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**The global risk landscape – its shape, tendencies,
and consequences for management**

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Abstract

Aim/purpose – The main objectives of this article are to identify the major risks with a global dimension and to attempt to specify the potential consequences of their occurrence for organizational management.

Design/methodology/approach – The article is based on an analysis of the literature on the subject and an analysis of the content of The Global Risk Reports published in the years 2013-2017, prepared within the scope of the World Economic Forum, and presenting the results of work performed by international experts.

Findings – The major results of the research are the following: 1) becoming aware of how global risks are understood, 2) identifying the most significant present risks of a global character, as well as tendencies in changes in their importance, and 3) determining general possibilities of the identified risks' exerting influence on organizational management processes.

Research implications/limitations – The research results are based on a selected group of reports illustrating the result of the work of experts performed within the scope of the World Economic Forum. Thus, there is a possibility of an alternative approach to global risks, e.g., in reports drawn up for the purposes of the insurance sector. However, the authors decided that the aforementioned reports were the most reliable and representative from the perspective of this article's objectives.

Originality/value/contribution – The article shows global risks as a determinant of management processes and includes reflection about their significance.

Keywords: risk, global risk, management, risk management.

JEL Classification: F01, F6, O1.

1. Introduction

Nowadays, risk management constitutes a very important domain of management, frequently determining the probability of an organization's survival and development, which is generally regarded as the fundamental, default and universally expressed goal of business enterprises (Bromiley, McShane, Nair, & Rustambekov, 2015; Christopher, Mena, Khan, & Yurt, 2011; Elahi, 2013; Frigo, & Andersen, 2011).

The foregoing thesis can be confirmed not only by observations of organizations which achieve success or have to cope with crises but also in the scholarly literature, where the number of texts dedicated to risk in management is growing continually.

The necessary condition for the effectiveness of management processes in the circumstances in which risks occur is first of all good understanding constituting the first step in all normalized risk management approaches and methodologies (Gjerdrum, 2015; O'Donnell, 2005).

Numerous authors, especially those investigating the connections between the theory of complexity and management, point to a research gap created on the one hand by a lack of analysis of the shape and changes in the structure of global risks, and on the other hand – identification of their impact on the management of organizations (Ashmos, Duchon, & McDaniel, 2000; Holmdahl, 2005; Levy, 2000; Mason, 2007; Smith & Graetz, 2006). An additional argument for the existence of such gap is indicated by Kumar, Himes, & Kritzer (2014), referring to the deficiencies of some fragmented management concepts, e.g., relating to global supply chains, in which the risk analysis optics are strongly limited.

The subject matter of this text is an analysis of the essence, varieties and managerial consequences of a specific risk category, i.e., global risk.

The article consists of three major parts. In the first part, the authors reflect on the essence of global risk. The second part contains an analysis of the shape and tendencies in changes in the current global risk landscape. The text is crowned with an attempt to identify the impact of global risks on organizational management processes.

2. Theoretical background

The progressing globalization of economic and societal processes does not remain neutral to the character of risks occurring in the environment of people and organizations, changing this character from local to global. The foregoing statement finds its direct and linguistic confirmation in the terminology used by Beck, a famous social scientist. In 1987, describing the features of the contemporary society, he used the notion of “risk society” (Beck, 1987), while 25 years later he already referred to “world risk society” (Beck, 2012).

For organizations, irrespective of their size or sectoral affiliation, the globalization of risks means a change in the conditions in which they conduct their activities. Such a situation is not neutral for organizational management processes which, in the changed operational conduction, should ensure organizations’ ability to survive and grow.

An analysis of the literature on this subject makes it possible to establish a few dominant tendencies connected with the understanding of global risks (Table 1).

Table 1. Selected methods of identifying global risks

Author	Description
The Global Risks Report (2017)	An uncertain event or state whose occurrence may have a considerably negative impact on a few countries or sectors within the next 10 years
Beck (2012)	A risk generated by the system of modernity, which, at the time of risk society, starts to threaten itself
Stankiewicz (2008)	A risk whose qualities include (spatial, temporal and social) relocation, incalculability, irreversibility and non-returnability
Terlikowski (2016)	A risk is inseparably connected with multifaceted and multidimensional globalization. It can be categorized on the basis of a differentiating criterion such as a social and economic life area of the world which it concerns directly, i.e., economy, politics, demography, technology, information systems, ecology, health, security, culture, religion, civilization
Kaczmarek (2008)	The problems of global risks translate frequently into a local dimension (of countries, economies, organizations)

Presented in Table 1, the expressions describing a global risk have a nominal or contextual character. They focus, among other things, on the consequences of the occurrence of risks, the scopes of their influence, characteristic features showing their specific and unique character, as well as a diffusion of their consequences from the global dimension to the local one.

