

The scientific marketplace

To ensure that their work gets the funding and the attention it deserves, scientists need to engage with different stakeholders. Concepts from marketing could help them increase the impact of their efforts.

Sometimes doing good science is not enough. Today, researchers have to make their publications stand out from the stack of nearly 800,000 science and engineering manuscripts that are published each year¹, recent PhD graduates and postdocs face historically low employment prospects in academia², and principal investigators compete over shrinking government funding³. What is more, some scientists also have to convince the media and the general public of the validity of their work, such as the reality of climate change or the fact that the Large Hadron Collider will not be producing any black holes. Clearly, making oneself seen and heard as a scientist has never been more demanding, and the growing size of the scientific community and the limitations of the resources it relies on are likely to make this process more difficult.

One answer to these challenges lies in a more professional approach to communicating research activities and results: science marketing. Marketing — a concept from the business world that probably provokes ambiguous feelings in scientists — has recently gained interest among science managers. Only last year, the Dutch initiative Science Alliance organized the first international conference on science marketing⁴, acknowledging that scientists need to deliver and communicate their results to a variety of different stakeholders, such as their colleagues, funding agencies, politicians, the media and the public.

This Focus issue explores the promises and pitfalls of science marketing. Of course, marketing does not mean relentless self-promotion and advertising. Rather, in the view of many professional marketers the 'marketing mix' — the different factors that determine the success of a brand or a product today — has shifted towards a consumer-focused setting, in which customer requirements and communication are key⁵. We discuss the applicability of such concepts to the scientific 'business' in an Interview with Marc Kuchner, an astrophysicist who has recently written a book on science marketing⁶.

The notion that scientists, knowingly or unaware, market their work is far from new. As early as 1983, marketing experts Paul Peter and Jerry Olson postulated that science is the marketing of theories⁷. In their



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view, the customers of scientists are their peers, who may be hesitant to adopt new theories because of the costs involved. Thus, manuscripts not only serve as the tangible representation of these theories but also as a powerful vehicle for dissemination and advertising. Although this way of conducting research complements the concepts of 'normal science' and 'paradigm shifts' that Thomas Kuhn introduced in the 1960s⁸, it only represents a small facet of all scientific activity today.

The output of a researcher is much more diverse than a stack of manuscripts, and different audiences may well have different expectations. In the context of consumer-centric marketing models, the professional success of a scientist depends on the question of whether their activities meet the needs of a range of customers — colleagues, the funding agencies, journalists and politicians.

Colleagues, who may be interested in collaborations or scientific findings that relate to their own work, still take a major role in building the reputation of a scientist through citations and reviews. However, officers and executives at funding agencies, which provide the money to keep a research group running, are equally vital, and their main interests are fresh ideas and proposals. The general public and the media, which influence the political agenda, may in turn be looking for useful or entertaining science news they can relate to.

Not only do these customers have partially conflicting interests, but catering to

such different audiences means that scientists need to adapt their communication strategy. Whereas peers demand scientific rigor, talking to the public requires simplifying ideas, avoiding technical jargon and presenting a broad view. This is not equally easy in all areas, and it does not come naturally to everyone.

According to Kuchner, the core of all science marketing should be branding and relationship building. Branding ranges from the choice of research topic to the image that scientists choose to convey towards colleagues and the media. Relationship building, on the other hand, involves mutually beneficial interactions such as sharing ideas or data.

In a Commentary that discusses the latest internet-based communication services, blogger and cancer researcher Martin Fenner makes clear that there have never been more tools available that allow scientists to do exactly that⁹. One of the most basic online tools for branding is that of researcher profiles, which can serve as a first point of contact and a convenient hub that connects scientific works. Online data sharing may help colleagues or enable new collaborations. And for those with a more outgoing approach, communication is facilitated through social networks and blogs. Arguably, citizen science projects contribute more to public enthusiasm for science than scores of press releases.

However, as in business, the online marketplace also has pitfalls, and initiatives such as post-publication peer review may expose critical 'customer comments'. Hence, the starting point of all marketing efforts should always be good science. Creativity and quality are more important than quantity in building a scientific reputation¹⁰, and a focus on these values serves scientists as much as their customers. □

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