

RISK MANAGEMENT DURING THE PANDEMIC

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Abstract: *The aim and purpose of the research work "Risk management during the COVID-19 pandemic" involves presenting the basic aspects of risk management during the period of the COVID-19 pandemic caused by the severe acute respiratory syndrome of the corona virus 2 (SARS-CoV-2). In an unprecedented crisis, the first official step towards attempted management was the declaration of a public health emergency of international concern by the World Health Organization (WHO) on January 30, 2020. This pandemic has so far, according to official statistics, caused more than 676,000,000 cases and 6.88 million confirmed deaths.*

The paper aims to show that risk management is a relevant tool in the process of managing changes caused by the sudden outbreak of this pandemic and all the health, social, economic and political challenges that the whole world has faced. The work, through the theoretical and research part, should provide a basis for prevention, transformation, resilience, easier resolution and eventual prevention of future crisis pandemic situations.

Key words: *pandemic, COVID-19, risk, management, risk management*

1. INTRODUCTION

There are many risk management principles and meanings behind the term itself. Risk management is an organized way of thinking about possible risks and planning in relation to their probability and impact. The reason why it is important to understand the principles of risk management is that there will always be some risk exposure involved in the goals, whether of an individual, an organization, a country, or the entire planet. By organizing known risks into manageable parts, different strategies can be created to protect against threats or opportunities. By considering possible internal and external risks before they occur, some can be avoided entirely, some can be reduced or increased, and some can be influenced in terms of the likelihood and potential impact of something happening. Risks are a part of every human endeavor. What makes the study of risks interesting is that they have largely led to the development of humanity, from the invention of caveman tools to the most modern forms of

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medical therapy. A formalized, effective risk management process ensures intelligent decision-making. This process should include defining clear goals and expectations, identifying potential risks and their likelihood of occurrence, assessing these potential risks in relation to tolerance (risk appetite) for them, determining cost-effective control measures and risk mitigation strategies for risk management, as well as educating everyone involved on how best to deal with each risk.

The purpose of the research paper "Risk management during a pandemic" involves presenting the basic aspects of risk management during a pandemic. The paper aims to confirm the hypothesis that management in risk management is a relevant tool in the process of managing changes caused by the sudden outbreak of the pandemic and all the health, social, economic and political challenges that society faces during the pandemic. The work, through the theoretical and research part, should provide a basis for prevention, transformation, resilience, easier resolution and eventual prevention of future crisis pandemic situations.

2. CONCEPTUAL DETERMINATION OF RISKS

Risk is the probability that an outcome will have a negative impact on people, systems or assets. Risk is usually expressed as a function of the combined effects of the hazard, the property or people exposed to the hazard, and the vulnerability of those exposed elements. Not all risks in the experiences of individuals are equal. Individuals tend to avoid risks that they perceive as unknown or terrifying, such as those that come with dramatically bad outcomes, such as hurricanes, pandemics, or other natural disasters. During such disasters, risks tend to mutate, change, chances are more uncertain, understanding of the unknown is less.

2.1. Types of risk

Evidently, a new and integrated academic approach is needed, in order to capture the full scope of the social experience of risk and to study the dynamic processing of risk by different participants in a pluralistic society. Such a new approach should offer a meta-perspective, which assigns each perspective its proper place and function. The understanding of risk, common management methods, risk measurements and even the definition of risk differ in different areas of practice. Some of the basic categories of risk studies in the 21st century are: political, economic, environmental risks, health, IT risks, security risks, etc. Risks can be classified according to different criteria and "all risks that affect the safety of people, property and business and represent security risks, regardless of whether they are naturally or socially determined" (Kekovic et al., 2011).

3. RISK MANAGEMENT

Risk management has perhaps never been more important than in the 21st century, as the risks facing modern organizations have become more complex, fueled by the rapid pace of globalization. New risks are constantly emerging, often linked to and generated by the now ubiquitous use of digital technology. For example, the most recent external risk that manifested itself as the COVID-19 pandemic quickly evolved into an existential threat, affecting health and safety, the way of doing business, the ability to interact, etc. Risk management is a specific process of identifying, assessing and controlling risks that come from different sources. These sources can be financial uncertainties, legal obligations, technological issues, strategic management errors, accidents and natural disasters. A successful risk management program helps an organization consider the full range of risks it faces. Risk management also examines the relationship between risks and the cascading impact they might have on the organization's strategic goals. The risk management program should be aligned with the organization's strategy. In order to connect them, risk management managers must first define the

organization's risk appetite, that is, the amount of risk it is willing to accept in order to achieve its goals.