The analysis of the literature on the subject allows the identification of the following four main directions of looking for responses to the occurrence of global risks. In the first case, a response is to have an individual character and concern the designing of required behavior for particular organizations functioning in the conditions of global risks. A case in point can be the shaping of man-

agement processes in so-called born-global firms (Gleason, Madura, & Wiggenhorn, 2006) for which the global market is their own market. In the second case, a response is to have a collective character; however, its operationalization should be based on some kind of managerial constructs such as, for example, global supply chains or global networks which integrate activities of numerous organizations (Christopher et al., 2011; Manuj & Mentzer, 2008; Tse, Tan, Chung, & Lim, 2011). In the third case, a requirement for the implementation of global risk management is put forward; it is to be understood as processes to take place on the global scale for which only very few organizations such as the International Monetary Fund or the World Bank, which possess the required resource-based potential, are predisposed (Soederberg, 2016). The fourth case concerns some types of risks (e.g., financial, political, environmental risks) which may have a global character. In this case, the recommended risk management formula provides for a joint transnational programme in which numerous entities participate (Choi & Powers, 2002).

3. Research methodology

The main source of data used in the research was The Global Risks Reports prepared by the World Economic Forum in cooperation with the Marsh & McLennan Companies. The reports include the results of the research on the perception of global risks carried out on a group of about 700 experts coming from all over the world and representing different fields of specialization. Comparing the methodology of preparing these reports with those used in developing comparable publications, the authors concluded that The Global Risks Reports constituted the most reliable source of information on global risks; more reliable than alternative reports drawn up, for example, by entities representing the consultancy services sector. The research was based on the reports spanning the period from 2013 to 2017. Despite the fact that before the time of the research 12 reports had been published, the reports drawn up before 2013 have had the format preventing their comparison. The basic research method was an analysis of the content of The Global Risks Reports.

The following research questions were formulated:

Question 1: What risks were identified as significant on a global scale?

Question 2: Were there any changes in the types and significance of global risks during the period of five years covered by the research?

Question 3: Which of the identified risks were considered as the most important in the five years' period?

The identified risks were assessed against likelihood and impact by means of a scale from 1 to 7:

- 1) Likelihood (L), where 1 – an unlikely risk whose probability of occurrence is < 5%, while 7 – a very likely risk whose probability of occurrence is $\geq 95\%$,
- 2) Impact (I), where 1 – a risk with no or minimal impact on the social and economic development of the world, 7 – a risk with a catastrophic impact (large-scale negative consequences).

4. Research findings and discussion

It was established that in each edition of analyzed report, experts had identified and assessed about 30 global risks which had been divided into five groups: economic risks, environmental risks, geopolitical risks, societal risks, and technological risks.

Table 2 presents a specification of the global risks identified in the aforementioned five years' period, their allocation to risk groups, as well as assessments of their likelihood and impact.

Table 2. A specification of global risks in the years 2013-2017

RISKS	2013		2014		2015		2016		2017	
	L	I	L	I	L	I	L	I	L	I
<i>1</i>	2	3	4	5	6	7	8	9	10	11
ECONOMIC										
1. Failure of a major financial mechanism or institution	3.45	4.05	4.30	4.70	4.55	4.85	4.55	4.80	4.70	3.45
2. High structural unemployment or underemployment	3.70	3.75	5.10	5.05	5.40	5.05	5.30	4.90	5.10	3.55
3. Fiscal crises in key economies	3.95	3.95	4.60	5.20	4.80	5.10	4.95	5.05	4.90	3.50
4. Failure/shortfall of critical infrastructure	3.35	3.20	3.80	4.10	4.30	4.30	4.40	4.10	4.45	3.30
5. Severe energy price shock (increase or decrease)	3.70	3.85	3.55	4.40	4.45	5.15	4.70	5.20	4.60	3.35
6. Unmanageable inflation	3.20	3.55	4.70	3.95	3.50	4.40	3.55	4.40	4.10	3.10
ENVIRONMENTAL										
7. Extreme weather events (e.g., floods, storms, etc.)	3.70	3.65	5.40	4.80	5.10	4.50	5.60	4.60	5.90	3.90
8. Major natural disasters (e.g., earthquake, tsunami, volcanic eruption, geomagnetic storms)	3.20	3.30	4.55	4.55	5.35	4.40	5.40	4.45	5.60	3.70
9. Failure of climate-change mitigation and adaptation	3.75	3.90	5.00	5.15	5.35	5.15	5.40	5.80	5.30	3.70
10. Man-made environmental damage and disasters (e.g., oil spills, radioactive contamination, etc.)	3.35	3.65	4.50	4.45	5.05	4.30	5.10	4.35	5.35	3.50
11. Major biodiversity loss and ecosystem collapse (terrestrial or marine)	3.70	3.35	4.40	4.80	4.50	4.90	4.80	5.15	4.85	3.50

