

Structural Capacities for Tackling Wicked Problems

2021-1-MK01-KA220-HED-000030188 www.score-eu.org

Result ID: 4

Result Title: Informative Kit for Wicked Problems for Policy Makers











This section presents the various elements of informative kit developed for policymakers. There are three levels. The first level is an Executive Summary, featuring bullet points explaining wicked problems and the tools policymakers can use. This format allows for quick scanning to provide better information. The second level offers a more detailed explanation, giving an overview that policymakers can read. They can then contact us to discuss opportunities.









SCORE Project

Structural Capacities for Tackling Wicked Problems

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Result ID: 4

Result Title: Leaflet - Informative Kit for Wicked Problems for Policy Makers











Brief leaflet

Understanding Wicked Problems

Wicked problems, such as air pollution, demand innovative, interdisciplinary approaches due to their complex, uncertain, and conflicting nature.

Key characteristics of wicked problems:

- Complexity: Interconnected variables make analysis challenging.
- Uncertainty: Predicting outcomes is difficult due to dynamic factors.
- Conflict: Stakeholders have divergent priorities and values.
- Scale: Problems often have widespread spatial and temporal effects.

The SCORE Model and eTool provide an integrated approach that you, as a policymaker, can utilize to work on the air pollution problems.

- Enables stakeholder engagement
- Ensures diverse perspectives.
- Easy overview of wicked problems dimensions
- Visualize through charts to clarify insights for all stakeholders.
- Provides strategies for resolution
- Iterative, adaptive approaches tailored to specific contexts.

The e-tool automates SCORE's methodology, enabling policymakers to:

- Analyze data quickly and accurately.
- Test scenarios and visualize results.
- Engage stakeholders effectively through shared platforms.







Already applied

The SCORE model and e-tool were applied to analyze air pollution across Bulgaria, the Czech Republic, Greece, and North Macedonia. This initiative demonstrated:

Key Findings and Strategies

- Breaking Down the Problem: Addressing sector-specific challenges in transportation, industry, and domestic heating.
- Stakeholder Collaboration: Enhancing communication through multistakeholder platforms.
- Adaptive Management: Regular reviews and adjustments based on data.
- Transparency and Public Engagement: Building trust and participation through accessible information.

Shared challenges

Governance gaps, transboundary effects, and rapid urbanization.







Air pollution a Wicked problem approach

Wicked problems, such as air pollution, demand innovative, interdisciplinary approaches due to their complex, uncertain, and conflicting nature.

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Problems Scale Problems den have widespread spatial and temporal effects. Conflict Stakeholders have divergent priorities and values. Uncertainty Predicting outcomes le difficulty to the format of the conflict of the co

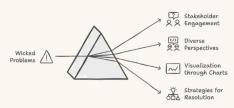
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Visualizing Wicked Problems for Effective Solutions





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Test scenarios and visualize results.

Engage stakeholders effectively through shared platforms.







Coordinator:

Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia

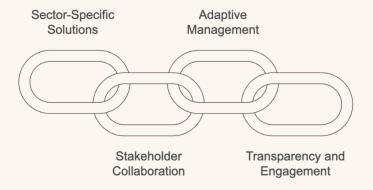
Partners:







Already applied



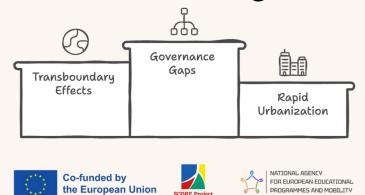
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Result Title: Extended information Informative Kit for Wicked Problems for Policy Makers











Extended information

Informative kit for wicked problems for policymakers

1. Introduction to wicked problems

This informative kit is designed to aid policy makers in addressing wicked problems. Wicked problems are defined as complex issues that cannot be solved through traditional approaches alone. They are also multifaceted problems that are difficult to understand and have no clear or straightforward solutions. These problems often involve multiple stakeholders with different values, interests, and perspectives, making them challenging to solve. The term "wicked problems" was first coined by Horst Rittel and Melvin Webber in the 1970s to describe social problems that resist easy solutions. These problems require innovative solutions and a new way of thinking to be addressed effectively.

