

Pummelled by paperwork

Most academic research laboratories are in a precarious position. Everyone—from university presidents to politicians to the public—expects them to come up with new insights that can be exploited for economic growth. However, without sufficient resources, few laboratories are able to do so, and the growing competition for limited research money makes it increasingly difficult to secure adequate funding. Furthermore, any temporary gap in support can have serious consequences: crucial but costly experiments are not performed, staff are not supported and it is more difficult to attract graduate students. All of this jeopardizes the success of future grant applications. The worst-case scenario is a vicious circle in which the repeated failure to secure research grants leads others to question the value of both the research and the researcher.

Although overall investments in science and research may vary between countries, the probability of obtaining a grant is usually quite low. A 10% success rate is not uncommon, which is patently ridiculous given the time and effort invested in completing grant applications. The difference between the fortunate few who are funded and the many unlucky ones—with similarly good ideas and work experience—depends on the luck of the draw at the margins. But the challenge of competing for funds is one that we cannot avoid. Therefore, we have little choice other than to accept the excruciating demands and start the increasingly complex application process, with proud subservience.

Of course, research grant providers have a different perspective. Because they rarely have sufficient funds to finance all good proposals, they must ensure that citizens' taxes are spent in the wisest and most effective way. They must guard against puffed-up applications and ensure that the proposed work has not already been performed or funded. They have to be satisfied by the

ability of the applicant and the practicality of the project. They must provide the judging panel with sufficient information to determine whether the experiments are sensible and necessary to achieve the goals of the project. And because many research grants relate to a societal demand, grant committees must determine the benefits of potential patents, job possibilities and economic returns. As a result, application forms for scientific grants have grown to the size of books, as funding agencies seem to be interested in nothing less than the total imaginable amount of information on the research and the researcher. And we have no choice but to comply.

But there is a big gap between the information being requested and what is actually required, and the size of requested paperwork often bears no relation to the size of the grant. If the grant has enough zeros in it, much indeed can be demanded, but if it only provides support for a single postdoctoral position, then the required paperwork should be commensurate. The disproportionate demand for information is completely counterproductive given the low chances of success. Valuable research time is lost by filling out forms, and native speakers or those with better language skills have an unfair advantage. Gigantic application forms are also of no help to the poor panel members, who are so overwhelmed with paperwork that they cannot easily read, let alone judge, the research proposals. In fact, many leading researchers question whether it is worth their time to undertake this work—as do their families. Unfortunately, when they abstain from the task, it is left up to others with less experience.

This craving for excessive information has increased even further, at least in Europe, with the funding of huge network projects that involve dozens of research groups. It has reached the point where there are now companies who specialize in compiling grant applications. Given that decisions on

funding such projects often depend on the presentation as well as on the scientific content, the process of fair judgement is further distorted. If we reach the stage at which securing a grant depends on a professional presentation by a public relations firm, researchers who are unwilling or unable to participate will appear amateurish and thus less worthy of funding. The situation may be getting out of hand, but as we need the funds, we have little choice but to fill out the forms and relate our research to some future benefits for society or the economy.

"But," granting agencies may reply, "lax controls and less information could lead to deceptive proposals that waste taxpayers' money." Of course, fraud is always possible, but this concern reveals two flawed assumptions. First, it carries a message of general distrust of scientists. Second, it overlooks the fact that it is in the best interests of most applicants to be honest and spend grant money wisely—not only to reap the maximum amount of publications, but also because at some point they will have to return for another round of funding. The very nature of basic research means that it is nearly impossible to specify upfront how every single cent of a research grant will be spent. Therefore, slimming down application forms for scientific grants and performing a real post-factum control against misleading applications would be much more effective to ensure that money goes to the right groups. Even internal revenue agencies in many countries have greater trust in people's honesty: they let individuals self-report their income tax and do not scrutinize every form, particularly for smaller incomes. Surely, a similar system for research funding, in which applicants for smaller grants would not have to fill out book-sized forms to justify every single experiment, would not be too revolutionary?

Frank Gannon

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