Table 2 cont.

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
GEOPOLITICAL										
12. Weapons of mass destruction	3.20	3.90	3.20	4.65	3.70	5.70	3.60	5.40	3.90	3.95
13. Large-scale terrorist attacks	3.65	3.60	4.15	4.45	4.90	4.85	4.85	4.80	5.60	3.55
14. Interstate conflict with regional consequences	3.55	3.70	4.50	4.33	5.65	5.20	5.40	4.90	5.25	3.60
15. Failure of regional or global governance	3.70	3.80	4.10	4.65	5.45	4.55	5.30	4.45	4.80	3.40
16. State collapse or crisis (e.g., civil conflict, military coup, failed states, etc.)	3.40	3.55	3.55	4.45	5.40	4.45	5.10	4.40	5.00	3.40
SOCIETAL										
17. Large-scale involuntary migration	3.45	3.40	4.25	4.70	4.80	4.45	5.75	5.25	5.60	3.60
18. Food crises	3.60	3.80	4.40	4.60	4.85	4.80	4.80	4.90	4.80	3.60
19. Rapid and massive spread of infectious diseases	3.20	3.60	3.75	4.60	4.50	5.30	4.20	5.05	4.40	3.55
20. Profound social instability	3.45	3.70	4.25	4.75	4.85	4.80	5.10	4.95	4.90	3.45
TECHNOLOGICAL										
21. Large-scale cyberattacks	3.85	3.55	4.90	4.75	5.10	4.90	5.15	4.95	5.50	3.50
22. Breakdown of critical information infrastructure and networks	2.95	3.60	3.85	4.90	4.40	5.10	4.30	4.80	4.40	3.35
23. Massive incident of data fraud/theft	3.50	3.25	4.90	4.45	5.25	4.45	5.20	4.95	5.55	3.30
24. Adverse consequences of technological advances	2.80	3.00	4.20	4.55	4.40	4.40	4.35	4.55	4.40	3.15
OTHER*										
25. Illicit trade (e.g., illicit financial flows, tax evasion, human trafficking, organized crime, etc.)	3.45	3.05	3.80	3.75	5.10	4.10	5.20	4.30	5.45	3.15
26. Water crises	3.60	3.55	4.80	5.10	5.30	5.30	5.20	5.30	4.92	3.75
27. Failure of urban planning	3.70	3.35	4.75	4.00	4.70	4.20	4.70	4.20	4.80	3.00

* This group includes these risks whose allocations to the risk groups changed in the period covered by the research because of adjustments in the report preparation methodology.

Source: Based on: The Global Risks Report (2013-2017).

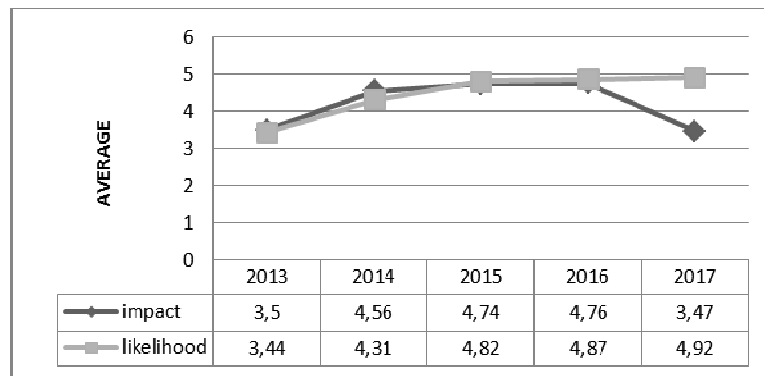
An analysis of the data included in Table 2 allows the formulation of the following conclusions:

- in the case of all risk categories, the assessments of their significance had been lower at the beginning than in the subsequent years,
- risks referred to as environmental were regarded as the most likely and simultaneously having a significant global impact,
- during the period under analysis the likelihood of the occurrence of social risks was growing,
- generally, during the period under analysis the significance of technological risks changed considerably.