Wicked problems are significant because they require innovative and interdisciplinary approaches to effectively address them. Traditional policy implementation and organisational frameworks have failed to create a sustainable approach to tackling wicked problems. Therefore, finding solutions to these problems requires new ways of thinking and problem-solving, involving multiple stakeholders and disciplines. Therefore, innovative and interdisciplinary approaches to solving these problems are required. Wicked problems are found in various sectors and have far-reaching consequences. Tackling wicked problems is essential to creating a sustainable future for ourselves and future generations.

Examples of wicked problems are found in the social, economic, political, and environmental sectors, as well as others. Poverty, climate change, gender inequality, political polarisation, education, and healthcare are just a few examples of the wicked problems we face today. These problems are interconnected and have far-reaching consequences, which makes them challenging to address through traditional policymaking processes. They require a collaborative effort to be resolved sustainably.

2. Core characteristics of wicked problems







The four core characteristics of wicked problems are complexity and interdependence, multiple stakeholder perspectives, ambiguity and uncertainty, and resistance to resolution.

- The complexity of wicked problems is related to their multiple causes and effects that are difficult to understand and predict. They are also interdependent because changes in one area can have unforeseen consequences in other areas.
- Wicked problems are also characterised by the existence of multiple stakeholder perspectives. These problems affect a wide range of people and organisations, each with its own and at times conflicting views, interests, values, and beliefs. As a result, finding a solution that meets all needs can be difficult. A holistic view and, subsequently, a holistic approach can contribute significantly to the process of managing the problem. In addition, knowledge about the problem and its flow is valuable for addressing the problem.
- Ambiguity and uncertainty are also common features of wicked problems. The
 causes and effects of these issues are often unclear, and it can be challenging to
 determine what actions will have the desired effect. In addition, there may be
 limited data available, making it challenging to make informed decisions.
- Finally, wicked problems are resistant to resolution. Solutions to these problems are often complex, costly, and require sustained effort over an extended period. Furthermore, there may be significant opposition to change from various stakeholders who may feel threatened by the proposed solution.

These characteristics make wicked problems challenging to address and traditional policy. These characteristics and challenges can be well understood through the SCORE tool.

3. Challenges in addressing wicked problems

Policy makers may face challenges while addressing wicked problems, such as the difficulty of defining and defining the problem, conflicting values and interests, incomplete or contradictory information, and unintended consequences of solutions. Awareness of these challenges will help them develop strategies to overcome them. These challenges can make it challenging to address wicked problems effectively, and innovative approaches are necessary to overcome them.

 Defining and framing the problem itself is one of the main challenges. Wicked problems are complex and multifaceted, making it challenging to understand their underlying causes and consequences.







The stakeholders involved may have different interpretations and perceptions of the problem, making it difficult to reach a consensus on how to address it. Another challenge in addressing wicked problems is the conflicting values and interests of the stakeholders involved. These stakeholders may have different priorities, goals, and interests, making it difficult to come up with a solution that satisfies all parties involved. This can lead to power struggles and political disputes, further complicating the process of resolving wicked problems. Incomplete or contradictory information is another challenge in addressing wicked problems. Tackling wicked problems requires innovative and interdisciplinary approaches that take into account these challenges and seek to address them in a holistic manner.

4. Need for solving wicked problems

To solve wicked problems, policy makers must be aware of the social, economic, and environmental impacts of the problems, the importance of sustainable development, and the urgency for innovative approaches and collaboration. Addressing wicked problems requires urgent and innovative approaches that involve collaboration and interdisciplinary efforts. Solving wicked problems is also crucial due to their significant social, economic, and environmental impacts. These problems are often deeply ingrained in society and have far-reaching consequences that affect people's lives and well-being. For example, climate change, one of the wicked problems, has caused adverse impacts such as rising sea levels, natural disasters, and health epidemics. Poverty, another wicked problem, has significant impacts on individuals, communities, and society as a whole, such as limiting access to education, healthcare and employment opportunities. It has been demonstrated that interactions and feedbacks among users and between users and landscapes significantly ease the process to manage the problem. Several other strategies can be used based on the wicked problem matrix to help structure and solve wicked problems.

