas, processes, installations, machinery/equipment, operating procedures and work organization, including their adaptation to the needs and capabilities of the workers involved;
   2) situations occurring in the vicinity of the workplace caused by work-related activities under the control of the organization;
   3) situations not controlled by the organization and occurring in the vicinity of the workplace that can cause injury and ill health to persons in the workplace;
g) actual or proposed changes in organization, operations, processes, activities and the OHS management system (see 8.1.3);
h) changes in knowledge of, and information about, hazards.

The organization shall establish, implement and maintain a process(es) needed to prepare for and respond to potential emergency situations, as identified in hazard identification, including:
- establishing a planned response to emergency situations, including the provision of first aid
- providing training for the planned response
- periodically testing and exercising the planned response capability
- evaluating performance and, as necessary, revising the planned response, including after testing and, in particular, after the occurrence of emergency situations
- communicating and providing relevant information to all workers on their duties and responsibilities;
- communicating relevant information to contractors, visitors, emergency response services, government authorities and, as appropriate, the local community
- taking into account the needs and capabilities of all relevant interested parties and ensuring their involvement, as appropriate, in the development of the planned response.

Emergency preparedness plans can include natural, technical and man-made events that occur inside and outside normal working hours.

CONCLUSION

It can be stated that the goals and objectives of this research have been achieved. The conducted research determined and presented the basic theoretical settings of occupational safety, business continuity management, and showed the importance of evacuation and rescue procedures, and actions in emergency situations in occupational health and safety in the context of business continuity management.

In the context of business continuity management, the organization must implement and maintain systematic processes for business impact analysis and assessment of the risk of disruption or incident and review them at planned intervals and when there are significant changes within the organization or in the context in which it operates.

The purpose and goal of occupational health and safety is to create safe working conditions to prevent injuries at work, occupational diseases, other work-related illnesses and other emergencies, and to ensure an effective response in the event of emergencies. Emergency preparedness and response is an integral part of the implementation of occupational health and safety activities. In this area, any emergency situation can have some impact on business continuity. Thus, preparedness for emergency situations in occupational health and safety becomes an integral part of business continuity management.

The objectives of the business impact analysis are to determine the most important business functions and systems, staff and technological resources needed for optimal operations and the time frame within which the functions must return in order for the organization to restore business as normal as possible.

In this context, the organization needs to prepare for all possible emergencies. Emergency preparedness ensures a high level of business continuity. In order to prepare for emergency events, the organization should conduct a business impact analysis and risk assessment in the field of occupational health and safety.

To continue the research, it is proposed to launch an empirical research on the application of preparedness and emergency response in the context of business continuity management. The results of such research can confirm the importance of readiness and response in emergencies in occupational safety and provided guidelines for further development of this extremely important area of business continuity management.

REFERENCES


Regulations
• Zakon o zaštiti na radu, N. N. 71/14, 118/14, 94/14, 96/18

Standards
• ISO 22301:2019, Security and resilience — Business continuity management systems — Requirements

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LEADERSHIP AS A KEY FACTOR OF BUSINESS CONTINUITY MANAGEMENT FROM THE DISCOURSE OF OCCUPATIONAL SAFETY

Abstract
In the modern socio-economic context, leadership and leaders are seen as a key factor for achieving organizational success. At the same time, relevant literature sources indicate that leadership is critical to managing the business continuity of an organization. A significant feature of leadership is reflected in the ability to provide business guidance that ensures continuous functioning of key business functions and sectors after serious incidents and accidents, or their return to regular functioning within a reasonable timeframe. Starting from the operationalization of basic research concepts, the paper considers the connection between leadership and occupational safety in order to transform the safety performance in the organization.

Key words: Leadership, Business Continuity Management, Occupational Safety.

INTRODUCTION
Every organization is a social entity, carefully structured in order to efficiently perform; it is always goal-oriented, and has resources that its members will use. Also, an important part of every organization is its management sector that directs all of the other elements (people, resources) towards achieving goals [1]. In modern business, it is difficult to find parts of the organization that do not use a certain type of technology. As a result, there is an exponential growth of the need to create plans regarding possible disruptions in technological services [2].

Therefore, in addition to integrating basic human values into organizational culture [3], a respectable position of an organization largely depends on the characteristics of leaders and their ability to provide guidance and maintain continuous and uninterrupted business processes, as well as on their ability to create visions of a safe and healthy working environment.

Some companies, such as financial institutions, credit companies or the largest online stores, cannot afford the slightest interruptions in business, because they can cost them millions of dollars. Therefore, the business continuity must ensure the constant and uninterrupted operations of the company, regardless of the risks, threats and causes of downtime. In addition, uninterrupted operations require the highest level of occupational safety and health, so that undesirable consequences, such as injuries at work, occupational diseases and work-related illnesses, are reduced to a minimum, that is, such working conditions that will lead to satisfaction of employees in performing their professional tasks. In such modern and turbulent socio-economic context, the leader is the one who should create a healthy and safe environment in which business processes will run smoothly and continuously.

CONCEPTUAL AND THEORETICAL APPROACH

Leadership
A leader is a person who influences others, has a following, and their words or actions have an effect on the behavior, thinking or emotions of a significant number of individuals. Leaders set guidelines for action through vision [4, 5, 6]. In fact, the essence of leadership is in the ability of the leader to create or articulate a vision and to influence the followers to work on its realization and achieve change [7]. Visions do not only inspire individuals to commit to new ideas, but also serve as a course of action [8]. The leader must be able to set goals, monitor progress, and motivate its subordinates. This requires flexibility in working with others and understanding others [9]. Also, leaders should express their ability...
in creative problem definition (problem focused cognition), which not only has to be acceptable from the organizational point of view, but also socially acceptable [10].

Many authors agree that leaders should be: role models for employees, fully aware of current realities, self-aware and realistic about themselves, visionaries, learners, ethical and moral, enthusiasts, good communicators, etc. [11]. Furthermore, Luthans [12] indicates that the most important qualities of a leader are the motivation to persevere in achieving goals, the leadership, and the integrity that includes the desire for truth, self-confidence, business knowledge, emotional intelligence, problem solving intelligence and creativity (a basic skill of an effective leader) [13]. The leader selects and employs creative people and rewards the most creative solutions [14], creates an open atmosphere, trust, and respect among team members, and reduces interpersonal conflicts and tensions. Leaders have the potential to help employees manage their emotions [15]. Emotion management (especially negative ones) is a central characteristic of effective leaders [16, 17].

The leader also plays an important role when it comes to the education of his associates, especially today when the concept of lifelong learning prevails in organizations. In other words, leaders can potentially integrate new learning with existing knowledge, if this new learning is aligned with the organization’s values[18]. From the multitude of leaders’ competencies, Bennis [19] singles out:

- attention management (drawing attention to oneself);
- meaning management (communication of vision, interpretation of reality to followers);
- trust management (constancy, consistency in order for followers to gain trust);
- self-management (key ability, existence of a realistic self-image).

Mumford et al. [20] propose a model consisting of four categories of leadership skills:

- cognitive skills (ability to collect, process and disseminate information; speaking, writing, comprehension skills, etc.);
- interpersonal skills (interpersonal and social skills; understanding the reactions of others; coordination skills; negotiation skills, etc.);
- business skills (management of material resources, personnel, financial resources, etc.);
- strategic skills (vision skills; cause and effect identification skills; understanding of causal relationships in the environment; problem solving skills; assessment of alternative courses of action).

It is obvious that “influence”, “vision”, “change”, “creativity” and “followers” are most often associated with leadership. Leadership is a social phenomenon, because it always happens in a group, organization, nation, etc., i.e. in a social system. Research has pointed out many traits that most leaders have (e.g. self-confidence, determination, intelligence, communication, integrity, etc.), however, key concept for understanding leaders is their power or influence they have on their followers.