It is necessary to emphasize serious changes in the assessment of the likelihood and impact of the majority of the identified global risks. For example, the assessment of the risk of extreme weather events changed from 3.70 in 2013 to 5.90 in 2017. Meanwhile, the risk of climate-change mitigation and adaptation in 2013 was estimated at 3.90 and at 5.80 in 2016.

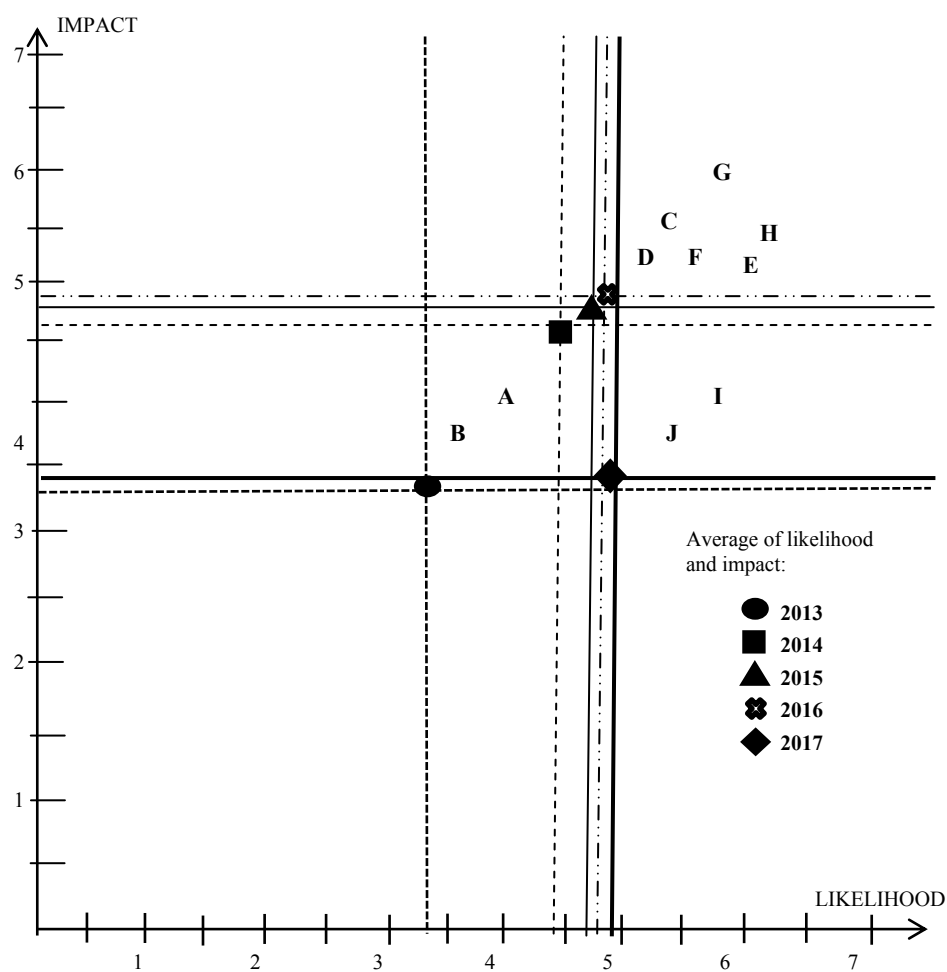
What could be interesting from the cognitive point of view is the averaged values of likelihood and impact for all global risks in the period under examination (Figure 1).

