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# The Economic Dimension Of Environmental Risk Management in Knowledge-Based Society

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## Abstract

Environmental risk for the majority of companies is the deterioration of bottom-line performance from: increased regulation on energy usage, eroded reputation, brand name and market share from an environmental incident, increased operating costs from the effects of global warming, higher fuel costs as natural resources are depleted and loss of market share to more environmentally “savvy” competitors with marketing campaigns which portray social responsibility.

**Keywords:** *risk, risk management, sustainable, environment.*

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## Introduction

The economy is a complex game, where the players’ expectations influence their future events and probabilities. The issue of risk analysis allows, experience demonstrating this, a better understanding of the socio-economic context, especially reveals challenges that the company must meet if it wants to remain on the market. Zero risk doesn’t exist. Risk is the condition of all success.

**Risk** is defined as an uncertain but potentially element that always appears in the technical, human, social, political events, reflecting changes in the distribution of possible outcomes, subjective probability values and objectives, with possible damaging and irreversible effects.

**Risk management** is defined as the management of uncertain events for success.

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Risk management is characteristic of all methods and means by which risk is managed to achieve the objectives described in the technical, social, human and political analyzed events, with uncertainty as the major risk factors. The key word is **systematic** risk management, because only an extremely rigorous and consistent approach at all levels to analyze the ongoing event, can lead to effective control activities to reduce the occurrence and risk factors.

Risk management process steps are the following:

➤ **context establishment:** determining the strategic context, organizational and risk management, and establish the structure analysis and the criteria upon which risks will be evaluated, identifying affected parties/stakeholders and defining communication and consultation;

➤ **risk identification:** identification as a basis for further analysis of what can happen, why and how, including the dangers and consequences associated;

➤ **risk analysis:** in terms of probability and severity, control measures scope and effect to examine the seriousness of consequences, likelihood and severity can be combined to estimate the level of risk;

➤ **risk assessing and prioritizing:** comparing the estimated risk levels pre-set criteria, the risks can be ranked to identify priorities, identified risks with low priority can be accepted without being treated, being only subject to monitoring and review;

➤ **risk treatment:** developing and implementing a management plan, which should include consideration of financial and other resources, and action deadlines;

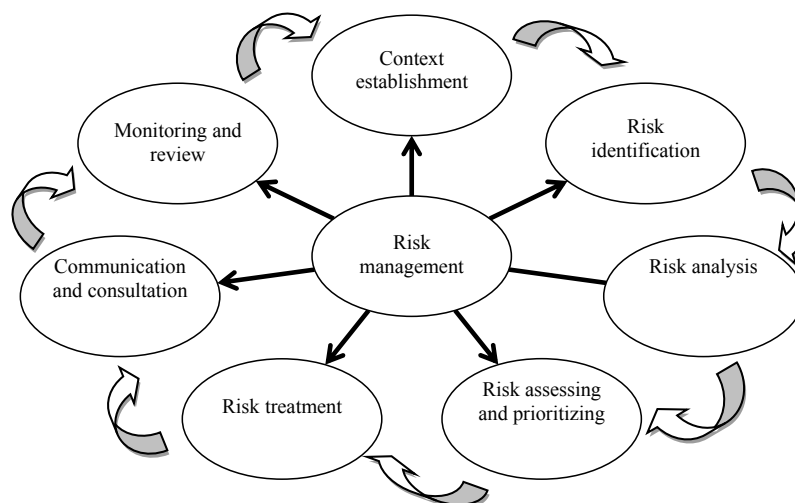
➤ **communication and consultation:** consultation and communication with affected parties/stakeholders, internal and external, in each stage of the risk management;

➤ **Monitoring and review:** risk monitoring and review, also performance evaluation of the risk management system and changes that may affect it.

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## Risk management process

Figure 1



Source: the author

## Environmental Risk Management

In most general terms, environmental risk is the result of interaction between human activity and the environment.

