Expert Survey | Risk-Based Design: System Sustainability

This survey aims to understand expert perspectives on risks affecting system sustainability and the factors influencing them. Your insights will be valuable for our research on applying RBD for sustainable systems.

To give you a better context for this survey, below, you will find some information & definitions that are related with this survey

* Υποδεικνύει απαιτούμενη ερώτηση

1. Διεύθυνση ηλεκτρονικού ταχυδρομείου *

What is Risk-Based Design (RBD)

Risk-based system design is an approach to designing systems, products, or processes that emphasizes the identification, assessment, and mitigation of risks throughout the design process. Rather than relying solely on traditional design criteria such as performance and cost, risk-based system design incorporates considerations of potential hazards, failures, and uncertainties that may impact safety, reliability, and ove performance.

Definition of System Sustainability

System sustainability refers to a system's ability to function at a desired level over a long period of time. There are three main aspects to consider for a system to be sustainable:

- **Environmental sustainability:** This focuses on minimizing the system's negative impact on the environment, like pollution or resource depletion.
- **Economic sustainability:** This ensures the system is financially viable and can meet its economic needs without jeopardizing its future.
- **Social sustainability:** This emphasizes the system's positive contributions to society, such as fair labor practices and community well-being.

By considering all three aspects, we can design and manage systems that meet our current needs withou compromising the ability of future generations to meet theirs.

Example:

Imagine a forest as a system. For it to be sustainable, it needs to maintain a healthy balance between the trees, animals, and the environment (environmental). It should be able to regenerate and provide resourc like timber without depletion (economic). Finally, it should support the surrounding communities without harming their way of life (social).

Part 1: Background Information (Optional)

2. Briefly describe your area of expertise (e.g., software engineering, system architecture, sustainability engineering, etc)

3. How many years of experience do you have in this field?

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   - ◯ 1-3
   - ◯ 3-5
   - ◯ 5-10
   - ◯ 10+

Part 2: System Sustainability and Risks (Required)

4. In your experience, what are the main categories of risks that can negatively impact the sustainability (environmental, social, and economic) of a system throughout its lifecycle (design, development, operation, decommissioning)? Consider these risk levels: Applicatior Level, System Level, System of Systems Level, Business Level

5. Based on the risk levels you identified in question 1, provide specific examples of potential risks within each level.

6. From the list of risks you provided, which risk do you consider the most critical for overall system sustainability? Briefly explain your reasoning.

Part 3: Factors Influencing Risks (Required)

7. What are the key factors that can influence the severity and likelihood of risks affecting system sustainability?

(For other key factors, please write below in the next question)

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	No Influence	A bit of influence	Some influence	Enough influence	Strong influence
Design choices	◯	◯	◯	◯	◯
Material selection	◯	◯	◯	◯	◯
Operational practices	◯	◯	◯	◯	◯
Maintenance procedures	◯	◯	◯	◯	◯
User behavior	◯	◯	◯	◯	◯
External regulations	◯	◯	◯	◯	◯

8. Other key factor(s)

(In case it is not mentioned above)

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Part 4: Additional Comments (Optional)

9. Please share any additional insights or comments you may have regarding risks and systen sustainability through RBD.

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Thank you for your time :)
I deeply appreciate your contribution on this survey!
If there is any additional comment about this research or anything you might want to mention, you can contact me on **voreakou[at]hua.gr**
