

# A Very Short Guide to Decision-making on Wicked Problems

Or: how to aim  
at moving targets



**S** Simon Institute  
for  
Longterm Governance

## Guiding decision-making in complex situations

Decision-makers at local and international levels deal with inherently uncertain outcomes when tackling wicked problems to advance the UN Sustainable Development Goals. To illustrate, more than 100,000 academic articles were published on COVID-19 throughout 2020. The issue was also analyzed at length by the media and civil society. Navigating such an abundance of information is difficult because knowledge synthesis takes time but decision-makers have to act swiftly. This guide aims to increase your confidence in having made the best possible decision at any given moment in time.

### *Who is this guide for?*

We have interviewed dozens of policy actors across all levels of seniority and sectors. No single actor perceives themselves as the ultimate decision-maker. Instead, policy decisions are the result of thousands of micro decisions that all policy actors make on a daily basis. Drawing from behavioral science and expert advice, this guide is for everyone who works in policymaking, inside or outside of governmental organizations. It provides an approach to policy decisions at large, fostering productive group exchange and efficient coordination.

### *Uncertainty is always present.*

Uncertainty arises in situations with incomplete information. It challenges your understanding of possible decisions as well as their effects. Uncertainty is inherent in policymaking because of complexity and time-constraints. The interconnectedness of issues limits *how much you can know*. And the fast pace of policymaking puts bounds on *how much information you can process or wait for*. Therefore, you need to be ready to handle uncertainty, as reducing it is difficult and removing it is impossible.

### *Too much information decreases decision quality.*

While uncertainty challenges your decision-making, abundant information also is a key problem. Information overload means you have too much to read or listen to in too little time. 'Too much' refers to both the quantity and complexity of information. Scientific evidence shows that information overload reduces decision quality. What's worse is that you often face uncertainty and information overload at the same time. How to deal with such *complex situations*?

### *Why is this guide so short?*

Improving decision-making does not happen through reading. It happens through practice. We would like you to use this guide as a practical tool when making decisions and motivate you to practice through training programs.

## **Adaptive decision-making as a foundation for navigating complex situations.**

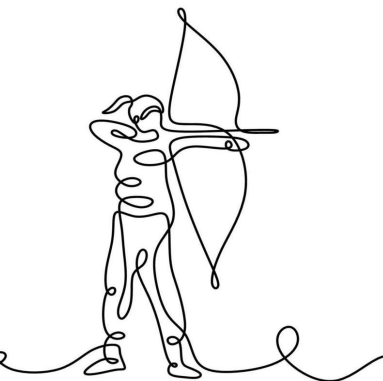
The quality of decisions in complex situations results from being able to be both *fast* and *performant* (= prioritize best decisions).

Think about the following analogy: decision-making is like archery. You have little time to hit a moving target by conducting a set of fine-grained physical movements and keeping your attention focused. In this situation, aiming for a longer time is impossible because the target would be gone. And moving faster would potentially lead you to missing the target.

In policymaking, we often attribute more time (= waiting longer) to higher performance (= hitting the target). But, like in archery, we often cannot afford taking our time. Scientific evidence also shows that better performance does not necessarily require more time.

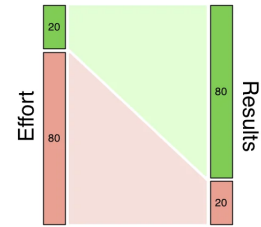
The ability to adapt to complex situations and make fast and good decisions is what we call *adaptive decision-making*. Just like archery, you cannot easily change your decision constraints. What you can do is learn good technique, practice it and learn how to adapt to unexpected events - such as a stronger wind.

In this short guide, we provide some techniques to handle complex situations and make better decisions.



### 1. The world is made of interconnected systems. Two rules help to prioritize within them.

A key property of interconnected systems is their nonlinearity. A small change can have big effects. And vice-versa. This finding has proven valid for many systems. For example, a few conflicts account for most casualties, a few interactions account for most COVID-19 infections, a few public budget changes account for most reallocations, or a few risks account for most damages. This property implies that a few solutions can be massively more effective than most others and that a few problems may be immensely more harmful than most others.



- (1) When choosing among **solutions**, remind yourself that there are likely a few solutions that are much better than the average. Look for them and assess their feasibility.
- (2) When prioritizing among **problems**, look for worst-case scenarios even if they are not very likely as preventing them will ensure the mitigation of most possible harm.

Combining (1) and (2) helps you to focus your attention on the most important systemic effects.

### 2. Common mistakes to avoid.

When engaging in complex situations, you, the decision-maker, are subject to your cognition - especially the subconscious mental processes that integrate new information into your brain. Human cognition has not evolved for complex, abstract decisions that are global in scope. Therefore, your reasoning is prone to error.