Wicked problems for sustainable development also require solutions. Sustainable development refers to meeting the needs of the present without compromising the ability of future generations to meet their own needs. Solving wicked problems is crucial to achieve sustainable development goals and ensure that resources are used in a responsible and equitable manner, considering the long-term impacts on the environment and society.

In addition, an urgency of innovative approaches and collaboration is needed to solve wicked problems. These problems often require interdisciplinary solutions that go beyond traditional approaches. Solving them requires the participation of various stakeholders, including policymakers, academia, the private sector, and civil society.







Collaborative efforts help to bring together diverse perspectives, skills, and knowledge needed to identify and implement effective solutions to wicked problems.

In summary, solving wicked problems is crucial due to their significant social, economic, and environmental impacts, their importance for sustainable development, and the urgency for innovative approaches and collaboration.

5. Introduction to the SCORE model

The SCORE model is a simple and effective methodology to tackle wicked problems. The scope of application of the model is wide including problem areas such as the environment and climate change, inter-regional cooperation, research, and innovation, etc. The SCORE model is comprised of four integrated components including stakeholders, survey on the core dimensions (pillars) of the problem, platform to display/understand the problem and another to propose the strategies or actions to address the problem.

Contrary to the lack of a defined structure in traditional methods to address wicked problems, the SCORE model provides a logical and structured approach to tackle wicked problems as follows:

- It collects the different stakeholders implicated in the given wicked problem and organise them on a grid which enables a holistic identification and the possibility to modify their number as need arises.
- A questionnaire survey focused on the different dimensions of the wicked problem (wicked problem matrix) is then administered to the stakeholders. This information is input in the e-tool which analyses and provides a proper understanding of the problem.
- Based on the understanding of the problem, the strategies and actions needed to effectively address the problem are identified.







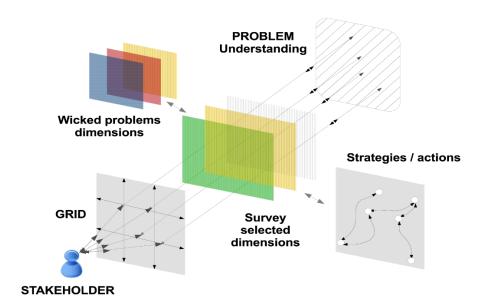


Figure 1. The wicked problem matrix model

The SCORE model can help policy makers and other organisations by demonstrating decisiveness and capability to solve wicked problems in different areas. It reduces the time to understand the problem and rapidly proposes the needed strategies/actions to address the problem.

6. Overview of the e-tool

The e-tool is a web-based platform for addressing and solving wicked problems. The tool has the following features:

A. Evaluation of the problem

The e-tool primary function is to perform a self-evaluation of the wicked problem based on the four pillars of the SCORE model (Complexity, Uncertainty, Conflict, and Scale). This is a stepwise selection of the answers to questions used to understand each pillar of the SCORE model. These pillars are:

Complexity:

The complexity of a wicked problem refers to the various interrelated and dynamic factors that contribute to its difficulty in being solved. This includes the number of causes, the interdependence of causes, and the existence of multiple and conflicting perspectives.

Uncertainty:







The uncertainty of a wicked problem refers to the lack of knowledge, stability, and predictability surrounding the problem and its potential solutions.

Conflict:

The conflict of a wicked problem refers to the competing interests, values, and priorities of different stakeholders and the difficulty in reconciling these conflicting perspectives to find a solution.

• Scale:

The scale of a wicked problem refers to the breadth and depth of its impact, both spatially and temporally.

Based on the answers selected, the tool provides an output of radar or spider charts that determine whether it is a wicked problem or not.

B. Evaluation of the solution

It is important for policymakers to recognize when a problem is identified as a wicked problem. Once evaluated, they should draft solutions to address air pollution as such. However, solutions require swift evaluation to help policymakers make initial decisions about their appropriateness or the direction of their approach. Therefore, policymakers need to quickly assess their solutions. Our tool includes a questionnaire that enables them to evaluate these solutions effectively.

C. Knowledge base for strategies

In order to assist and inform policymakers about available strategies and activities within the tool, we have embedded a knowledge repository. This knowledge base includes various activities and strategies that policymakers can use to support the implementation and resolution of wicked problems.

