

Comment

Crossing the Great Divide: the academia/industry interface

Ten years ago I left behind a tenured lectureship and a well-funded research programme at Cambridge University and joined a fledgling biotechnology company operating from a glorified garage next to Cambridge airport with enough in the bank to pay me for 6 months at most. I'm relieved to say that things worked out. Cantab has prospered, with nearly 150 staff, partnerships with major pharmaceutical companies and several vaccine products in clinical trials.

It has been an amazing adventure and a remarkable learning experience. The major change for me was the need to focus single-mindedly on adding tangible value for our investors. Like most not-yet profitable biotech companies, we spend other people's money with the promise of a generous future financial return and we must do our best to deliver. This is a very different goal from academic research aimed at advancing knowledge. Yet for companies like mine, maintaining a close relationship with the academic community is of great importance.

The value comes in many forms. No matter how bright or large your own team, it is frankly naïve to think you can afford to ignore the vast repository of knowledge and experience in the academic community. Some of Cantab's product ideas were home-grown, but most came from elsewhere. We also benefit from academic expertise to provide important information relevant to our projects and to review our work independently.

I firmly believe, however, that it is a two-way street. Academic groups can benefit greatly from relationships with industry, and not just through cash, though this is important. Researchers can see their ideas turned into real products of benefit to the community and can learn about how industry works, which may prove valuable for them and for their institutions in future. Although the commercialization of science is not the job of the academic research community, all academics should encourage the application of their ideas and advances for ends useful to society. The whole justification for medical research is to improve human health and in practice this can't be done effectively without industry. The interface between academia and industry is therefore of crucial importance.

This interface is often represented as a kind of barrier which requires special measures to circumvent. In reality it simply boils down to personal interactions between academic and industrial scientists like you and me. Whether or not they work depends on individuals, not on the actions of technology transfer organizations, or on government initiatives. In my experience these interactions can be extremely effective, and I like to think that this view is shared by our academic partners. However, building good relationships isn't necessarily

easy, and requires real effort. So what are the ingredients for a successful partnership?

From the outset the two parties must understand and respect each other's needs. From the industrial viewpoint, it helps greatly if the academic is able to comprehend and accept the constraints that apply in industry, the need to deliver investor value, protect intellectual property and confidentiality, stick to an agreed work plan and provide proper documentation for future use. Suspicion of the profit motive is not helpful, since it is fundamental to business operations. On the other hand the industrial partner needs to understand that academic drivers are different, requiring freedom of action and communication, timely publication of results and understanding of the peculiar career situations of researchers on short-term contracts. These needs occasionally conflict, but with good will on both sides, a satisfactory compromise can usually be found.

Second, each party must care about and value the work that the other is doing. Relationships simply based on transfer of cash will not work nearly as well as those where there is genuine interest in the work being done and respect for the ability of those involved. Commonly, a collaboration may be established with every good intention, but priorities change along the way for one of the partners and unless both sides agree to a changed programme, frustration can result. At the outset, therefore, each side has to commit to a programme of work recognizing that it may not necessarily suit them down the line. That said, it is generally safer to avoid situations where one party is entirely dependent on the other to make progress.

Finally, communication is absolutely crucial. At the very least this means regular informal meetings between all parties, but time spent in each other's laboratories, regular email contact and occasional social events all help greatly. We have found it beneficial to invite our collaborators to join us for project reviews, not only to hear about progress, but also to learn about technical and commercial problems encountered, and contribute to finding solutions. This has proved an excellent way to provide mutual encouragement and create a real feeling of co-operation.

With these elements in place, the chances are that a productive partnership will be built and sustained. Success will lead to further and wider interactions, and will encourage others to participate. Multiply one successful collaboration by a hundred or a thousand and you have a recipe for success on a national and international scale.

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