**Business continuity**

Business continuity refers to the maintenance of continuous and uninterrupted business processes. The Institute for Business Continuity, indicates that this term implies planning in order to resolve difficult situations, so that the organization can continue to function with as few disruptions as possible. According to the ISO 22301: 2012 standard, business continuity is defined as the ability of an organization to continuously deliver its products or services, in accordance with acceptable pre-defined levels, after the disruptions in the regular business operations of the organization. In fact, the basic idea of business continuity is to protect the information i.e. to ensure its availability during some major unexpected accidents.

Business continuity can be divided into three basic parts:

- system resilience;
- incident response; and
- recovering the target level of business.

Business interruption is defined as a situation in which the business does not have its resources, i.e. does not have the access to resources used for regular operations. Business interruptions are those events that cause significant downtime or loss of key business processes, which has a large negative impact and consequences for the company. Significant business interruption is an adverse event that violates

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1 Societal security - Business continuity management systems - Requirements (ISO 22301:2012)
2 https://www.thebci.org/knowledge/introduction-to-business-continuity.html
4 https://www.caruk.rs/upravljanje-kontinuitetom-poslovanja
one of the three basic parameters of all information systems, i.e., the availability of a system or part of a system. In the event of a significant interruption, it is necessary to ensure timely recovery and resumption of key business activities, which is the actual purpose of business continuity management [21].

LEADERSHIP AND BUSINESS CONTINUITY MANAGEMENT

Business Continuity Management (BCM) encompasses a wide range of activities that ensure continuous functioning of key business functions and sectors after serious incidents and accidents, or their return to normal functioning within a reasonable timeframe\(^5\). Business continuity management is a dynamic, proactive and lasting process that should always be modern and adapted to its purpose in order to achieve efficiency. The main goals of any effective BCM strategy are [22]:

- ensure the safety of employees;
- defend the reputation and image of the organization;
- minimize the impact of incidents on customers and clients;
- prevent or at least limit external influences;
- show the media, market participants and stakeholders that the organization manages situations efficiently and effectively;
- protect the assets of the organization and
- comply with laws and regulations.

Business continuity management is a holistic management process that identifies potential threatening impacts on the organization and provides a framework for developing resilience and ability to respond effectively, in order to protect the interests of key actors, reputation and brand, as well as activities that create new values. Precisely, the purpose of leadership is to provide the organization with a response to a disaster that threatens its survival and to enable business continuity. The goal is to strengthen the resilience of the organization, ensuring that it survives the loss of operational capabilities. The business continuity cycle, which consists of planning, implementation and evaluation of the plan, is shown in Figure 1.

Figure 1. Business continuity cycle

![Business continuity cycle diagram]

Source: Source of figure [2]

As shown in Figure 1, the first activities carried out after a disaster are the disaster recovery activities. Later, these activities overlap with business continuity activities. In such situations, business programs and plans are essential, because the research on risk management suggests that business continuity programs are important in responding to and recovering from disruptions. When it comes to their development and implementation, the role of the leader is indisputable.

Business continuity programs are a collection of risk mitigation activities, risk management, continuity planning and emergency response activities [23, 24]. At the same time, corporations are paying greater attention to business continuity programs, due to growing geopolitical, sociopolitical and socioeconomic risks around the world [25]. As emphasized by managers, one of the most popular benefit of the business continuity programs is “better understanding of the organization” [26]. Well-designed business continuity programs describe the mitigation plans in detail, including processes necessary to recover and re-establish organizational functions [23].

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*5 https://www.caruk.rs/upravljanje-kontinuitetom-poslovanja*
A business continuity plan also defines the key staff members and activities necessary for the immediate response to the incident, possible scenarios, as well as strategies and activities that need to be undertaken in order to recover the business to the previously defined level. The implementation of a business continuity plan strengthens an organization’s resilience when an unwanted event occurs and reduces the possibility of business interruptions that can lead to severe consequences\(^6\). Despite the increasing attacks on key business processes and resources, many companies still don't have business continuity plans and disaster recovery plans [2].

Business continuity management is the process of anticipating incidents that have an impact on the critical functions and processes of the organization, and of providing a response to each of them in a planned and practiced manner. According to Gallagher [27], there are three main elements in this definition:

- **anticipating incidents** - each organization should examine the risks and threats to which it is exposed, and consider the most effective ways to act if they escalate;
- **influence on critical functions and processes** - BCM does not deal with plans and procedures for everyday things that can go wrong, but only with incidents that have a significant impact on the basic activities of the organization;
- **responding in a planned and practiced way** - BCM includes planning, involvement of appropriate staff, acceptance and ownership, as well as thorough testing of the plan.

**RESPONSIBILITY OF LEADERS FOR CONTINUOUS BUSINESS PROCESS AND OCCUPATIONAL SAFETY**

Leadership, as the ability to motivate people towards a common goal, is an important skill in today’s business world. It relies on trust, inspiration, attitude, and decision-making ability. This is all necessary in order to achieve the goals of the management system, which are in line with the strategy of the organization and the context in which the organization operates, and to achieve a safe working environment, in which business processes will run smoothly and continuously. In developed countries, the level of employee safety is one of the most important indicators of business reliability and the company’s value, which is often decisive in attracting and recruiting the staff (staffing) and in obtaining business arrangements. Company management, which includes the safety of workers as an inseparable function of human resource management, contributes to raising the level of safety culture and the reputation of the company/employer. Therefore, the introduction of a quality system and planning the long-term development of the company includes a system of occupational safety and health, which continuously provides a competitive advantage in the market.

The evaluation of leaders’ abilities is based on their approach and the attention they pay to this issue. Leaders’ abilities and results in this area are best reflected in regular analysis of the work-related injuries, diseases, losses, costs and other expenses, as well as the effects of investing in the improvement of the working conditions, i.e. their impact on reducing accidents and financial expenses. Companies with a modern organization of work disseminate positive results achieved in the field of occupational safety, i.e. such results are presented to the public, business partners and all employees, published in newspapers or prominently displayed. This also helps raising the awareness on the necessity of preventive actions, as well as promoting the culture of safety among the employees. Therefore, every activity related to the occupational safety should be permanently accompanied with education and training activities in this field.

In Serbia, the right to safe and healthy working conditions and necessary protection at work is established by the Constitution of the Republic of Serbia, as a basic right of the employees (Službeni glasnik RS, br. 98/2006). Constitutional provisions are not directly applicable, but constitutional principles represent a basis for creating laws and other documents in order to regulate the rights and relations. The Law on Safety and Health at Work (Službeni glasnik RS, br. 101/2005, 91/2015 i 113/2017) is a systemic law in the field of occupational safety. It is harmonized with the acts and requirements of international organizations (primarily the ILO and the EU), as well as with the laws of the neighbouring countries and is well adapted to the needs of modern working conditions and market relations. The law regulates the obligations and responsibilities of the employer/safety and health manager, which include normative activities (e.g. drafting an act on risk assessment), organization of work processes and occupational safety and health activities, obligations related to: employees, high-

\(^6\) https://www.caruk.rs/upravljanje-kontinuitetom-poslovanja/
risk jobs, the employee representative in the Committee for Safety and Health at Work, maintenance, inspection and testing of work equipment and environment, labor inspection, etc. In addition, the activities related to learning and training of employees for occupational safety are important for the leading role of the employer/safety and health manager.

CONCLUSION

Modern business context is characterized by constant and accelerated changes, increased competition in the global market, continuous introduction of new technologies, major changes in the labor market, as well as an increasing number of stakeholders with rising expectations. In addition, this turbulent business environment is accompanied by many different risks. Managing the risks in the field of occupational safety and health and managing the business continuity are becoming an important area of operation for modern leaders.