3.1. Risk management framework and policy

The Risk Management Framework (RMF) provides a common understanding of what risk management is and introduces a common language and minimum standards and processes. Risk management frameworks can be applied to individual policy sectors or to clusters of interdependent policy sectors. Integrated risk management across sectors and levels of government recognizes that risks can intersect, overlap or lead to additional risks elsewhere, all of which would be overlooked by a single risk focus. The framework should ensure that information about risk, derived from these processes, is adequately communicated and used as a basis for decision-making and responsibility at all relevant organizational levels" (Kekovic et al. 2011). Along with the framework itself, it is also necessary that the risk management policy itself be aligned with the organization's goals. Policy states the organization's intent and guides decisions, and defines outcomes in specific and measurable terms. It is important that the risk management policy is something that can be implemented, whether it is through a strategy, or some kind of procedure or activity.

3.2. Process and principles of risk management

The concept of risk management "represents a systemic approach based on the basic assumption that it is a planned, far-sighted, structured, informative and constantly applicable activity - technique" (Karovic & Komazec, 2010). Monitoring activities should measure key performance indicators and look for key risk indicators that could trigger a change in strategy. Another essential element in the process is communication and consultation - since risk awareness is an essential part of risk management, risk managers must also develop a communication plan to communicate the organization's risk policies and procedures to employees and relevant parties.

The main principle of risk management is to provide value to the organization. In other words, risk management activities are designed to achieve the best possible outcome and reduce the volatility or uncertainty of the outcome. However, risk management operates on a broader set of principles and there have been several attempts to define these principles. Its epilogue is the ISO 31000 Standard, which includes a detailed list of proposed risk management principles.

4. PANDEMIC

The word "pandemic" comes from the Greek "pan" meaning "all" and "demos" meaning "people", and the word usually refers to a widespread epidemic of an infectious disease in an entire country or one or more continents at the same time (Honigsbaum, 2009). The definition according to the Oxford dictionary from 2001 is that a pandemic is "an epidemic that occurs worldwide or in a very wide area, crosses international borders and usually affects a large number of people" (Last, 2001), while the word epidemic itself is defined as "the occurrence in a community or region of cases of disease, specific health-related behaviors, or other health-related events that clearly exceed the normal expected duration" (Last, 2001). The World Health Organization (WHO) changed the definition of a pandemic in 2009, which defines the phases and actions in the auxiliary memoir "Descriptions of the WHO Pandemic Phases and Main Actions". All versions of this document refer to influenza, while the stages are defined by the spread of the disease.

4.1. The concept and characteristics of a pandemic

In order for the WHO to issue a level six pandemic warning, there must be continuous transmission in at least two regions at the same time. The standard WHO definition of

pandemic influenza refers to a situation in which "a new and highly pathogenic viral subtype, to which no one (or few) in the human population has immune resistance and which is easily transmitted between people, establishes a foothold in the human population of the population, whereby point is spreading rapidly throughout the world" (WHO, 2011:540-541).

4.2. The impact of the pandemic and security

The 21st century COVID-19 pandemic has reminded us of human vulnerability, but also of resourcefulness, adaptability and resilience. This health crisis had repercussions in all fields. It revealed the harmful effects and danger of misinformation, but also provided an increase in trust in science and a significant increase in scientific literacy. Science took center stage. Working around the clock from the moment news of the pandemic broke, scientists quickly sequenced the virus and solved its structure, vaccines and tests were developed, and billions of doses were produced faster than the world had ever seen before, saving many lives. The restrictions that came with the pandemic, including lockdowns and closures/restrictions on movement (lock-down), as well as strict quarantines, affected many researchers, not only in terms of their mental and physical health, but also hindered their ability to work, slowing down their careers. The fight against the pandemic has emphasized taking precautionary measures such as extensive hygiene protocol (regular hand washing, avoiding face-to-face interaction, etc.), social distancing and wearing masks, etc.