Figure 1. The averaged values of the likelihood and impact of the global risks in the years 2013-2017



The period was characterized by a permanent increase in the likelihood of the occurrence of the identified risks (in 2013 the average value was 3.44; it was growing continually to reach the level of 4.92 in the year 2017). In the case of impact, the rising trend is not so obvious. The averaged values of this measure of risks were rising in the period 2013-2016 only to return to the starting level of approx. 3.47 in 2017. This reduction in the surveyed experts' assessments of the potential impact of risks could indicate, on the one hand, a lower significance of the identified threats or, on the other hand, the development of effective compensation mechanisms.

Figure 2. A map of the key global risks 2013-2017



2013	2014	2015	2016	2017
A. Fiscal crises in key economies	C. Failure of climate-change mitigation and adaptation	E. Interstate conflict with regional consequences	G. Failure of climate-change mitigation and adaptation	I. Extreme weather events
B. Failure of climate-change mitigation and adaptation	D. High structural unemployment or underemployment	F. Water crises	H. Large-scale involuntary migration	J. Major natural disasters

Figure 2 presents these risks which in the particular years were considered of primary importance from the perspective of the likelihood of their occurrence and the strength of their impact. The methodology of drafting global risks reports provides for selecting two risks every year. It should be noted that during the five years' period only one risk (Failure of climate-change mitigation and adaptation) is repeated three times. In the other cases there occurs a high degree of variability; the other risks were regarded as of key importance once.

The carried out analysis allowed to obtain answers to research questions:

- The set of risks identified by the experts of the World Economic Forum as global is very diversified. Despite the high diversification of the profiles of these risks, they were divided into the following five categories: economic, environmental, geopolitical, societal, technological.
- There occurred considerable changes in the assessments of the likelihood and impact of the identified risks within the relatively short five years' period.
- During the period considered the most important risks in the world were: failure of climate-change mitigation and adaptation, fiscal crises in key economies, high structural unemployment or underemployment, interstate conflict with regional consequences, water crises, large-scale involuntary migration, extreme weather events and major natural disasters.

5. Conclusions

The research findings concerning the global risk carry the following implications for organizational management:

- The dynamically changing global risk landscape confirms the thesis about the unstable environment of contemporary organizations;
- The high diversification of global risks contributes to the increasing complexity of the functioning of contemporary organizations;
- The possibilities of measuring the likelihood of occurrence and the scope of interactions in the event of a joint occurrence of various global risks are limited, especially taking into consideration the analytical potential of individual organizations;
- The global dimension of the analyzed global risks hinder the identification and analysis of their indirect impact on the position of individual organizations;
- The level of uncertainty concerning the likelihood of the occurrence and the impact of the global risks justifies the adoption of a flexible approach to management;

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- Management processes taking into consideration the global risks should take place particularly at the level of strategy;
 - Seriously limited possibilities of preventing the consequences of the global risk by individual organizations indicate the necessity of looking for management solutions based on achieving synergy effects resulting from cooperation among organizations. Such cooperation can have the form of network relationships, supply chains, strategic alliances or cooperation; and
 - The processes of developing benchmark risk management methodologies and models (such as ISO standards) should take into account global risks as an important variable in organizational management.

This article reflects on the essence of global risks and the consequences of their occurrence for organizational management processes. On the basis of an analysis of the literature on the subject, the authors presented the way of defining global risks, emphasizing the consequences of their occurrence and scale of impact. Such risks are usually regarded as direct consequences of globalization which are not easy to measure.

The occurrence of global risks constitutes also a challenge for people managing organizations. The awareness of organizations' limited influence on such risks cannot constitute a justification for abandoning actions aimed at shaping management processes in a way ensuring an organization's survival if they do occur.

Global risks should be treated as challenges stimulating organizations to look for management approaches, concepts, models, strategies, and methods adequate for operational conditions created by them. Thus, from the scientific point of view, on the one hand, it is possible to test the usefulness of the already existing management solutions and, on the other hand, it is worth trying to develop new ones. It seems that international corporations and global consulting firms are particularly predisposed to such tasks because of the potential of their resources.

The contribution of the authors of this text, therefore, consisted in an attempt to map the landscape of global risk, identify changes that have occurred in it over recent years, as well as to identify the directions of impact of such risk at the level of organization management.

Research limitations result, among others, from the adopted research methodology, which is based on a relatively short period of time as well as the global risk variability of the landscape, which results in the fact that research devoted to it should be continued.

Future research may be focused on problems related to changes of global risks landscape and approaches of companies which will be addressed to these risk as determinant of their activity.

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