Business continuity management is a holistic management process that identifies potential impacts that threaten the organization and provides a framework for developing resilience and ability to respond effectively, in order to protect the interests of key actors, reputation and brand as well as activities that create new values. In fact, business continuity planning is a complex process that does not only require the leaders’ efforts, but also the efforts of every unit of an organization. Business continuity management process must be fully integrated into the organization as a part of the management system. This process aims to develop and improve the resilience of the organization.

Adequate business continuity programs and plans will not only meet the specific requirements, but will provide the answers related to business risks and contribute to raising the awareness of the overall risks threatening the organization. In fact, a comprehensive and quality business continuity plan can be regarded as a competitive advantage for an organization. Organizations with implemented plans can use disruptions at the industry level to achieve greater market share, strengthen the reputation and image in public and among stakeholders and express themselves as an entity that manages its business challenges, especially crises, efficiently and effectively.

It is argued that flexibility and adaptiveness in response and recovery provide sensitivity to face challenging conditions and that a procedural orientation can lead to better preparedness and efficiency in execution.

REFERENCES


Other materials

Regulations
- Ustav Republike Srbije, Službeni glasnik RS, br. 98/2006.

Standards
- ISO 22301:2012, Societal security - Business continuity management systems - Requirements

Internet
- Upravljanje kontinuitetom poslovanja, https://www.caruk.rs/upravljanje-kontinuitetom-poslovanja/ (22.2.2022.)
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ON THE CONNECTION BETWEEN BUSINESS CONTINUITY MANAGEMENT AND ORGANIZATIONAL RESILIENCE

Abstract
Modern market is characterized by frequent changes that affect normal functioning of organizations. Sudden and unpredictable changes can prevent an organization from achieving its objectives. Thus it is important for an organization to have sufficient resources and ability to overcome potential problems caused by adverse events. It is of primary importance for an organization to achieve operational resilience in the context of conducting core business activities. However, the aspects of safety, security and technological changes are also being considered. Therefore, it is necessary to consider the connection between organizational resilience and business continuity in more detail. The analysis is presented in this paper in the context of the factors affecting the ability of organizational system to adapt its functioning to internal or external changes and disturbances.

Key words: resilience, factors, organization, business continuity management (BCM)

INTRODUCTION

When considering problems in complex systems, organizational factors and factors affecting the performance of individuals are taken into account, while establishing a compromise between productivity and safety. Over the last twenty years, various characteristics of complex sociotechnical systems have been considered and alternatives for safety management have been proposed [1, 2], with special emphasis on resilience engineering as a paradigm to help people cope with complexity in critical situations under the pressure of success, develop systems that have resilience capacity, constantly improve organizational capacity by reducing risks and adapting to environmental disturbances [3,4,5]. Safety researchers have begun to use new terminology, such as robustness and resilience, to describe organizational capabilities to achieve a high level of safety despite high risks in accomplishing tasks and meeting organizational goals. To be resilient, an organization must apply proactive approaches and adapt to changing conditions with effective responses to change. Adaptation to change takes place on three levels (individual, team and organizational), and the basis is anticipation, monitoring and learning, for which it is necessary to define principles and methods [6,7]. Resilience can be observed at different levels and in different areas. In this paper, the concepts of organizational resilience are primarily considered.

Unlimited only to safety, resilience and resilience engineering aim to define system performance and how to adapt them, with special emphasis on the importance of applying resilience concepts at organizational level, as well as identifying key factors. For example, one can rank the factors that enable an organization to be resistant to various disturbances as presented in [8]. Further, standardization is one of the ways to establish and implement socially acceptable procedures in an organization enabling the fulfilment of organizational goals and user requirements while achieving acceptable system effectiveness.

Business continuity management (BCM) enables an organization to gain the ability to continue producing products or delivering services at an acceptable level following the occurrence of an adverse event or disruptive incident. BCM requires the definition of a specific program, for which it is necessary to select appropriate tools that will enable its effective implementation and management. The basis of management is appropriate business impact analysis (BIA), and the application of ISO 22301 series of standards can greatly simplify and improve manageability.
DEFINITIONS OF RESILIENCE

Numerous researchers, associations and organizations dealing with issues related to global change, food security, social development guidelines and disaster risk analysis have defined and analysed vulnerability and resilience as significant aspects of risk [5,9]. Resilience is the system ability to adapt its functioning to disturbances, enabling the system to be functional even after a major error or in the presence of constant stress [10,12,23]. In [3], the authors present several definitions of resilience, which characterize the capacity to overcome unexpected dangers, the ability to return to the state before an adverse event, prevent adverse effects of events and adapt to adverse effects, as well as adaptive behaviour to events that pose a threat to the functioning of the system. The International Organization for Standardization defines resilience as organizational ability or capacity to maintain basic functions during and after an undesirable event within an appropriate time frame and with as few adverse effects as possible [11]. The system must be able to monitor the current situation and its own performance, anticipate risks and opportunities, and learn from past events [6], so four basic characteristics of a resilient system can be identified as response to an adverse event, monitoring the current conditions, predicting adverse events, and learning from previous experience.

Resilience can be described by the danger, i.e. the occurrence of a known or unknown adverse event, the consequences of the occurrence of an adverse event, the estimated uncertainty of the event or the consequences, the knowledge on the basis of which it is claimed that the description of resistance is appropriate, as well as the capacity of protective barriers that affect the level of consequences [12]. In this way, the capacity of protective barriers and uncertainty describe the performance of a barrier.

CONCEPT OF ORGANIZATIONAL RESILIENCE

Resilience is becoming the predominant concept in safety research and organizational practice [13]. There are a lot of potentially unpredictable and serious threats to the continuity of an organizations’ operations caused by market disturbances, pandemics, natural disasters, unsafe behaviour and equipment malfunctions [5,14].

The concept of organizational resilience was originally used to describe the need to respond to changes in the business environment. Therefore, it had to emphasize properties such as flexibility, adaptability and agility for change after a change in the environment. Further, the focus was shifted to disruptive events and disasters, because effective management during a crisis or disaster could be the key to success or fail.

Resilience is what enables an organization to survive or even prosper, to turn “challenges into opportunities” [15,16]. Although most organizations have plans that deal with risks, crises, emergencies, and even disasters, they are usually managed in isolation, resulting in a lack or waste of resources. Organizational resilience aims to integrate these tasks and activities through a single process that forms the basis of the way the organization works [16].

A newer concept that has emerged from the growing complexity of modern sociotechnical systems views resilience as a way of dealing with the various challenges posed by complexity. Complexity makes systems inherently risky. The object of resilience then becomes the ability to adapt to such emerging risks in order to guarantee the success of the inherently risky system [13]. The concepts of complexity and risk are related. Increased complexity leads to new risks that, in turn, require a new approach to resilience as a risk mitigation strategy [17].

According to [15], organizational resilience has three dimensions: cognitive, behavioural, and contextual. Cognitive aspect describes organizational ability to identify threats, analyse potential consequences, and select appropriate measures to enable business continuity. Behavioural aspects emphasize learning capability, efficient resource usage, and importance of collaboration. Contextual resilience provides opportunities for the integration and use of cognitive and behavioural resilience. It is made up of connections and resources. A resilient organization needs to fully demonstrate resilience in all three aspects.

Resilience should also be achieved at all levels of an organization: individual, group (team) and organizational. Individual characteristics, such as trust, optimism, faith and belonging contribute to individual resilience. Adaptability is an important organizational property, which in collaboration with personal responsibility and safety supports organizational resilience [14]. The model of resilience emphasizes the interaction between different levels, from individual to organizational [14,24,25].
Adequate resilience plans are needed, as well as the existence of a dynamic and innovative business model that can quickly adapt organizational activities to changes in the environment through timely proactive action and the development of organizational culture focused on employees’ knowledge and knowledge sharing in collaborative communities [24,26]. The knowledge resources of organizations are becoming more and more important. Without adequate accumulation of knowledge in an organization, exchange of experience among team members and with representative stakeholders outside the organization, it is not possible to be sufficiently prepared for the unpredictability of a modern dynamic business environment.