7. Presentation of segments of the tool







HOME / WICKED MATRIX TOOL

Wicked Matrix Tool

Is my problem a wicked problem?

The survey covers four aspects that are used to identify is the problem you are facing a complex problem

- 1. Complexity: How complex is the problem? How many variables and interdependencies are involved?
- 2. Uncertainty: How uncertain is the problem? How difficult is it to predict the outcome of different solutions?
- 3. Conflict: How much conflict is there between stakeholders and their interests and values?
- 4. Scale: How large and widespread is the problem? How many people and organizations are affected by it?

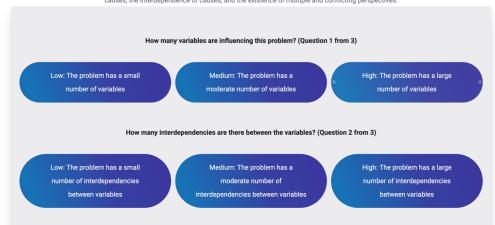
CLICK HERE to start the survey

HOME / WICKED MATRIX TOOL

Wicked Matrix Tool

Dimension one - COMPLEXITY

The complexity of a wicked problem refers to the various interrelated and dynamic factors that contribute to its difficulty in being solved, including the number of causes, the interdependence of causes, and the existence of multiple and conflicting perspectives.









HOME / WICKED MATRIX TOOL

Wicked Matrix Tool

Dimension two - UNCERTAINTY

The uncertainty of a wicked problem refers to the lack of knowledge, stability, and predictability surrounding the problem and its potential solutions.

How difficult is to predict the problem? (Question 1 from 4) Medium: The problem can be Low: The problem can be predicted High: The problem is difficult to predicted with some degree of with a high degree of accuracy predict accuracy How rapidly the problem changes over time? (Question 2 from 4) Medium: The problem changes Low: The problem remains stable High: The problem changes rapidly over time moderately over time over time How ambiguous and difficult to understand is the problem? (Question 3 from 4)

HOME / WICKED MATRIX TOOL

Wicked Matrix Tool

Dimension three - Conflict

The conflict of a wicked problem refers to the competing interests, values, and priorities of different stakeholders and the difficulty in reconciling these conflicting perspectives in order to find a solution

What is the number of stakeholders that affected by the problem?

Low: The problem affects a small number of stakeholders Medium: The problem affects a moderate number of stakeholders Inumber of stakeholders

How are the interests of the stakeholders aligned?

Aligned: The interests of stakeholders are aligned Partially aligned: The interests of stakeholders are misaligned

How are the values of the stakeholders aligned?

Aligned: The values of stakeholders are misaligned?

Aligned: The values of stakeholders are misaligned: The values of stakeholders are misaligned.

Coordinator:

Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia

Partners:





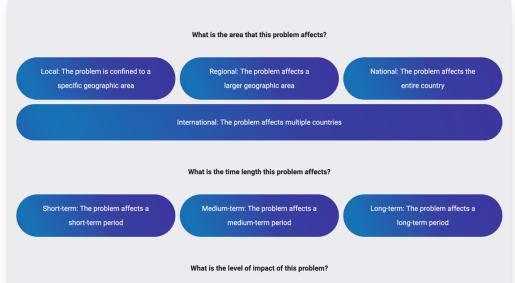


HOME / WICKED MATRIX TOOL

Wicked Matrix Tool

Dimension four - SCALE

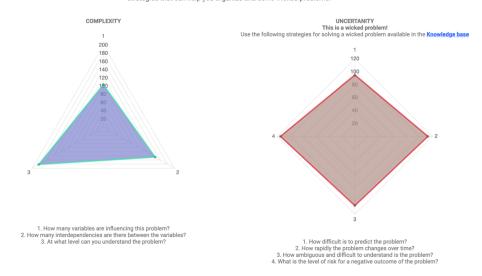
The scale of a wicked problem refers to the breadth and depth of its impact, both spatially and temporally.



Wicked Matrix Tool

Results from the Wicked Problems Tool

Based on your answers, these are the results. If the issue is identified as a wicked problem, it will be clearly stated, and a link will be provided to a repository of strategies that can help you organize and solve wicked problems.