One well-studied shortcoming, for example, is *scope-insensitivity*. Humans tend to prioritize problems disproportionately to their importance. This mistake can lead you to ignore problems that are more important than your current priorities. For example, this happens because humans struggle to portray images of mass events. Another common issue is *confirmation bias*: the automatic selection of information that supports our preconceptions. This mistake happens because of time constraints and overconfidence. This can lead you to neglect important information and reinforce wrong opinions.

Avoiding such errors is difficult and often impossible under time-constraints. The point here is to be aware of your potential mistakes and remind yourself to correct them. Correcting them is easier with the help of others.

### 3. Decisions are often made with others. Here is how to make the best out of groups.

Group decision-making offers opportunities and also adds additional challenges. On the one hand, groups allow to pool different, often complementary, perspectives. Using the wisdom of the crowd - adopting the conclusion of a set of small groups - can be a way to make robust decisions. And groups can also help spot our cognitive shortcomings, such as the ones described above.

On the other hand, groups with information asymmetries - when group members have unequal knowledge - tend to make worse decisions. In this case, group members tend to refrain from disclosing opposing information to preserve group consensus, even when such information is vital. This can lead to false consensus - commonly called *groupthink* - and worse decisions.

Therefore, when making decisions in groups, aim for full disclosure in small groups to counteract groupthink.

### 4. Competing goals and limited resources? Here is a simple tool.

When facing complex situations, you often have to balance multiple objectives and different options to prioritize from. This challenge can cloud your judgement and make decisions worse. To improve, you can follow six steps, which are well-established to help decision-making in the face of uncertainty.

1. List your goals (= what you want to achieve or avoid)
2. List your options (= possible decisions to reach 1.)
3. Assess your options against your goals in a table
4. Identify best option(s) or eliminate worst options
5. Identify trade-offs & synergies between options
6. Select the combination of options that satisfy your goals

### 5. Your decision is a leap into the unknown. Here is how to make it safer.

While the techniques above can help you make decisions better and faster, they all strongly rely on reflexive processes. Before making final decisions, use your imagination for a quick safety check. Imagine you failed completely. Are you surprised? If not, you probably know how to make it better. Repeat the exercise until you are really surprised about the decision failing. You can also do it as a group.

## Checklist of questions to make your decisions

- Which event/action/group has the most impact on my system (i.e. the set of connected actors and parts that are related to the problem I'm trying to solve)? Where can I maximize impact by prioritizing disproportionately effective solutions and avoiding the most harmful failure modes?
- What are my common cognitive shortcomings? Am I neglecting the scope of some problems, and should I adjust my priorities? Am I selecting information that only confirms my views, and should I seek out more counter-arguments? Am I making other mistakes in judging information?
- Which information can I leverage from my group? What would the wisdom of the crowd tell me? Do the members of my team/group have equal amounts of information? Can I reduce information asymmetries? Is there a risk of people not sharing relevant information to preserve consensus?
- Do I have competing goals and limited resources? What are my options and how do they trade off against each other? Can I find synergies and fill important knowledge gaps?
- I'm ready to make a decision. Would I be surprised if it failed? How could it fail? What can I improve until I would be extremely surprised by failure?

## Related scientific evidence and resources

- Bang, D., & Frith, C. D. (2017). [Making better decisions in groups](#). *Royal Society open science*, 4(8), 170193.
- Hallsworth, M., Egan, M., Rutter, J., & McCrae, J. (2018). [Behavioural government: Using behavioural science to improve how governments make decisions](#). Behavioural Insights Team.
- Hertwig, R., & Grüne-Yanoff, T. (2017). [Nudging and boosting: Steering or empowering good decisions](#). *Perspectives on Psychological Science*, 12(6), 973-986.
- Khatri, N., & Ng, H. A. (2000). [The role of intuition in strategic decision making](#). *Human relations*, 53(1), 57-86.
- Mair, D., Smillie, L., La Placa, G., Schwendinger, F., Raykovska, M., Pasztor, Z., van Bavel R. (2019). [Understanding our political nature: How to put knowledge and reason at the heart of political decision-making](#). Publications Office of the European Union.
- Sunstein, C. R. (2021). [Averting catastrophe: Decision theory for covid-19, climate change, and potential disasters of all kinds](#). NYU Press.
- [Clearer Thinking](#): free online courses on decision-making and critical thinking

## Enroll in our training programs

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| <a href="#">A behavioural training on decision-making under uncertainty</a> | <a href="#">A training on decision-making under extreme risk</a> | <a href="#">A training on multicriteria decision analysis for groups</a> |
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## Work with us

Here are the two ways you can collaborate with us:

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| We provide advice to your teams, organizations or departments on decision-making under uncertainty. | We develop training sessions with you, tailored to your needs. |
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## About this document

This document was developed by the Simon Institute for Longterm Governance and the Geneva Science-Policy Interface. It is based on scientific evidence from behavioral and systems science, 30 interviews with policy actors, input from psychologists and ethicists. All mistakes are the authors'.

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