**DISCUSSION**

Resilience is considered high if the negative consequences of the occurrence of an event are unlikely to be manifested, including those events that were not taken into account at the time of consideration or not enough knowledge is known about their consequences. Resilience refers to the consequences of the occurrence of an adverse event and the uncertainty associated with that event. A system is resilient if the resilience of the system is considered to be high, and in real systems certain limits are defined for which adverse events are allowed, in terms of the nature of the consequences of their occurrence. Resilient behaviour can be categorized according to the types of responses to an unexpected or adverse event. It could be homeostatic response, response based on anticipation and monitoring or application of existing knowledge based on previous experience. The inclusion of vulnerability and resilience dimensions leads to an expanded consideration of risk, which contains the following elements [6]: identification of adverse events, cause analysis, vulnerability or resilience analysis, risk description and characterization.

The process approach is an important feature of all system standards, including those in the field of business continuity management. Standardization in the field of business continuity emphasizes the affiliation of security and resilience, with special study of requirements, business impact analysis, supply chains, human aspects and strategic goals as a basis for the development of plans and procedures [20]. This kind of continuum differentiates structural, non-structural and semi-structural processes based on the level of organizational knowledge, which puts organizational learning and adequate understanding of the possible consequences of adverse events in the foreground, in order to choose corresponding measures based on a predefined plan and available resources.

Although organizational resilience is becoming an important area of management, it still requires a lot of research effort within the context of resilience, its organizing and characterization [18]. Appropriate interactions should also be established with areas relevant to organizational resilience [14]. Different authors look at the conditionality of resilience and risk, i.e. business continuity, in different ways. One group of authors believes that resilience considerations can be conducted without risk considerations [19,21]. It is not necessary to know what events can occur and to determine their probabilities, as required by traditional risk assessment. This is important in situations of great uncertainty when a reliable estimate of probability is not possible, like in complex systems.

Another group of authors argues that risk assessments can be useful in resilience analysis and management [12,17,22]. Resilience cannot be considered depending on an event. Therefore, the basic problem is which events should be included in resilience assessments. Subjective assessments need to be supplemented by knowledge assessment. Every assessment of probability is conditioned by previous experience or knowledge, and that knowledge can be more or less wrong. The success of the assessment can significantly affect the appropriateness of chosen measures.

Risk assessment should consider these possibilities. Such estimates are very important when considering resilience [12]. A system that is effective in risk management will be more resistant to stress. Risk management in this context involves risk reduction, risk transfer and sharing, preparation for effective response and recovery, as well as preparation for those events that are beyond life experience or occur rarely [22].
CONCLUSION

Resilience is an integrative concept that allows multiple risks and stress factors to be considered together in the context of an organization’s development program. Resilience also highlights the slow drivers of change affecting systems and the potential for nonlinearity and transformation processes. It focuses on a set of institutional, social and individual capacities, and, in particular, on learning, innovation and adaptation. Strengthening resilience may be associated with opportunities for change that often open up after a disorder.

Given that resilience is difficult to “measure” and the concept of resilience is still difficult to apply in different operational contexts, known frameworks and related concepts can contribute to the consideration and development of the concept of resilience. Resilience and business continuity management ensure this closeness. Therefore, resilience and risk management is a convenient combination of elements allowing adequate monitoring of adverse events and assessment of their possible consequences, while maintaining the normal functioning of key organizational processes that allow maintaining the production process and providing services, i.e. obtaining the business continuity.

REFERENCES


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QUALITY THROUGH THE PERSPECTIVE OF BUSINESS CONTINUITY OF HIGHER EDUCATION FOR OCCUPATIONAL SAFETY

Abstract
On the way to achieving full membership in the European Association for Quality Assurance in Higher Education (ENQA) in the Republic of Serbia there have been changes in legislation of higher education and other innovations that create favorable conditions for harmonization with European standards and guidelines for quality assurance education (ESG). Starting from that, the paper presents the basic conceptual settings of quality and the importance of its improvement in achieving business continuity of higher education institutions with special reference to higher education for occupational safety.

Key words: Quality, Higher Education, Occupational Safety, Business Continuity

INTRODUCTION
In the last decade of the 20th century, many European countries have implemented reforms (or started their implementation) in different areas and at different levels of education system. These reforms were partly structural and included entire education systems, and partly corrective, involving changes only in certain aspects of education system. The pace and scope of change varies from country to country and is directly conditioned by the specifics of the concrete education system. In general, there are four types of change: structural, corrective, modernized and global. However, in most countries, the processes of ensuring and improving the quality of education are insisted on, regardless of the type of reform.
In the countries of Central and Eastern Europe, political and social changes have conditioned the further development and innovation of education. In parallel with socio-economic measures, all countries in transition have taken certain measures to change the education system. Therefore, the appropriate expert bodies have been formed, national reform programs have been adopted, or at least directions and mechanisms for their implementation have been determined.
The reform in the countries of this region is based on the following key principles: decentralization, democratization, liberalization, pluralism and freedom of choice. Dilemmas and problems related to ensuring and improving the quality of education, based on the mentioned principles, have become particularly important in the context of the preparations of the Republic of Serbia for accession to the European Union and the formation of a future integrated Europe. According to many European experts, defining and establishing a quality system in education is an important element in connecting European countries and preparing citizens for the life in the overall changed conditions in Europe.

Quality - a brief historical overview
Historically, quality as a concept was originally developed for the needs of industry and management. It was first seen as an integral part of skill needed for making certain products or performing certain activities [1], but during the 20th century, there were changes in the meaning of this concept in the field of industry. At the beginning of the 20th century, the control of quality began, which was at the time performed by supervisors (later by regular inspections). Later, the process of statistical control of the

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7 The word quality itself comes from the Latin word *qualitas*, which means feature or property, or from the word *qualis*, which means the kind of something. Starting from this, if we try to define quality, we would mark it as a property on the basis of which something can be clearly recognized (distinctive property). Therefore, etymologically speaking, quality does not have the connotation of a positive property or something that is necessarily better than something else, but serves to denote the things as they are and the properties (values) that distinguish them from other things.
quality was established and, from the middle of the 20th century, the concept of quality management and systematic control in industry began to develop. With the influence of management, certain ideas about quality were transferred in the field of education, that is, the need for verification, the measurability of the quality, the opportunities to improve the quality, and the idea that the quality of education should be a systematic process established on a scientific basis, etc. From a pedagogical perspective, these activities can be observed in two ways: as the evaluation of education (in order to improve it) and as the control and the management of the education system. Since then, various practices of understanding and improving the quality of education have been developed around the world.

This is completely understandable, bearing in mind that the very concept of quality is “elusive”, i.e. that there are still numerous difficulties when it comes to its understanding and determination, which largely depends on the context. This also indicates the complexity and multidimensionality, and even the dynamism of the very concept of quality in education. In general, this term is used to represent something (at least to some extent) good, desirable, ideal, excellent, successful. Indeed, when we talk about quality in education, although there are no generally accepted definitions, it often implies a “benefit that education provides or should provide”, i.e. the value that education has or can have [2, according to 3].

**Ensuring and improving the quality of education – basic theoretical assumptions**

The quality of the development of education and society as a whole cannot be planned in the long run, and achieved, if it is not based on ensuring and improving the quality of education. The quality of education can be understood as a complex and unique process of interaction of various conditions and factors (human, program, organizational, didactic and methodological, value, material, technological, etc.) that act simultaneously in a specific time and space and whose individual quality is also defined as a function of a large number of different variables. Starting from the fact that “quality is the ability of a set of essential characteristics of products, systems or processes to meet the requirements of customers and other stakeholders” [4], it can be said that these activities are the basis of the concept of education, regarded in terms of personal and social investments (not spending), which need to be regulated, so that all those who “invest” (primarily parents, then economic investors, etc.) have the opportunity to participate in decision-making, and the right to continuously evaluate the quality of required service.