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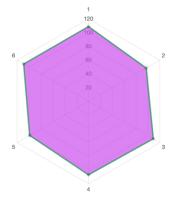
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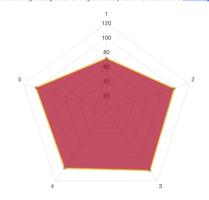






What is the number of stakeholders that affected by the problem?
 How are the interests of the stakeholders aligned?
 How are the values of the stakeholders aligned?
 How it the power of stakeholder balanced?
 How it the power of stakeholder balanced?
 How it she communication between the stakeholders?
 What is the level of trust between the stakeholders?

SCALE This is a wicked problem! Use the following strategies for solving a wicked problem available in the Knowledge base



1. What is the area that this problem affects?
2. What is the time length this problem affects?
3. What is the level of impact of this problem?
4. What is the number of people or organizations that this problem affects?
5. How reversible is this problem?

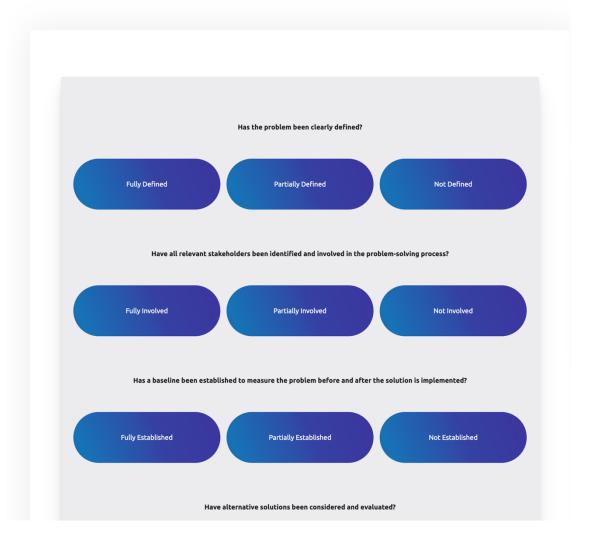






HOME / WICKED SOLUTION EVALUATION

Wicked Solution Evaluation









HOME / KNOWLEDGE BASE

Knowledge Base

BREAK THE PROBLEM DOWN	IDENTIFY STAKEHOLDERS	COLLABORATE			
(6 Articles)	(6 Articles)	(6 Articles)			
Activities that can be used to break a problem down	Activities that can be used to identify stakeholders	Activities that can be used to collaborate			
☐ Prioritize subproblems ☐ Create a problem statement ☐ Identify root causes ☐ Define the problem VIEW ALL ARTICLES →	 ☐ Communicate with stakeholders ☐ Involve stakeholders ☐ Prioritize stakeholders ☐ Map stakeholders VIEW ALL ARTICLES →	☐ Foster a culture of collaboration ☐ Facilitate consensus building ☐ Encourage participation ☐ Use collaboration tools VIEW ALL ARTICLES →			
			ADAPTIVE MANAGEMENT	BE TRANSPARENT	PROTOTYPE SOLUTONS
			(6 Articles)	(6 Articles)	(6 Articles)

8. Conclusion

Addressing wicked problems is one of the most pressing challenges facing policymakers today. These problems are inherently complex, interdependent, and resistant to resolution, requiring innovative, interdisciplinary, and collaborative approaches. This informative kit emphasizes the importance of understanding the characteristics and challenges of wicked problems and introduces tools and methodologies, such as the SCORE model and the e-tool, to support effective problem-solving.

By leveraging structured frameworks like the SCORE model, policymakers can gain a comprehensive understanding of the multifaceted nature of wicked problems and develop actionable strategies to address them. The e-tool complements this approach by facilitating the evaluation of problems, assessing potential solutions, and providing a knowledge repository for implementing strategies.

Ultimately, solving wicked problems is critical for achieving sustainable development goals and addressing the social, economic, and environmental challenges of our time. Through collaboration, innovation, and the application of structured methodologies, policymakers can make meaningful progress in addressing these persistent and complex issues, paving the way for a more sustainable and equitable future.