Description

Since the early 20th century, the primary source of research funding has been the government. Academic scientists put forward project proposals that are evaluated by government agencies, in what is an increasingly competitive system. As research funding continues to decline in many countries—e.g., in the USA, only 10% of projects are federally funded, and only 2% projects get university aid to offset lost grant funds—science crowdfunding has emerged as a new option. The researcher uses a crowdfunding strategy that directly asks the public at large (the "crowd") for small donations via a web platform. Many successful crowdfunding campaigns have used this formula, thus lending credibility and visibility to these types of initiatives.

Science Crowdfunding Takes Off

The idea of crowdfunding is not new—the polio vaccine project was funded that way over 70 years ago. However, with the internet and social media on the rise, this concept is gaining popularity among scientists. Crowdfunding can benefit an early stage researcher, whose work involves a lower budget and is easier to explain to the public. It is especially useful for researchers in less prestigious institutions or in countries where government funding is limited. Small funding of $3,000–5,000 is not trivial and even $1000 can help students to conduct research.

The "grassroots" aspect of crowdfunding also appeals to the scientists who want to engage the interest of the public and increase accountability of his/ her work. Crowdfunding can morph into "tribefunding", in which a project is financed by professionals, non-anonymously, who share a keen interest in science . Crowdfunding is now a major phenomenon and the public are clearly willing to donate money to science, evident from the growth of successful crowdfunding campaigns.

Successful Crowdfunding Campaigns

Some projects fail and some do extremely well. For example, David Petts (Durham University) raised £25,000 to fund an archeological dig, which resulted in significant research findings. Similarly, David Nutt (Imperial College, London) raised twice as much money (£53,000), in just 2-3 days, for a project investigating the impact of LSD on the brain. Some of the crowdfunding, however, is returned to the funders through various incentives (e.g., samples, prints, books, seminars, or dinners).

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Sometimes, a small amount of money is needed to buy a special software (e.g., the Dairie Research Group at Clarkson University), or to keep an existing project running. For instance, two researchers at Juniata College (Pennsylvania) got $10,800 in 50 days to continue their study of how stream ecosystems are affected by hydraulic fracturing. Generally, outside the biomedical field, the amount of funds raised is small. It is reported that an average of $6,000 was raised per campaign and scientific research campaigns typically raised $3,000-5,000 on Experiment.com (a crowdfunding platform for scientific research).

Crowdfunding Strategy

To run an effective crowdfunding campaign, you should be comfortable with social media. You should clearly convey your research idea and objectives to the public and journalists while avoiding the use of scientific jargons. Use impactful videos and images in your crowdfunding strategy. Do not forget about humor to improve engagement with the public. Also, try to answer questions directly from potential backers about your crowdfunding project.

Be realistic about your fundraising goal. Often, if the target is not met within the timeframe of the campaign, none of the pledged backers is charged. People are more inclined to donate to a scientist they know, so expand your network. It helps your campaign to offer unique “rewards” to attract funders to your project. Rank your rewards, so that higher donations to your project get more than a “thank-you”.

Your crowdfunding campaign must not only possess a broad public appeal but also use a proper platform that aligns with your field of science. Few popular platforms include iAMscientist, Rockethub, Futsci, Fundageek, Give to Cure, Microryza, Medstart.com, Petridish.org, and Experiment.com. You can also read Vachelard et al. (2016), which provides an excellent guide for creating your own crowdfunding campaign.

Crowdfunding: Pros/Cons?

Crowdfunding scientific research happens in real time, it raises money faster than grants (often 8-12 months from submission to decision, and no drafting/defending of a proposal is required). Apart from investing time in your crowdfunding strategy online, you don’t need to do any experiments to get the research funding. Crowdfunding can also offset the losses from missed grants to keep projects ongoing. It can help early-career researchers build a portfolio of research funding that leads to quality publications. Finally, it may resurrect the “independent scientist”, whose backers are now global (and not just wealthy).

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Some of the pitfalls can be related to the credibility issue. The “crowd”, which typically lacks a scientific background, can be fooled into funding weak or junk science that lacks integrity but looks attractive. Any oversight will thus depend on the crowdfunding platform used and the peer-review process for publications. Another concern is that crowdfunding may violate university regulations and the intellectual property rights in crowdfunding are murky. In addition, crowdfunding incurs 7–10% commission fees, depending on the platform used, and university overhead may increase the budget (as done for grants). Increasing awareness of the crowdfunding campaigns can be hard to generate, and it can thus result in partial funding of your project.

Future of Crowdfunding

There is not enough consensus on the statement that agency-funded science will be replaced by crowdfunding. The two are fundamentally different approaches. Science crowdfunding offers a promising way to fund small-scale projects, especially those that are “risky” to obtain financial aid in a climate of government. Undoubtedly, successful crowdfunding campaigns will continue to grow, and crowdfunding portals and platforms will advance and expand. Independent scientists should jump aboard to fuel the growth in crowdfunding. The nature of the crowdfunding strategy will diversify with increased participation. The impact, however, on academic research is difficult to predict, but it is possible to assess this in future. With creativity and outreach, the booming crowdfunding wave is here to stay.

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