

The Innovation Situation Questionnaire (ISQ) is a tool designed to analyze and document problems systematically while generating initial ideas for solutions. By using structured questions, it helps professionals understand the problem from multiple perspectives, ensuring a thorough analysis that leads to actionable insights.

What is the name of the system?

The name should be short, concise, and self-explanatory (e.g., lawn mower, coffee machine).

1. Subsystems-Supersystems

Objective: Understand the problem's context within the system hierarchy.

What is the primary function of the system?

How do the subsystems interact to achieve this function?

How does the supersystem interact with this system? In what ways does it affect its functions, and what are the main reasons for these interactions?

2. Cause-Effect

Objective: Identify the root causes of the problem and their impacts.

What are the primary cause-effect relationships of the issue, and how do they propagate throughout the system?

What are the known (engineering or physical) contradictions? What conflicts are there?

What assumptions exist about these relationships that should be verified?

3. Past-Future

Objective: Analyze the problem's evolution and its future implications.

When did the problem first occur, and what changes or events led to its occurrence?

What past attempts to solve the problem have been made, and why did they fail?

What are the possible future consequences if the problem remains unresolved?

What is the desired state or goal for the future?

4. Input-Output

Objective: Understand the flows in the system and their relevance.

What are the key inputs required for the system to function?

What outputs does the system produce?

How do the inputs and outputs contribute to or hinder achieving the main function of the system?

Are there any undesirable inputs or outputs that contribute to the problem?

5. Resources-Options

Objective: Identify available resources and explore potential solution options.

What resources (materials, energy, time, space, information or functions) are available in or near the system?

What restrictions limit the available options?

Are there unused, hidden or overlooked resources in the surroundings of the system that could be utilized?

6. Criteria-Solution Spaces

Objective: Define success criteria and set the boundaries of potential solutions.

What technical, economic or operational criteria must the solution fulfill?

What constraints define the acceptable solution space?

What solution concepts are disallowed, and why?

How is the success of the solution measured?