In this regard, the modern education systems should provide such learning and education that will help children and other learners become citizens who think independently, make responsible decisions, easily cooperate with others and are able to plan and accomplish their own development. In other words, learners should become responsible and competent citizens, whose personal and professional activities represent a significant factor of social cohesion and security. Therefore, as many users of educational services as possible should be provided with opportunities for education and accomplishing the knowledge standards that meet the global requirements.

At the same time, a systemic approach to the quality of education should contribute to the business continuity of the modern education system. Thereby, the goal is not to establish quality per se, nor is it about the control of the quality that ensures the quality of results (they are a part of the process, i.e. the consequences of quality assurance). When ensuring and improving the quality, we have in mind the business continuity of the education system, which is essentially “aware of its presence in economic flows and social events in general” [5]. The system is able to “follow its own quality criteria and co-shape the higher quality of life in society” [5].

Ensuring and improving the quality of education can be monitored and performed both at the level of the education system as a whole and at the level of its individual parts and elements (e.g. primary schools, secondary schools, higher education, individual faculties, classes, groups, elements of the teaching process etc.). There are several methods of quality assessment, starting from self-evaluation to other complex methods and instruments of evaluation. Evaluation involves a set of activities that, in principle, can permeate all segments of the educational system, and the development and complexity of these activities depends on the development and complexity of the educational system itself. A very important step in ensuring and improving the quality of education is to create an appropriate climate and culture for self-evaluation, which represents a continuous process of interpretation and searching for solutions [6] on the way to achieving business continuity of modern education system.
The need and the importance of providing and improving the quality of higher education

The quality of higher education is a multidimensional concept that encompasses all of its functions and activities, teaching and academic programs, research and scholarships, staff, students, faculties, buildings, equipment, academic environment, services, and the community [7]. On the one hand, it refers to the assessment and self-evaluation of the quality of study programs and subjects, previous education, IT and material support to education, etc., which leads to the assessment of the quality of participants in the educational process (faculties, departments, lecturers, students), and to determining the rating of universities, faculties, departments, lecturers and students. On the other hand, when assessing the quality, it is necessary to focus on the degree of satisfaction of the interested parties, i.e. the so-called users of education, where a high level of quality means that there is a high degree of satisfaction [8].

These are two different views on quality assurance models in higher education: the first refers to the traditional view of quality as excellence (“being the best” is a sufficient guarantee of quality), while the second focuses on meeting the needs, requirements and desires of customers or clients, i.e. users: students, academia, government and society as a whole [7].

The quality of higher education is a determinant of the creation and transfer of scientific knowledge and development of scientific and professional competencies of teachers and learners [9]. Therefore, it is regarded as a critical success factor at higher education institutions, especially universities [10]. Since higher education represents an activity of special social interest and a driver of development and progress of society, it is quite clear why the concern for its quality and its improvement is a central theme of European educational policy [7]. This concern arises from the following [11]: competition - competition among educational institutions for student enrollment and obtaining funds is becoming increasingly important; customer satisfaction - students, parents or sponsors require quality teaching and development of necessary business skills; maintaining standards - requires improving the quality of educational transactions, as well as educational provisions and facilities; accountability - by taking care of the quality, the institutions ensure accountability of the funds utilised and inform the stakeholders about taking appropriate decisions, and thus the quality becomes a monitoring mechanism; improve employee morale and motivation - if a quality system is established, the internal processes will be systematic, with departments complementing each others service domain and assisting in developing internal customer satisfaction, which will consequently lead to increased morale and motivation of employees; credibility, prestige and status - a continuous care for quality will contribute to the credibility of individuals and institution as a whole, because of consistency leading to practice, status and brand value; image and visibility - quality institutions have a greater capacity to attract funders/donors, good students from near and far, and greater interest of employees for easy placement of graduates.

In addition, the need and the importance of providing and improving the quality of higher education is based on the following understandings:

- quality assurance represents a key element of the higher education reform and one of the preconditions for creating the European Higher Education Area, i.e. a prerequisite for comparing higher education institutions and recognizing academic qualifications, regardless of where they were acquired [7];
- quality assurance is very important when it comes to responding to the need for changing the way of educating, which includes greater focus on students, flexible ways of acquiring knowledge and recognition of competencies acquired outside the formal curricula [12];
- quality contributes to the creation of a learning environment which is based on meaningful content, opportunities and means of learning [12];
- the business policy of the higher education institutions should prioritize the quality assurance, in order to provide the highest quality of teaching and scientific services, safe and healthy environment for every employee, as well as a continuous improvement of the business process and the entire system [13];
- a functional and comprehensive quality management system contributes to building the trust in the performance of higher education institutions [11];
- the quality management system results in the management having a leading role and in a clear delineation of responsibilities; continuous monitoring, control and improvement of the education process; and quick and flexible response to changes in the education market [8].

In Europe, the quality assurance issues in higher education are addressed by the following institutions [7]:
ENQA – European Association for Quality Assurance in Higher Education was founded in 2000 with the aim of improving the cooperation in the field of quality assurance. Its members are the quality assurance institutions in higher education from European Higher Education Area (EHEA). The mission of ENQA is: to represent its members at European and international level, especially in political decision-making processes and cooperation with different stakeholders; to act as a think tank for further development of quality assurance processes and systems in EHEA; to serve as a platform for exchanging and disseminating the information and expertise in the field of quality assurance between members and stakeholders.

EUA – European University Association provides support to higher education institutions from 48 countries, through the unique forum for cooperation and monitoring of the latest trends in higher education and research. Its members are European universities engaged in teaching and research, national associations of rector, and other organizations involved in activities related to higher education and research.

ESU – European Students’ Union consists of 45 national student unions from 40 countries. These unions are open to all students in the respective countries, regardless of their political affiliation, religion, ethnic or cultural origin, sexual orientation or social status. Its goal is aimed at promoting the educational, social, economic and cultural interests of students in Europe to the EU, the Council of Europe, UNESCO and other relevant institutions.

EURASHE – European Association of Institutions in Higher Education is an international association of European higher education institutions dedicated to professional higher education and research within the I and II study cycles. The goal of this association is to defend the interests of higher education institutions and to continuously improve the importance of the quality of professional higher education in Europe.

EQAR - European Quality Assurance Register for Higher Education has been established by ENQA, ESU, EUA and EURASHE, European network of quality assurance agencies, students, universities and other higher education institutions in order to increase the transparency of the quality assurance processes in European higher education. EQAR publishes and maintains a register of the quality assurance agencies that follow the Standards and guidelines for quality assurance in the European Higher Education Area (ESG), in order to provide clear and reliable public information about them.

INQAAHE – International Network for Quality Assurance Agencies in Higher Education brings together over 200 organizations dealing with the theory and practice of quality assurance in higher education. Most of its members are the quality assurance agencies, but it also includes other organizations (as associate members) that show interest in the quality assurance in higher education. It is aimed at conducting or initiating research on quality, providing advice and expertise to existing and new quality assurance agencies, encouraging mutual communication between quality assurance agencies, identifying inappropriate practices and organizations related to quality assurance, etc.

CEENQA – Network of Central and Eastern EuropeanQuality Assurance Agencies in Higher Education is a non-profit and non-governmental organization, a successor to INQAAHE. Some of its goals include: exchanging experiences and cooperation between member agencies; exchanging information on their activities (objectives, procedures, outcomes etc.); proposing experts; disseminating information on issues related to quality assurance in higher education in Central and Eastern European countries, etc.

ECA – European Consortium for Accreditation in Higher Education was established in 2003 with the aim of mutual recognition of accreditation decisions. Its members are the quality assurance agencies that conduct accreditation or accreditation-like procedures. The ECA’s objectives include mutual learning and disseminating the best accreditation practices, providing clear information on quality, and encouraging the internationalization of institutions and students.

