

Scientific Advice How to harvest it in the best way?

Abstract

The general view of scientific knowledge transfer is simple: scientists are encouraged to share their knowledge, evidence, advice and expertise with decision-makers, so that the latter may make informed choices in their policymaking work. But this one-direction framework presents serious drawbacks. Not all knowledge is made equally, and not all sources of knowledge are capable of supporting successful transfers of knowledge. Many scientists are not trained nor have the skills to effectively communicate with decision-makers – a fact often overlooked in this one-way knowledge transfer framework.

Scientific advice and the way it is shared is in need of a reassessment – both to encourage a level-playing field, and to enable policymakers, and citizens, to better understand the nuances and processes behind the transfer of scientific knowhow. The roles played by policymakers also needs to be reconsidered – should they themselves be more proactive in acquiring scientific advice?

This poster addresses some of these issues, and specifically, how scientific advice can best be harvested – primarily by decision-makers, but also by citizens. It aims to present the first factors that decision-makers should be aware of when evaluating and acquiring knowledge, as well as to provide some practical solutions. The poster in turn also endeavours to open up a wider discussion on the role of transparency, parity and quality in the acquisition of scientific advice, and to encourage a reassessment of the existing knowledge transfer paradigm.



Knowledge is power... and responsibility

The decision-maker who has at his or her disposal a large pool of expert knowledge and advice, can make ever more informed decisions, whether in political choices, legal matters or ethical issues. With such knowledge comes more power, but also greater responsibility..



Economic power and knowledge sharing

Decision-makers and citizens also need to consider the role of economic power in the current knowledge transfer framework. Reputable sources and institutions may tend to have economically strong foundations and greater manpower, yet this does not in all cases imply quality expertise. Smaller sized institutions, associations, or voluntary-based networks may produce excellent work, but will be limited in their capacity to share, advise, and compete against differing opinions put forward by financially powerful players.

Steps forward: some practical solutions

Evaluating sources of scientific knowledge



One of the difficulties facing policymakers is the evaluation of scientific output. In an era of 'fake news', conspiracy theories, mistrust, and an immeasurable pool of facts and pseudo-facts on the Internet, 'fake science' has also spread, making it harder than ever to distinguish genuine information from politically tinted, incorrect or misleading content.

> What is the source? Where has the scientific content been published? Is it a reputable source?

Who is the author? Scientists are rarely household names, so some background research is always helpful. It is also worth considering what the reasons for the author to publish such work are. Are they being sponsored? If so, by whom, and for what purpose? Are there noticeable conflicts of interest in their work? Has their work been properly peer-reviewed?



One key way forward is to encourage ever more transparency. This allows decision-makers, scientists and citizens to have a clearer view of the different players involved, and creates a basis for a sounder judgement on existing impartialities, nuances, and imbalances. Another crucial element that can enable stakeholders to better harvest scientific advice is to allow open consultations on policy topics, or alternatively, to provide evidence that all relevant stakeholders were contacted.

Pitfalls: On the other hand, it can be limiting to only trust work that is published in specific and well-known sources or from familiar scientists. A lot of important work is available in alternative sources, smaller publications, from up-and-coming scientists, and also from outside the major national hotspots of scientific output, research areas, and so on.

Another option is the creation of databases which list, according to subjects of expertise for example, the different sources of scientific knowledge on various subjects. These could be accessible for all involved stakeholders.

The development of methodologies or a set of procedures that are used when choosing which sources are consulted and which are not can also ensure scientific advice is best acquired.

Conclusion

Scientists have a duty to share their advice and knowledge with decision-makers and citizens. In doing so, they ensure that policies are guided by evidence and expertise, and that citizens are kept informed and aware of things that affect them and the world around them. But not all scientists have the skills to do this and the weight of such responsibility cannot lie on their shoulders alone.

Associations such as EuChemS – which represents chemists across Europe – play an intermediate role, communicating important scientific advice to policymakers and citizens whilst helping scientists better understand policy work. But decision-makers also need to be proactive and examine the sources of knowledge around them. Taking into account the different sources of scientific knowledge, their various strengths and limitations and properly evaluating received advice will enable sounder judgments in the future.

Various steps have been taken in this direction already, as exemplified by partnering schemes between Members of the European Parliament and scientists, or by clear and transparent stakeholder lists on European Agency websites. But these positive factors are yet to be seen on a wider and automatic level. Serious discussions between all the players involved and concrete practical solutions are needed to ensure that successful policies are guided by clear and accessible evidence and that decision-makers have access to the various sources on an equal basis.



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