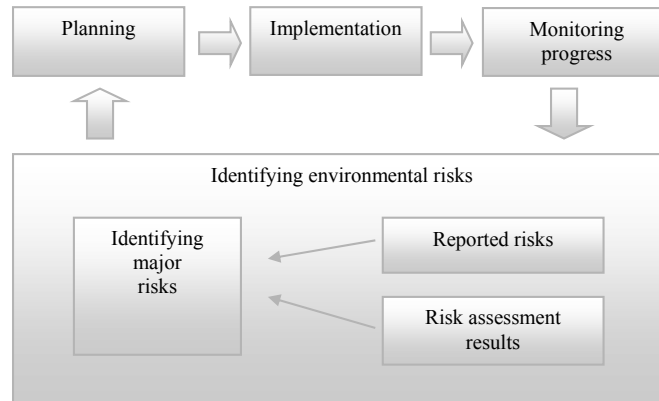
Environment risk is based on the fact that the activities of an organization can generate some form of environmental modification and thereby induces a potential danger. For example, effect of human activities can have a negative effect on flora or fauna or can generate a danger to the health and welfare of the people. Also destructive effects can be passed on water resources, air, soil, energy and climate in general.

Risk management gives any organization the ability to understand better the conduct of operations and the ability to respond more effectively to internal and external changing circumstances.

To identify environmental risks and implement the management system, the environmental risks that need to be managed are first determined based on the actual environmental risks reported from business domain companies and risk assessment results conducted across the entire company. These risks are then classified according to their occurrence frequencies and the degree of impact on business.

## Environmental risk management mechanism

**Figure 2**



Source: [www.panasonic.net](http://www.panasonic.net)

Environmental risk management can lead to obtaining direct benefits to any organization, both in the short and medium and long term by improving available information.

## Environmental risk management benefits

**Table 1**

Short and medium term benefits	Long term benefits
<ul style="list-style-type: none"> <li>➤ reducing costs and adding value;</li> <li>➤ minimize organization exposure to risks;</li> <li>➤ increased likelihood to continue operating under normal conditions and obtaining new approvals and authorizations;</li> <li>➤ demonstrate compliance with the law;</li> <li>➤ improving the image and reputation of the organization.</li> </ul>	<ul style="list-style-type: none"> <li>➤ effective strategic planning as a result of the high level of knowledge and understanding of key exposure factors;</li> <li>➤ costs decreasing as a result of unwanted effects and forecasting adopting appropriate measures to prevent them;</li> <li>➤ ensuring a higher degree of training to enhance the positive consequences;</li> <li>➤ auditing process improvement and increased use of the results of internal and external reviews;</li> <li>➤ better results in terms of efficiency, effectiveness and programs adequacy;</li> <li>➤ ensuring an efficient communication between organizations and affected parties / stakeholders to formulate directions and priority action program design;</li> <li>➤ achieving sustainable management.</li> </ul>

Source: Băbuț, G. și Moraru R., 2002

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Organizations can implement an environmental risk management to achieve specific objectives such as:

- taking decisions knowingly;
- planning management system based on the ranking of environmental risks;
- efficient allocation and use of available resources;
- increasing management capacity in terms of the obligations of an organization which is operating in a competitive environment;
- achieving a high level of transparency in management and decision-making;
- ensuring greater flexibility for alternative actions as a result of a better understanding of the sources of risk;
- foundation of approaches about the management of uncertainty;
- ensuring better identification and opportunities enhancement.

World Economic Forum made a survey (*Global Risks Perception Survey* (GRPS)) regarding the ability of a country to adapt and/or recover from the impact of global risks.