NOQA – Nordic Quality Assurance Network in Higher Education serves as a forum for information dissemination, exchanging experiences and pursuing projects of mutual benefit. It was established by five Nordic countries and their national organizations (The Danish Accreditation Institution; The Finnish Education Evaluation Centre; The Norwegian Agency for Quality Assurance in Education; Quality Board for Icelandic Higher Education; Swedish Higher Education Authority). The main goal is to achieve a common understanding of quality assurance issues in higher education in the Nordic countries.

EQAF – European Quality Assurance Forum was established by the E4 group (ENQA; EUA; ESU; EURASHE) to encourage discussion, exchange experiences and good practices of higher education
Ensuring and improving the quality of higher education in Serbia


The National Council for Higher Education is the highest body in the system of control and quality assurance in higher education, and it includes the following activities (Article 11 of the Law on Higher Education): supervising the development of higher education and its conformity to European and international standards; proposing higher education policy; providing opinion on the policy of admission to higher education institutions; proposing the norms and standards for the work of higher education; setting standards for self-assessment and quality evaluation of higher education institutions, setting standards for the external appraisal of the quality of higher education institutions etc.

National Entity for Accreditation is formed by the Government for the purpose of performing the accreditation tasks, the assessment of quality of higher education institutions and the units therein, evaluation of study programmes and assurance of quality in higher education.

Accreditation Commission is the professional body of the National Entity for Accreditation that conducts the accreditation of higher education institutions and the study programmes, as well as the external evaluation of quality of higher education institutions, in line with the law and prescribed procedure and standards for accreditation and for external evaluation of quality. According to the Law on Higher Education, the evaluation of the quality of higher education institutions has two levels:

Self-assessment is conducted by the higher education institution, including the evaluation of its study programmes, courses and working conditions. It shall also include an assessment by students. Self-assessment should be aligned with the procedures established by the general act adopted by the higher education institution, in line with the act on standards for self-assessment and evaluation of quality of the higher education institutions and study programmes. The higher education institution shall submit a report on the procedure and outcomes of self-assessment, as well as other information of relevance for quality evaluation to the National Entity for Accreditation within a period of three years.

External Evaluation of Quality of Higher Education Institutions is conducted by the Accreditation Commission, regularly, in the fourth year of the accreditation cycle, and extraordinarily as well, as well as upon request of the Ministry and the National Council. The Accreditation Commission shall submit the report on conducted external control of quality of the higher education institution both to the higher education institution and the applicant for extraordinary evaluation, and publish it on the official website of the National Entity for Accreditation.

Ensuring and improving the quality of higher education for occupational safety

The implementation of issues related to occupational safety and health into curricula is an important precondition for building a culture of prevention. The need for such implementation is highlighted in important documents, such as EU strategies in the field of occupational safety and health. The Community strategy on health and safety at work 2002-2006 (Commission of the European Communities, 2002) underlines the need to strengthen the culture of prevention through education and training, while the Community strategy on health and safety at work 2007-2012 (Commission of the European Communities, 2007) reconsiders the culture of prevention as an important area of action and emphasizes that risk-based education should be included in all levels of education. This is also supported within the Occupational Safety and Health Strategy of the Republic of Serbia for the period 2018-2022 (Službeni glasnik RS, br. 96/2018), emphasizing that “a good education on occupational safety and health allows students to adopt positive attitudes and behaviors, in order to acquire knowledge, develop skills and abilities to identify dangers and risks and find solutions” [17, p. 73]. In addition, the Strategy indicates the need to encourage the development of scientific research, cooperation and networking of higher education institutions, both nationally, regionally and internationally, through projects, knowledge transfer, and other scientific activities [17].

According to Macuzic et al. [14], academic education can contribute to improving technical and nontechnical knowledge of the very concept of safety and safety education, given that employees can
“cover” a wide range of knowledge about OSH. This knowledge is based on educational content that includes issues such as: sanitary-hygienic and ecological aspects of safety; risk assessment, safety and management; safety in accident and emergency situations; economic, legal and normative-technical aspects of safety, etc. [15]. These and additional contents related to OSH are studied within numerous courses and study programs at many European and world universities. The research on study programs in the field of OSH [16] showed that the largest number of faculties offers master degree programs (e.g. Faculty of Social Sciences of Valencia University; Delft University of Technology, Netherlands; University of Central Missouri, USA), while there are fewer faculties with the programs in this field on all three levels of education (e.g. Faculty of Safety Engineering within the Technical University of Ostrava, Czech Republic; Grand Valley State University, Michigan, USA).

Table 1. Accredited study programs in the field of occupational safety in Serbia

<table>
<thead>
<tr>
<th>University/Academy</th>
<th>Faculty/College</th>
<th>Study program</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Kragujevac</td>
<td>Faculty of Mechanical and Civil Engineering in Kraljevo⁸</td>
<td>Occupational Safety Engineering</td>
<td>UAS (240 ESPB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupational Safety Engineering</td>
<td>MAS (60 ESPB)</td>
</tr>
<tr>
<td>University of Novi Sad</td>
<td>Faculty of Technical Sciences⁹</td>
<td>Occupational Safety Engineering</td>
<td>UAS (240 ESPB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupational Safety Engineering</td>
<td>MAS (60 ESPB)</td>
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<tr>
<td></td>
<td></td>
<td>Occupational Safety Engineering</td>
<td>DAS (180 ESPB)</td>
</tr>
<tr>
<td>University of Nis</td>
<td>Faculty of Occupational Safety¹⁰</td>
<td>Occupational Safety Engineering</td>
<td>UAS (240 ESPB)</td>
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<td>Occupational Safety Engineering</td>
<td>MAS (60 ESPB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupational Safety Engineering</td>
<td>DAS (180 ESPB)</td>
</tr>
<tr>
<td>University of Pristina</td>
<td>Faculty of Technical Sciences – Kosovska Mitrovica¹¹</td>
<td>Environmental Engineering and Occupational Safety</td>
<td>UAS (240 ESPB)</td>
</tr>
<tr>
<td>Academy of Applied Studies Sumadija – Arandjelovac Department</td>
<td>Technological College of Vocational Studies in Arandjelovac¹³</td>
<td>Environmental and Occupational Safety</td>
<td>UAS* (180 ESPB)</td>
</tr>
<tr>
<td>Academy of Applied Studies Sumadija – Krusevac Department</td>
<td>College of Applied Studies in Technic and Technology in Krusevac¹⁴</td>
<td>Environmental Protection and Occupational Safety</td>
<td>UAS* (180 ESPB)</td>
</tr>
<tr>
<td>Academy of Applied Studies Western Serbia – Uzice Department</td>
<td>College of Applied Sciences Uzice¹⁵</td>
<td>Occupational Safety and Health</td>
<td>MAS* (120 ESPB)</td>
</tr>
<tr>
<td>Academy of Applied Studies Southern Serbia – Department of Technological Art Studies Leskovac</td>
<td>Leskovac College of Technology and Art¹⁶</td>
<td>Occupational Safety and Environmental Safety</td>
<td>UAS* (180 ESPB)</td>
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<td></td>
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<td>Occupational Safety</td>
<td>SAS (60 ESPB)</td>
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<tr>
<td></td>
<td></td>
<td>Occupational Safety and Health</td>
<td>UAS* (180 ESPB)</td>
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⁸ https://www.mfkv.rs/
⁹ http://fn.uns.ac.rs/691618389/fakultet-tehnickih-nauka
¹⁰ https://www.znrfak.mi.ac.rs/
¹¹ http://xn--j1aebtj.xn--90a3ac/
¹² https://www.tehnikum.edu.rs/
¹³ https://ar.asss.edu.rs/
¹⁴ https://www.vhts.edu.rs/
¹⁵ http://www.vpts.edu.rs/
¹⁶ https://vsstle.edu.rs/
¹⁷ https://www.vsurosevac.com/
In Serbia, there are also accredited study programs in the field of OSH, within four faculties and nine colleges. The programs are included in: Undergraduate Academic Studies (four programs), Master Academic Studies (four programs), Doctoral Academic Studies (two programs), Undergraduate Applied Studies (eight programs), Master Applied Studies (two programs) and Specialist Applied Studies (five programs). An overview of the programs is given in Table 1. All study programs are accredited through process of accreditation of study programs and institutions by the National Entity for Accreditation and Quality Assurance in Higher Education (NEAQA) in Republic of Serbia. The quality control system is implemented through evaluation and self-evaluation of all segments of work at the faculties. NEAQA has prioritized the implementation of a new methodology for the process of accreditation and quality control in Serbia in accordance with the principles of quality of the European Higher Education Area, Standards and guidelines for quality assurance in the European Higher Education Area, and legal regulations of the Republic of Serbia. The main goal is to obtain full status in ENQA and registration in EQAR, in order to achieve a more comprehensive internationalization and take an appropriate position in the field of higher education.

