Evidence-based Thinking, Challenges, and Strategies

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International and non-governmental organizations in Geneva increasingly coordinate on achieving the 2030 UN Agenda for Sustainable Development. This agenda features seventeen goals that are global in scope, complex and interconnected. As it usually is the rule in policy-making, the complexity of policy problems allows policy actors to draw different interpretations about them, hence reinforcing their ambiguity on top of other uncertainties. Additionally, misleading information and vested interests impede organizations to effectively solve these 'wicked' problems (Head & Alford, 2015). All in all, making progress on global challenges is a task subject to many cognitive and social forces that, by no means, seem to make it easier.

Therefore, there is a need to filter information and make decisions without being paralysed by the complexity of both policy problems and policy processes. Performing this task is what we call here *evidence-based thinking* (*EBT*). *EBT*, closely related to critical thinking, is understood as the cognitive component of evidence-based policy-making, i.e. the idea of designing policies based on scientific evidence.

EBT is, therefore, centred on individuals and their beliefs. To use an analogy, individuals have a *map* (a set of beliefs about) of the *territory* (the reality) (Wuppuluri et al., 2018), and *EBT* is the process of:

❖ aligning said *map* on the current state of evidence (see figure 1 on page 3);
❖ collecting evidence with recognised methods;
❖ updating the *map* as a function of additional evidence weighted according to their accuracy;
❖ collectively reinforcing epistemic norms and reasoning; and
❖ being able to make decisions under uncertainty, since crafting a perfect *map* is beyond reach.

International and non-governmental organizations aim to raise the life quality waterline for all, and *EBT* presupposes that the achievement thereof depends on how decision-makers select and use information. In other words, not all information is equal. Instead, the realm of information and ideas must be a 'brutal meritocracy', i.e. they are evaluated against and ranked according to explicit criteria. By cultivating *EBT*, decision-makers eventually build the equipment to navigate a complex policy space and make decisions in spite of the overload of information.

In practice, *EBT* takes contextual forms. First, there are different ways to generate evidence. Ex-ante and ex-post evaluations, synthesis, explanatory and exploratory research open the door to numerous methods. Their selection depends on other variables such as the availability of data, the method feasibility, or the analysts' and decision-makers' motivation. Second, evidence is used for different purposes. In both agenda-setting and program design, evidence can inform the estimation of the importance of a problem or the impact of an intervention. Third, policy-makers, practitioners, interest groups and political actors can and do use evidence at different times and within their own mandates. It is important to note that the use of evidence to justify pre-established beliefs does not fall under *EBT*, but should only be considered as a political instrumentalisation of knowledge. Instead, *EBT* is the attempt to update beliefs as a reaction to the evolution of knowledge. Performing this task is, in some instances, more straightforward than in others, as we will discover next.

EBT defines an *ideal* way of thinking which clashes with the realities of the policy process. As *EBT* arguably is very much needed to progress on global challenges, one must also recognise the barriers to its application.

Scholarship of the policy process has aggregated a catalogue of barriers to *EBT*. First, most frequently reported barriers to the use of evidence were the availability and

access to research, the clarity/relevance/reliability of research findings, the differences in timing between policy-making and the scientific process, policy actors' research skills, and costs (Oliver et al., 2014). Second, extensive work has discussed *EBT* within the 'new policy sciences' which provided further insights on likely barriers (Cairney, 2016). On the cognitive level, humans' brains did not evolve to make complex policy decisions. Instead, they rely on fast and frugal heuristics, which adapt as a response to cues emanating from their task environment, such as framing effects. On the social level, policy actors allocate their attention to policy problems and solutions that are commonly defined and debated in policy networks, no matter what the evidence says on other topics. On the systemic level, policy-making is not a linear, in-and-output process with a start and an end, but an evolutionary process that continuously adapts to external events and to the interaction between its constituent parts. Third, further work has shown how expertise and scientific evidence is, *in fine*, instrumentalised by policy actors to achieve their goals, instead of used to make more accurate judgements (Littoz-Monnet, 2017). Fourth, critiques of the production of evidence have been formulated, notably that randomised controlled trials should not be considered as a gold standard. Instead, the gold standard is defined on a case-by-case basis and thus only exists within contextual boundaries (Cartwright & Deaton, 2016). Fifth, another critique is that *EBT* often is applied in tandem with linear thinking, which directly clashes with the idea of trying to understand a complex, nonlinear world (Ansell & Geyer, 2017).

