Parallel Session 26: Interactions between science communication and science policies

SCIENCE INFORMATION NEEDS OF U.S. POLICY MAKERS

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Abstract

Science policy leaders heavily rely both on traditional print and online versions of the same or similar media. Although science policy leaders report using a wide array of information sources, they have differential levels of trust in various sources. For example, reports from the U.S. National Academy of Sciences or articles in Science or Nature are widely trusted. In contrast, science policy leaders report a low level of trust in news reports on CNN or a network news show. There is a strong trend toward the use of online resources for finding and obtaining policy-relevant information.

Key words: policy, communication, internet

Text

While working for the Office of Science at the U.S. Department of Energy (DOE), the corresponding author commissioned a study of information needs of science policy decision makers and policy makers. This paper explores a few of the principal findings of that study, the 2002 National Science Policy Leadership Study, conducted via contract with Professor Jon Miller at Northwestern University. The overall methodology of identifying science policy leaders and decision makers is more fully explained by Miller (2003).

For the formulation of science policy, the number of primary decision-makers rarely exceeds 100 (Miller and Prewitt, 1982). A second level of policy involvement is a collection or network of non-governmental policy leaders, including leading scientists and engineers active in research universities and selected corporations; the leadership of major universities, corporations, and organizations active in scientific or energy-related work; scientific, engineering, and other professional societies relevant to science and engineering; and the leadership of other relevant voluntary associations

In 2002, these two groups comprised approximately 7,946 individuals. A smaller sample of 633 leaders was selected and each individual received a letter

describing the study and asking for his or her cooperation. A total of 331 science policy leaders completed a questionnaire on paper, online, or in a telephone interview, producing a cooperation rate of 63 percent. The survey addressed, among other items, information-seeking behaviors related to science policy.

Nearly 80 percent of the policy leaders studied a newspaper every day and an additional 14 percent read a newspaper most days. Ninety-five percent of science policy leaders reported that they read one or more magazines or journals regularly to obtain science information. Sixty-four percent of science policy leaders reported reading one or more books relevant to science policy during the last year. By any measure, science policy leaders are well connected electronically. Virtually all science policy leaders reported using an office computer for e-mail and Internet searching.

Each science policy leader included in the smaller study group of the 2002 study also was asked to assess the level of confidence they would have in science information from a set of major information sources. The results again display a high degree of discrimination. Science policy leaders expressed the highest level of confidence in a report from the U.S. National Academy of Sciences. On a zero to 10 scale, science policy leaders gave a report from the NAS a mean score of 8.6 (see Table 2). An article in Science or Nature was the second most trusted source. A report from a national laboratory was the third most trusted information source. The three most trusted sources all are characterized by a high level of expertise and a tradition of independence from short-term partisan causes.

Science policy leaders reported a moderately high level of confidence in Nova, the New York Times, an EPA report, a DOE report, the Wall Street Journal, and a report from a Congressional committee on science and technology, with mean scores in the 5.8 to 6.5 range.

Science policy leaders express markedly less confidence in information from the mass media and from advocacy groups. Science policy leaders expressed the lowest level of confidence in information from a network television news show, with a mean rating of 3.4. This is especially ironic since 90 seconds on the evening news has long been the cherished dream of information officers in government, universities, and industry.

Table 1: Sources of Information about Global Warming or Climate Change, 2002.

	Two Major Sources Used In Last Year	Source of Additional Information
Professional journals	49%	15%
Internet and online sources	41	49

Newspapers	23	1
Colleagues, personal conversations	17	12
Magazines (other than professional journals)	16	1
Books and reports	14	5
Non-governmental organizations (including firms)	6	2
Libraries	5	4
Television (including news and documentaries)	3	0
Government agencies (including national laboratories)	2	2
Radio (including NPR)	2	0
Number of leaders	331	331

Table 2: Confidence in Selected Science Information Sources, 2002.

	Mean	Median
A report from the National Academy of Sciences	8.6 (.07)	9
An article in Science or Nature	8.4 (.07)	9
A report from a national laboratory	7.5 (.09)	8
An episode of the television show Nova	6.5 (.11)	7
A story in the New York Times	6.2 (.12)	7
A report from the Environmental Protection Agency	6.2 (.12)	7
A report from the Federal Department of Energy	6.1 (.12)	6
A story in the Wall Street Journal	5.9 (.12)	6
A report from a Congressional committee on science & technology	5.8 (.12)	6

A story in Time or Newsweek	4.7 (.12)	5
A report from the Sierra Club	4.6 (.14)	5
A story on CNN	4.2 (.12)	4
A story on a network television news show	3.3 (.11)	3
Number of leaders	331	331
( ) = standard error of the mean		

References

Miller, Jon D. (2003). The Conceptualization and Measurement of Science Policy Leadership. Presented at the 169th Annual Meeting of the American Association for the Advancement of Science, February 18, 2003.

Miller, J.D. & Prewitt, K. 1982. A National Survey of the Non-governmental Leadership of American Science and Technology. A Report to the National Science Foundation. DeKalb, IL: Northern Illinois University, Public Opinion Laboratory.

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