Emerging risks

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IRGC (The International Risk Governance Council)

An emerging risk is a risk that may be new or already known; however, it arises or appears in a new context. They can also be understood as a “problem risk,” which may be difficult to measure as it has not occurred previously. They can be classified as follows: risks with unexpected impacts (high uncertainty and little knowledge about potential impacts and consequences), risks in complex interconnected systems, and risks arising from contextual changes (regulation, nature, probability). These can be measured, and a potential impact can be assessed.

OCDE

Emerging risks are the result of new problems characterized by a low level of knowledge about their potential losses or probability of occurrence.

CELSIA

Emerging risks are risks and opportunities generated by changes in society and the environment. They are characterized by being new, increasing, and having little information available, which makes their impact difficult to measure.

SURA

Risks that may arise from new conditions derived from the environment or from a known risk that transforms and may bring consequences that are not fully predictable or understood.

Definition - Emerging risks

An emerging risk corresponds to a new event or to a known event that arises within an unknown or transformed context. This type of risk is characterized by limited information and high uncertainty, which makes it difficult to determine the probability of occurrence and, therefore, its consequences. They can be classified as:

1. Risks with unexpected impacts

High uncertainty and little knowledge about potential impacts and consequences.

Example: COVID-19.

2. Risks in complex interconnected systems

Risks arising in scenarios with high interdependence between actors and systems.

Example: Artificial Intelligence, new technologies.

3. Risks from contextual changes

Risks that can be measured and with potential impact.

Changes in: regulation, nature, probability.

Example: political, social, environmental risks.

Emerging risks

No.	EVENT	SCENARIO	VARIABLES	PROBABILITY	IMPACT	MITIGATION MECHANISMS
Taxes and Fees	"Public policies can be structured to generate taxes or increase rates in order to promote the energy transition and sustainability within the country."	Increase in the rate for the use of water resources (water extraction).	Financial impact due to water extraction charges.	Low	Minor	Increasing the rate for the use of water resources may be a feasible measure if the goal is to protect water resources in the country
Extreme weather events	Climate change is a global phenomenon that entails risks due to the alterations it causes in the environment or in temperature, which may result in damage to infrastructure.	Increase in claims due to extreme weather events (excess water, fires, droughts, migratory events of wildlife in air and land)	Increase in costs due to claims on current insurance policies that do not cover events related to extreme climate variability.	Moderate	Moderate	Extreme weather conditions such as excess water can affect OPAIN's infrastructures, causing damages that may not be covered under current policies; therefore, the probability is moderate, and the impact is significant.
Cybersecurity	The development and implementation of new technologies in concessions could entail risks such as cyberattacks or cyber-espionage on the systems that support operations, potentially disrupting integrity, continuity, and confidentiality during the event.	Cyberattacks and cyber-espionage, which could affect airport operations, resource allocation, flight management, and the theft of sensitive information from passengers, employees, and the concession itself.Identity theft due to information stolen through the cyberattack: lawsuits filed by passengers and companies through the use of AI.	1. Increase in costs related to information and system recovery. 2. Increase in the costs of data recovery and repair of vulnerabilities in the infrastructure that supports information systems	Moderate	Moderate	
				Moderate	Hight	"It is not known exactly when a new pandemic will occur; however, the WHO (World Health OrganizatioN) warns that it will happen and that it will be much more deadly than COVID-19.
New technologies	To advance with the energy transition in the country, new infrastructures and technologies that support adaptation to climate change may be required	Adverse effects linked to the adoption of sustainable energies that require circularity strategies in the manufacturing, use, and disposal of technologies	Increase in costs due to the implementation of waste disposal strategies associated with new technologies (solar panels, batteries).	Moderate	Moderate	So far, no circularity strategies have been developed related to the manufacturing, use, and disposal of new technologies; therefore, the probability is moderate, and the impact is significant.