CONCLUSION

There are growing demands for quality assurance in every sphere of life, as well as the requirements for quality to be clearly determined and precisely measured in the system and process of education, and finally – to make it a property and competitive advantage of every educational institution, i. e. every educational system. The quantification has become a great help in achieving measurability and objectivity, but at the same time new questions, about the essence and meaning of what we are trying to measure, arised: questions of context and values, subjectivity and diversity that cannot be denied or ignored in the educational process.

Contextuality, multidimensionality and dynamism of the concept of quality condition different approaches in its determining and defining, but quality always implies desirability, excellence, success and striving for beauty and perfection (“many of us admire it, many want it, but only a few can have it”). Indeed, when it is talked about quality in education, although there are no generally accepted definitions, it is often implied that there is a “benefit that education provides or should provide”, i. e. the value that education has or can have.

The problem of determining and ensuring quality in higher education is a consequence of the complexity of the educational process and the number of factors that affect it, including their interactivity, variability and multiple conditionality. However, regardless of the existing problems, quality issues are considered as an inseparable, in fact mandatory, part of the business policy of every higher education institution that strives to create a favorable environment for quality assurance and ensure the continuity of its business in the market of increasingly competitive educational services.

Notes. UAS – undergraduate academic studies; MAS – master academic studies; DAS – doctoral academic studies; UAS* – undergraduate applied studies; MAS* – master applied studies; SAS – specialist applied studies

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18 https://www.politehnika.edu.rs/
19 https://vtsns.edu.rs/
20 http://www.vts-zr.edu.rs/
REFERENCES


Other materials

Regulations


**Internet**

- https://www.mfkv.rs/
- http://ftn.uns.ac.rs/691618389/fakultet-tekhnichih-nauka
- https://www.znrfak.ni.ac.rs/
- http://xn--j1aebtj.xn--90a3ac/
- https://www.tehnikum.edu.rs/
- https://ar.asss.edu.rs/
- https://www.vhts.edu.rs/
- http://www.vpts.edu.rs/
- https://vsstle.edu.rs/
- https://www.vtsurosevac.com/
- https://www.politehnika.edu.rs/
- https://vtsns.edu.rs/
- http://www.vts-zr.edu.rs/

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THE EFFECTIVENESS OF BUSINESS CONTINUITY MANAGEMENT SYSTEM IN ENTERPRISES

Abstract
In the contemporary business environment, enterprises face various unexpected and unpredictable events and disturbances that can seriously jeopardize their entire operations and existence. Enterprises capable of identifying and managing those threats and vulnerabilities efficiently and effectively can maintain their operations, create value for their stakeholders, and even enhance business performance. To be able to act in such a way, it is necessary to systematically and continuously analyze their internal resources and capabilities. Thus, the International Organization for Standardization (ISO) issued 2012 the ISO 22301 international standard, revised in 2019, to guide enterprises regarding how to ensure continuity of their essential operations and business during and after an unexpected event. This paper aims to shed some light on the effectiveness of the business continuity management system (BCMS) in enterprises.

Keywords: Business Continuity, Management, ISO 22301

INTRODUCTION
The contemporary business environment is characterized by high uncertainty, variability, unpredictability, and risk, which makes it hard for enterprises to obtain and sustain competitive advantage, and even survive in such a volatile environment [23]. Unforeseen incidents, which can seriously jeopardize the business operations of an enterprise, need to be correctly estimated and managed. Any unpredictable event stresses the need for changes in the organization concerning the fast-changing conditions of an emergency period [20] to deter, limit or remove harmful effects and enable regular business operations of an enterprise [17]. This requires an innovative and holistic approach that will help enterprises to reduce or eliminate the effect of unexpected events [19].

Generally, enterprises are divergent regarding their capacities to manage risk and uncertainties, and hence those which are organized and ready to cope with crises will be more efficient in handling threats or grasping opportunities than the unprepared ones [17]. Those enterprises that are capable of recognizing and managing risks and uncertainties appropriately, and communicating the efficacy of their efforts to the key stakeholders adequately, can gain a competitive advantage in the market and achieve better business performance [16]. Therefore, the enterprises must introduce operative mechanisms and instruments, which will help them to prepare, respond and recover effectively in case of an unexpected incident to ensure the continuity of business operations and critical business functions [3]. “Such an approach should focus on optimizing the availability of all critical business functions, at all times, under all circumstances” [19, p. 82]. Namely, enterprises must make sure that business operations will continue after the harmful events at least at the same pace as before these events occurred.

The issue of business continuity has become the concern of management literature in the last two decades [6], [8], although the planning for business continuity was part of “Disaster Recovery Planning” in the 1960s [19]. Business continuity refers to daily operations carried out to ensure the enterprise’s stability, consistency, and recoverability [21]. Business continuity management (BCM) aims at eliminating the effects of adverse events by enhancing an enterprise’s capacity to continually deliver its critical operations or rapidly restarting them in case of an emergency [7].
As a way to help organizations in increasing their resilience to unpredictable disruptions and achieving business continuity, several standards, and good practices have been established over years, including British Business Continuity Standards BS 25999, The Good Practice Guidelines, and ISO 22301 [7]. The latest ISO 22301:2019 has reflected the important current advances and variations in the business continuity field by providing added value through best practices that are needed for helping organizations effectively respond to and recover from unpredictable events [12].

Bearing all this in mind, this paper aims to assess the effectiveness of the business continuity management system (BCMS) in enterprises. The paper is structured as follows. After the introduction, the methods are presented followed by the discussion regarding the BCMS concept, advantages, and disadvantages. Finally, the conclusion provides the implications for the effective BCMS in enterprises.

METHODS

To realize the study objective, several methods common to social sciences are used. The analytical method is employed to assess the role of BCMS in improving organizational performance. The descriptive method is used for the analysis of the BCMS concept, advantages, and disadvantages. Lastly, the inductive method is employed for proposing overall implications and value about the effectiveness of BCMS in enterprise performance.

BUSINESS CONTINUITY MANAGEMENT SYSTEM: CONCEPT, ADVANTAGES, AND DISADVANTAGES

Introducing the concept of business continuity management

BCM has been a widely studied and discussed topic among researchers and practitioners, as well as by an extensive range of organizations. The development of BCM can be traced back to the last half of the XX century as a result of diverse drivers and practices. Namely, the BCM is rooted in disaster recovery, which emerged in the 1950s and 1960s as enterprises started to back up their key data on alternative locations. The increase in unpredictable incidents and disasters in a global environment, especially during the last few decades, has reinforced the BCM in enterprises. BCM represents a managerial process that recognizes probable threatening events to an enterprise’s activities and ensures the basic setting for improving an enterprise’s capacity to effectively and adequately respond to these events [21].

