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Open Creativity: The Broadcast Search Approach to Creative Problem Solving

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Open Creativity

The Broadcast Search Approach to Creative Problem Solving

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Can [creativity](#) be an open process? When we think of scientific research we think of scientists wearing thick glasses working in their labs with their colleagues and assistants all sworn in writing to secrecy. However, [Chelsea Wald](#) (see also [Katie Cottingham](#)) points out that this has begun to change. Some scientists are starting to campaign for [openness](#) and transparency about all scientific work; this would include not just making data available to anyone after completion of research but making all aspects of their project available from the start, including their lab notebooks, and publishing their findings in open access journals. Thanks to the Internet for making open creativity possible.

Open science advocates argue that making scientific research transparent would make it possible for problems to be addressed from multiple angles by specialists from different fields and lead to faster and more effective solutions. Other scientists can check for accuracy of analysis and

conclusions, and reexamine the data to provide new insights, possibly, leading to new discoveries. No doubt, good results can only occur if open access to project information promotes a healthy interchange of ideas with a spirit of [collaboration](#), not ill-willed [competition](#).

[Lakhani, Jeppesen, Loshe, and Panetta](#) lamented that few scientists are willing to share proprietary information about their work. They observed: "The result of this lack of openness is that scientific problem solving activity is constrained and fails to adequately leverage the larger accumulation of knowledge amongst the wider scientific community."

Lakhani et al. described the "broadcast search" approach to problem solving which involves making problem information available to the larger community to attract people from diverse fields. To test the effectiveness of their approach, they posted 166 unresolved scientific problems from 26 firms in 10 different countries spanning four types of industries on InnoCentive.com; this website specializes in broadcasting sticky scientific problems to over 80,000 scientists from 150 countries. There were substantial awards for solving the posted problems, and there were time limits associated with solution delivery.

Their results were impressive inasmuch as 49 out of the 166 problems (29.5%) were solved. Most interestingly, the more diverse group of scientists a problem attracted, the more likely it was to be solved, but scientists with diverse interests were less likely to solve the problems. Only a small percentage of scientists consulted with others or worked in teams. The more distant the problem was from the solver's field of expertise, the more likely the problem was to be solved, suggesting that these solvers brought fresh perspectives to the problem. They concluded: "opening up the scientific problem solving process can yield innovative technical solutions, increase the probability of success in science programs and ultimately boost research [productivity](#)."

What are some risks? Idea ownership could be one. When multiple people contribute to problem definition, refinement, and solution, who owns the final product? As it is now, many scientific publications have long lists of coauthors. How does one decide on the order of authorships in such situations? It is like posting a story idea on the Internet and making it open to anyone to develop the plot and finer details--who should be the rightful author of the final version? Who should reap the final recognition? Of course, someone can take your idea, run with it, complete the study before you do,

and publish it. This could end up costing you grant moneys, tenure, promotion, patents, and name recognition

ARTICLE CONTINUES AFTER ADVERTISEMENT

Opening up problem information to people worldwide for obtaining faster and more effective solutions is a worthwhile idea but one that poses many challenges. Recently, the [UK's Royal Society](#) has launched a study to examine the many questions concerning benefits, costs, confidentiality, intellectual property, security, privacy, etc., created by providing open access to scientific data by inviting comments from scientists and the public. Openness in creativity is a great idea, and the Royal Society's efforts to evaluate its feasibility and value are timely.

For more information on the Royal Society's efforts, please see

Boulton, [G.](#), Rawlins, M., Vallance, P., & Walport, M. (2011). Science as a public enterprise: the case for open data. *The Lancet*, 377(9778), 1633-1635. doi:10.1016/S0140-6736(11)60647-8.