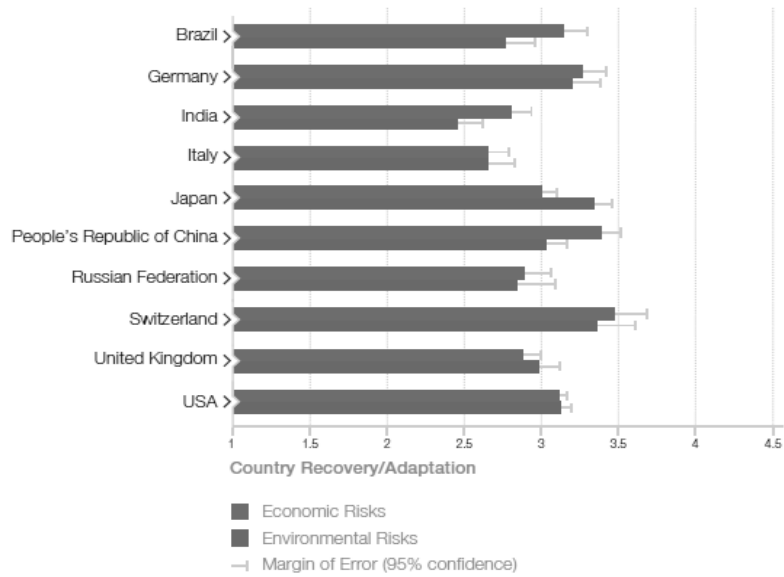
Data collected from GRPS gave sufficient responses for the analysis of 10 countries: Brazil, China, Germany, India, Italy, Japan, Switzerland, Russia, the United Kingdom and the United States. Figure 3 illustrates these countries' ability to recover from and adapt to economic and environmental risks respectively and Figure 4. Presents the centres of gravity for environmental risks.

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**Ability to adapt and recover from economic and environmental risks**

*Figure 3*

**Countries' Ability to Adapt and Recover from Economic and Environmental Risks**

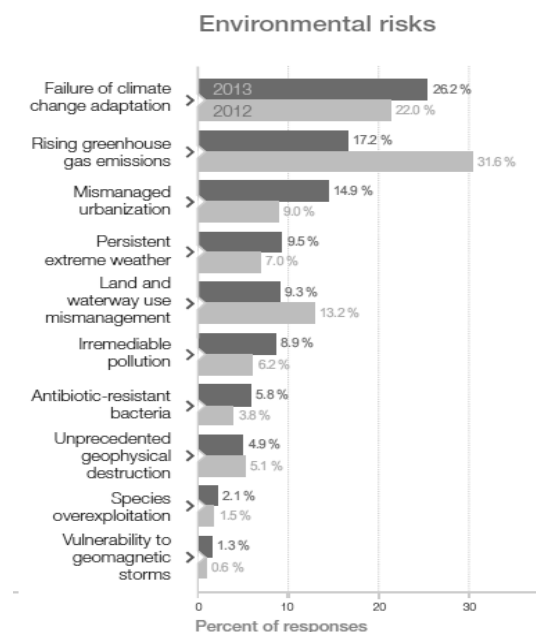


Source: World Economic Forum

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## Centres of Gravity for Environmental risks

Figure 4



Source: World Economic Forum

## Conclusions

Words like “sustainability” are now key trigger words in the world of advertising for positive, emotive images associated with words such as “green” and “environment” and are used with sophistication to sell holidays, cars and consumables. There are a number of diverse sources of both risk and opportunity from the environment, thus energy supplies and costs are a threat, whereas the development of renewable energy sources is an opportunity. Responsibility and authority of persons engaged in risk management and the relationship between them must be established by clear documentation, especially for people who have one or more of the following responsibilities<sup>1</sup>:

- initiating actions to prevent and mitigate the consequences of the risks;
- risk control treatment regime until their conversion to the acceptability ;
- identifying and record risk management issues;

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<sup>1</sup> Moraru R. și Băbuț, G., 2000

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- initiation, recommendation or provide solutions through predetermined communication methods;
  - verifying the implementation of solutions;
  - internal and external communication and consultation.

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