During the aforementioned period, the transition has been made from a period of self-regulation in which organizations mostly voluntarily decided to invest in crisis management activities, to a period of regulation in which organizations are increasingly mandated to have prearranged crisis management plans, resources, and activities. This shift has been determined by the introduction of legislation, along with regulation, and national and international business standards [9]. The fast standards development process prompted the publication of the British Standard for BCM which encompasses two parts: the BS 25999-1 Code of practice for business continuity management [1] and BS 25999-2 Specification for business continuity management [2]. BS 25999 was one of the most popular standards at that time and was widely adopted in Europe and around the world. The ISO introduced the 22301 in 2012. ISO 22301 had its initial steps in 2006 at a workshop on emergency readiness in Florence, Italy, at which national standards supporters, together with other experts in the field, met to achieve a consensus regarding creating an internationally accepted standard on BCMS [10].

The concept of BCM was revisited in 2019 with the introduction of the newer version of the ISO 22301:2012 – the ISO 22301:2019. This document outlines the necessities for putting in place, maintaining, and improving a BCMS for protecting against, decreasing the likelihood of, planning for, responding to, and recovering from disruptions [13]. The novel approach to BCM involved more inclusive, protective, and remedial procedures for managing unpredictable events through risk assessment, business impact analysis (BIA), continuity, and recovery planning [19].

BCM is defined as: “a holistic management process that identifies potential threats to an organization and the impacts to business operations that those threats, if realized, might cause, and which provides a framework for building organizational resilience with the capability for an effective response that
safeguards the interests of its key stakeholders, reputation, brand, and value-creating activities” [1, p. 1].

According to the ISO 22301 [11, p. 2], business continuity is “the capability of the organization to continue delivery of products or services at acceptable predefined levels following a disruptive incident” and BCM is “the process of achieving business continuity and is about preparing an organization to deal with disruptive incidents that might otherwise prevent it from achieving its objectives.”

The development of BCM is related to the internal and external crisis situations, whereas external crisis situations can be divided into natural disasters and strategic and operational risks, while internal crises can be divided into unintentional and intentional situations. It does not only depend on the likelihood of crisis recurrence but as well on the potential harm caused by the crisis, the longevity of a crisis, the part of an organization (department, sector) impacted by the crisis, the financial conditions, the previous involvement in crisis situations, etc. [5].

The ISO 22301:2019 highlights the fact that BCMS is applicable to all organizations, regardless of size, sector or type of business; nevertheless, according to many academics in the field, there is still a lack of study on the effectiveness of BCM adoption, practices, and approaches in particular business areas and countries, pointing towards the necessity for further examination [19].

The BCMS approach

There is no consensus among researchers regarding the commonly accepted BCM approach, but the effective one involves the following sequential activities: “project planning; creating teams and assigning roles and responsibilities; performing risk assessment; conducting BIA; developing backup and data recovery strategies; developing the disaster recovery plan; developing the business continuity plan; the testing, maintenance, updating and training of plans” [19, p. 83].

BCM comprises the following elements [21]:
- Understanding the organization – identifying essential deliverables, evaluating recovery priorities, and assessing risks that could cause service disruptions utilizing BIA and risk assessments;
- Selecting a BCM strategy – determining various loss mitigation strategies and assessing their potential usefulness in delivering the crucial business function;
- Developing and implementing a BCM response – creating a strategy for dealing with business continuity issues, as well as the plans that will support it;
- Maintaining and auditing BCM – ensuring that BCM plans are suitable for implementation, up to date, and of high quality;
- Establishing a BCM culture in the enterprise – the necessity to establish a continuity culture in the enterprise by increasing awareness among key stakeholders and providing training to employees.

Each of the abovementioned elements has an important role in setting up effective BCMS in an enterprise. According to Sawalha, BIA is critical for enhancing organizational effectiveness, which subsequently helps to optimize overall business performances [18]. The BIA supports organizations in identifying key functions, the interconnectedness between those functions, and the necessary resources for minimal business operations [16]. Marisa and Oigo highlight the fact that the effectiveness of BCMS is largely dependent on the appropriate forecasting of the stakeholders’ requirements and adequate management in the organization [15]. Therefore, organizations that are successful in embedding the BCM in organizational culture can achieve the effectiveness of BCMS and boost their overall performance [16].
The key advantages and disadvantages of BCMS

The BCM has many advantages that need to be taken into account when assessing its effectiveness. The potential advantages include: safeguarding critical business operations and functions, as well as guaranteeing their continuity, and ensuring resilience and long-lasting existence. Additionally, BCM is a source of competitive advantage and an issue of concern for senior management. [4], [16]

Bearing in mind the abovementioned advantages of BCMS in an enterprise, it should not be neglected that implementation of BCMS also encompasses some disadvantages. According to Mansol et al. [14], the most frequent ones are lacking support from the senior management; limited funds for the implementation of contingency procedures; a vague knowledge of necessary activities for setting up and running the BCMS; an inappropriate distribution of accountability to the specific BCM team and line management; inadequate training of employees regarding BCM activities, and insufficient testing and implementing of BCM.

The main weaknesses are the negligible management support and unsatisfactory validation of the BCM necessity, the high costs of setting up BCM, and the requirement of competent teams, who are familiar with the organization and internal and external factors shaping its operations [21]. An additional weakness is reflected in the size of the enterprise as small enterprises with low market share are disadvantaged in setting up BCMS. Contrarily, the BCMS implementation brings benefits that are reflected in the acquisition of new knowledge and skills, as well as the improvement of the enterprise’s reputation due to the protection of its resources [21].

CONCLUSION

Trends and uncertainties in the business environment have put pressure on enterprises to ensure the continuity of their business operations. Hence, business continuity has become the topic of great importance for the enterprises determined to overcome unpredictable and harmful incidents, and achieve a competitive advantage in the global market. Understanding the impact of BCM on organizational performance is critical since BCM is one of the most essential factors in increasing an enterprise’s ability to resist risk and survive under extreme internal and external environmental challenges. [18]

Nowadays, the long-lasting existence and sustainability of an enterprise rely on the constant information availability and the continuity of business operations in an unpredictable and volatile environment full of unexpected events. In these processes, the BCM plays a crucial role. Consequently, the inexistence of BCM can be a serious threat to the survival of an enterprise in the case of disruptions. This issue was a matter of concern of the BCM original standard, the BS25999, then the ISO 22301:2012, and the latest ISO 22301:2019 standard, “which all highlighted that BCM can be implemented within any organization irrespective of the size, sector or nature of business or any other organizational attribute” [19, p. 83].

Basically, the BCM offers an agenda for setting up a system enabling an enterprise to effectively respond to internal and external disruptions and vulnerabilities. The ultimate objective of an effective BCMS is to build organizational resilience to unexpected incidents and enable the continuance of crucial business functions in times of emergencies or adverse events. However, this implies the balance to be achieved between efficiency and resilience [16].

Nonetheless, the effectiveness of BCM in mitigating risks and sustaining critical business functions greatly depends on the enterprise’s understanding of its business continuity capacities, as well as its capabilities to implement BCMS and set up organizational resilience [22]. To establish effective BCMS, which enables an enterprise to appropriately respond to environmental risks and uncertainties, it is necessary to set up business continuity performance measures for monitoring the implementation of business continuity strategy. These performance measures should be defined in a way that enables organizational stability, while at the same time minimizes business losses. For effective BCMS following measures should be used: protective measures (eliminate the organizational failures and breakdowns in business operations due to the environmental pressures and vulnerabilities), mitigative measures (mitigate the risks caused by the ineffectiveness of protective measures), emergency measures
(halt disturbances if the mitigative measures are insufficient), and recovery measures (reinstate crucial business operations in an enterprise) [24].

REFERENCES


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