In light of the above, one can make the following claims. First, global challenges require an approach that helps to filter information, grasp complexity, and make decisions despite uncertainty. This approach is *evidence-based thinking* which one might portray as 'the art of trying to understand reality as is to make better decisions'. Second, *EBT* is idealistic, and the literature has widely discussed its shortcomings in the policy-making process. Juxtaposing one on

the other, one must combine *EBT* with pragmatic strategies to be successful in the policy-making process. So, what are these strategies?

The literature on the barriers mentioned above has adequately produced recommendations to, nevertheless, perform *EBT* successfully. We non-exhaustively articulate four strategies.

First, *EBT* must be coupled with the concept of policy entrepreneurship (Mintrom & Norman, 2009, Cairney 2018). 'Policy entrepreneurs' distinguish themselves through their willingness to foster policy change actively and their ability to achieve it. They (1) navigate and shape policy networks for their own needs; (2) define problems by telling stories that appeal to others' beliefs and emotions; (3) build tight-knit teams that bring together complementary skill sets and networks that allow them to create technically and politically feasible solutions; (4) lead by example through proactive engagement and demonstrating that policy change is possible; and (5) adapt to every context and take advantage of windows of opportunity, i.e. the time period when policy change is possible.

Second, *EBT* must make use of heuristics to make decisions under uncertainty, risks and time constraints (Gigerenzer & Gaissmaier, 2011). *EBT* is a slow and cognitively cumbersome process. Therefore, decision-makers cannot rely on the idealistic *EBT* in all circumstances. Instead, decision-makers must intelligently adapt to contexts and be okay with relying on fast heuristics in most instances.

Third, *EBT* must recognise that evidence *informs* policy instead of being its sole input information. In other words, solutions must be technically feasible (evidence-informed), implementable (fit with bureaucracy), and politically accepted (fit with values).

In conclusion, if actors in international organizations desire to apply *EBT*, they must couple this ideal with pragmatic strategies to affect the course of policy-making.
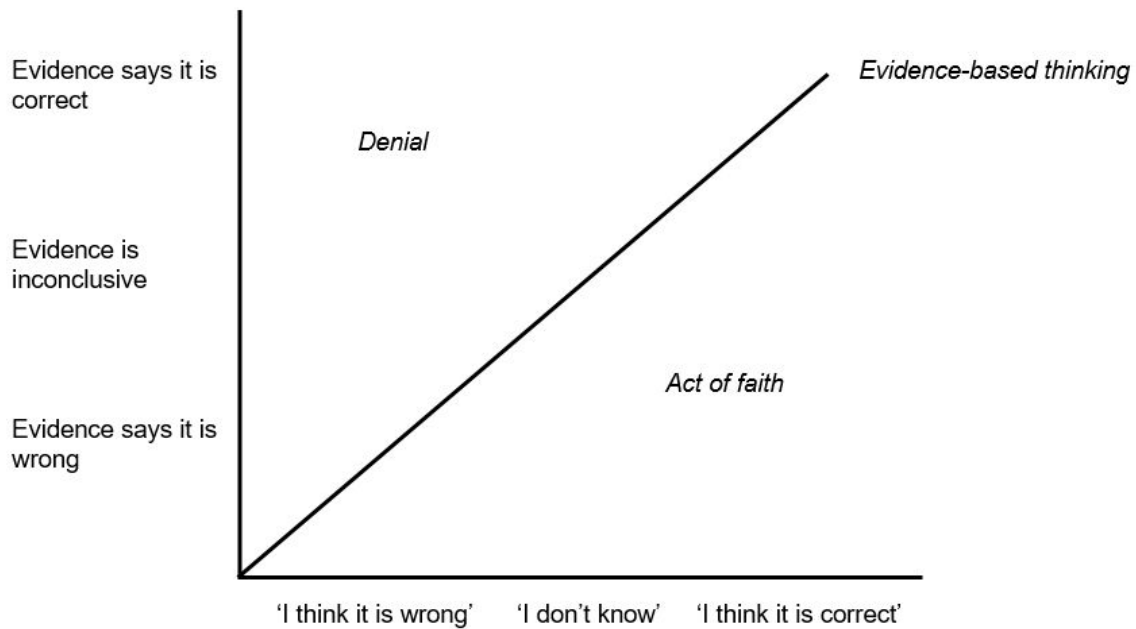
Figure 1: *Aligning beliefs on the state of evidence*

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