The primary focus of public authorities and the private sector was disease control. The protection of human life was the most important basis for all further steps. To this end, health systems, personnel, facilities, tests and necessary equipment had to be secured and expanded as needed. State budgets have been greatly expanded to meet the extraordinary needs. Measures introduced to limit the spread of the virus have affected personal freedom.

5. RISK MANAGEMENT DURING THE PANDEMIC

A pandemic is a problem that disrupts security at all levels. The dominance of health concerns changes the balance between production, profitability, industrial safety, occupational safety, occupational health and the environment. On the ground, the demand for pandemic management limits labor availability and makes on-site work difficult. This leads to the widespread adoption of remote work and social distancing, due to the need to protect individuals working in teams. All this has transformed and complicated the implementation of everyday security practices.

5.1. Setting the context of the problem in security, business and other environments

In the phase of setting the context of the problem, questions arise: how to ensure the resilience of the organization (in this case, the country, region, continent, at the world level...), how to prepare for an unprecedented level of uncertainty and unexpected events, how to manage security, etc. The outbreak of the COVID-19 pandemic represented a diverse emergency situation across sectors and human units. The pandemic had, above all, medical and health impacts, but also economic, security, social and psychological impacts. The measures adopted by individual governments to prevent contagion (lockdowns, travel restrictions, etc.) have had direct consequences on the world labor market, on global economic productivity, on the growth and education of younger generations, and on the mental health of individuals.

5.2. Identifying potential risks

Apart from the obvious risks to human health as a whole, various risks that the pandemic entails can be identified. According to the Methodology for preparation and content of disaster risk assessment and rescue protection plan ("Official Gazette of the RS", no. 80/2019), when

preparing risk identification, it is necessary to: determine the territory for which the risk assessment is being made; make a selection of hazards, for which the Scenario will be created.

Table 1: An example of a scenario for the potential risk of developing a strain of the "COVID-19" virus. Source: Methodology and contents of disaster risk assessment and protection and rescue plan, Republic of Serbia, "Official Gazette of the RS", no. 80/2019.

	General questions	
Danger	Hazard Name - COVID-19 "Arcturus" Danger description - deadly virus	
Appearance	Place of event - Belgrade	
Spatial dimension	Affected area - 359.96 km ²	
Intensity	Intensity of the event - Incapacitation of human resources with a tendency of daily growth	
Time	Time of appearance (time of day, month, year) - winter period (December, January, February). Cause.	
Timeline	Timeline of the development of events and what is covered - Incapacitation of human resources, burden on the health system, economic slowdown. growth etc.	
Duration	Duration - indicate direct impact on protected values - Human resources.	
Early announcement	Is the event expected -	
Preparedness	Is the population educationally prepared for the emergence of COVID-19? Do government organizations have an answer?	
Impact	Protected values	Presentation of the impact of an imagined scenario.
	Life and health of people	Total number of people affected by a process within the scenario:
	Economy/ecology	Total material damage
	Social stability	Total material damage to critical infrastructure
Generation of other hazards	Multi-risk-Danger of illness/death of people; risks of spread, burden on the health system, etc.	
Reference incidents	Were there similar events in the past and when - the outbreak of the SARS-CoV-2 pandemic, December 2019.	
Informing the public	Is there timely and accurate information?	

Table no. 1 shows the creation of the scenario. The appearance of the Corona virus, i.e. its latest strain "Arcturus", was taken as a potential danger. The content is created in order to prepare for the most likely adverse event.

5.3. Risk analysis and assessment

In the event of a pandemic, as COVID-19 has shown, it is clear that how risk is assessed and managed is important to driving policies that reduce disease transmission. Guidelines to help slow the spread of the pandemic include requiring physical distancing, quarantine, enforcing mandatory mask rules, closing businesses, testing people to see if they are infected, and contact tracing. Risk analysis and assessment is done with the help of probability assessment tools, which is shown in Table 2 below:

Table 2: Probability table. An example of a scenario for the potential risk of developing a strain of the "COVID/19" virus, Source: Preparation methodology and content of disaster risk assessment and protection and rescue plan, Republic of Serbia, " Official Gazette of the RS", no. 80/2019.

Category	Probability and frequency			
	(a) probability	(b) frequency	(c) professional judgment	Selected
1	<1%	1 event in 100 years. rarely	Negligible	
2	1-5%	1 event in 20 - 100 years.	Small	
3	6-50%	1 event in 2 to 20 years.	Medium	
4	51-98%	1 event in 1-2 years	Large	
5	>98%	1 event per year or more often	Extremely large	

The procedure for presenting the consequences is done for each of the protected values according to the scenario. The next step - showing the consequences for people's life and health, economy/ecology, social stability, etc., is done according to the same principle. After that, matrices are created for each of the protected values. If in the imagined scenario there are no consequences for any of the protected values, the risk matrix for that protected value is not displayed.

Table 3: Matrix of risks to human life and health, Source: Methodology and content of disaster risk assessment and protection and rescue plan, Republic of Serbia, " Official Gazette of the RS", no. 80/2019.

Catastrophic	Consequences	5						Very high	
Serious		4						High	
Moderate		3						Moderate	
Small		2						Low	
Minimal		1							
			1	2	3	4	5		
			Probability						

The risk matrix is where the scenario results (consequences and probability) are combined, shown in two axes, the consequence axis and the probability axis. The matrix explains the procedure for calculating the value of risk to human life and health. The final risk value is obtained by determining the mean value of all calculated attributes.

5.4. Designing a risk management strategy, implementing and integrating the risk management process

National response strategies that have been implemented in case of outbreaks of virus pandemics are diverse. Designing a quality strategy is important in the context of understanding the real complexity and associated processes characteristic of systems in a way that facilitates the necessary multidisciplinary communication and synthesis. Developing risk management strategies allows for improved assessment of pandemic risks and countermeasures to reduce their impacts and/or likelihood of recurrence. WHO has also provided guidelines for strategic risk management planning during the COVID-19 pandemic (2022).

In order to effectively develop and implement an integrated risk management program and achieve the goals and strategies set by the organization, comprehensive research should be conducted. The benefits of integrated risk management are providing consistent and accurate risk information, enabling organizations to meet all applicable requirements while having secure data, and helping the system deal with more than one risk.

6. CONCLUSION

Discussions about risk management in times of a pandemic are becoming more frequent on managers' agendas. The society of the 21st century, during the latest pandemic, faced a panorama of uncertainty, fear and isolation. Although it is impossible to predict all risks, especially during a pandemic, a well-planned risk management model prepares the organization to better face the challenges and uncertainties that may arise. An effective risk management model during a pandemic is essential in order to minimize the effects that organizations can bear. Therefore, it is necessary to continuously invest in the improvement of processes and technologies, at all organizational levels, in order to define (potential) risks, as well as control points and policies to cover each of them, keeping them at the lowest levels of influence, taking into account the constant reviews and analysis of deviations, so that their work brings greater security in uncertain times. Some of the first lessons to be learned are to establish a good metric system to use for risk assessment, in order to assess the impact of risk and probability.

Good risk managers should be able to predict the next risk event likely to affect the organization. When risks evolve as quickly as they do today, managers need to know how to reorient organizational priorities. By collaborating and aligning the work performed by the various risk assurance functions, the organization can better position itself to mitigate and anticipate emerging risks.

Pandemics are becoming more frequent and severe, and pose a threat to the well-being of everyone on the planet. The COVID-19 pandemic has shown that response actions were not comprehensive or fast enough to avoid global disruption and damage. Pandemic risk management frameworks need to be multifaceted, complex concepts that tap into many spheres of governance, including land clearing and habitat destruction, poverty, natural and cultural rights, trade, tourism, development, animal welfare, disease control, agribusiness, resource extraction and public health. All these areas must be included in the management paradigm in order to effectively deal with risk prevention and management.

It is also necessary to have a risk management plan, which provides a tool for reporting risk to senior management as well as the entire team. The results of the risk identification analyzes should be transparently available to the leaders of the organizations, in order to assist in decision-making and ensure consistent management. The best risk management practices outlined in the paper should provide key guidelines for risk-facing organizations, as well as higher-level organizational units that will need to act in the event of a pandemic.

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