

Lambert Review of Business-University Collaboration Response from the InsightFaraday Partnership.

The following are the collective views of the InsightFaraday management team. This partnership was established in September 2002 to promote the development and exploitation of high throughput technologies for product and process development for the benefit of UK industry and the Science, Engineering and Technology base.

The expansion of university education in the UK has resulted in a dramatic need for additional funding both for teaching and for research. Much of this additional funding has been supplied by government. The dramatic expansion in university places and status has meant that state funding has been unable to keep up with demand. This is particularly so in relation to academic research activities. The ever increasing use of new technologies has put a strain on all traditional funding sources and has affected the level of business funding for university research. The economic climate over the last 3 years has and is resulting in questioning of all costs by industry. This questioning has often resulted in cuts!

In this search for funding it appears that universities are encouraged (actively or passively?) to find alternative and additional funds to support their R&D and teaching aspirations and commitments. This search for additional funding has covered industrial sponsorship, bequests and a host of traditional sources. It has in recent years extended to exploitation of intellectual property (IP) that could be associated with university research activities. This has quite properly always been an option for universities. The present pressure for finding essential funding has pushed this optional activity towards a necessity. Most if not all universities now have business groups, managers, directors, advisors etc to help exploit their research in the commercial world. Undoubtedly in some cases this has led to funding being acquired but at what cost to the long term relationships between universities and business?

The importance of universities understanding industry needs and drivers cannot be overemphasised. In the area of R&D particularly that associated with technology development it is crucial that the two groups collaborate closely. The present emphasis on IP protection and commercial reward to the universities is resulting in a reluctance of industry to engage in collaborative R&D discussion and the sharing of goals and aspirations. The following issues contribute to this atmosphere of reluctance,

1. Protracted negotiations and formal contracts protecting all parties' commercial interests in the possible future success of developments.
2. The need (pressure) for universities to capture as much as possible of the future revenues.
3. The relative unfamiliarity of university staff with contract and patent law and practice (licensing groups are often aware of this but academic staff less familiar)

4. The lack of appreciation by academics of the large effort (time, resource, cost) of getting a research discovery to become a financially successful product on the market.
5. The, albeit understandable, protectionist approaches by both industry and universities in discussions about future possible research avenues and opportunities.
6. The lack of adequate university infrastructures and experienced staff to deliver commercially sensitive or associated research activities.
7. The mismatches in research grant funding and commercial business cycles. This is particularly pertinent to rapidly developing technologies where the window of opportunities for commercial success is limited.
8. The mismatch in the aspirations of academics and industry. Success criteria as judged by each side's establishments are different. While these are sometimes briefly aligned they are often diametrically opposed!

The above comments should not be construed as criticism directed at academics. On the contrary the issue here is one of what should be driving academic-business collaboration and why is it not all it should be at this time?

The Faraday Partnerships have been set up, funded and encouraged by government to assist and develop university-industry collaboration. The comments above reflect how difficult this activity is becoming in the UK. This is evident with every interaction between the two groups. The frustration of academics at continually having to divert their energies to seek funding while at the same time protecting their (possible) IP position is clearly evident. In almost all encounters the academic community want to get on with their research and teaching and do not want to try and become industrial entrepreneurs.

At the same time industry is becoming concerned and frustrated that it cannot see for the most part the value of its research money going to universities. This situation does not seem to be getting better. Big industrial R&D groups (e.g. pharmaceuticals) are reluctant to get involved with academic departments to any substantial degree because of the difficulties. This is particularly evident when it gets to the slow conclusion of confidentiality agreements, contract negotiations and the assignment of IP rights. Technology is moving at a rapid pace and the market will wait for no one, however clever. Of course there have been and will continue to be **some** very generous industrial funding to universities and it is to be expected that these will continue in some form.

Given the above views we would suggest that the Lambert Review considers some proposals to redress this situation. These could include,

1. A thorough review of funding mechanisms for universities that will embrace the long- term needs of R&D in the UK. It would be helpful to offer a continuum of support/exploitation mechanisms from "science" through to "technology", i.e. from the early, curiosity/academic challenge research (research councils), through grants to support practical development (research councils/DTI /RDA eg SMART awards) and first steps towards fully functional prototypes ("Demonstration projects" grants of various sorts which appear to be under review/threat). The review should also

include the funding schemes put in place to support knowledge transfer and exploitation (e.g. HEROBIC, HE Innovation Fund) where increased uptake could yield substantial benefits and help to encourage collaboration. It would be helpful if these schemes were accessible through a common framework in order to remove potential barriers (silo mentality) between different funding authorities.

2. Efforts should be directed to refocus universities on quality R and quality training of scientists. At the same time there needs to be an effort to reduce the need for academics to feel pressurized into becoming commercial tycoons.
3. Simplify and speed up negotiations around IP and future commercial arrangements - "Simplify" here meaning the universities should be less demanding and more accommodating, but see 4) below
4. In concert with and dependent on the success of 3) above, encourage industry to contribute more in R&D supported projects and direct funding to university research. More crucially industry should be made more aware of the imperative to collaborate more openly on "big" themes where even the largest companies cannot go alone. Success breeds success and this includes wider access to more funds.
5. Options for helping SME's to access university expertise should be investigated. The existing TCS scheme is successful up to a point but it is not always an appropriate model to satisfy specific SME requirements. Nevertheless it is clear from many of the now complete TCS projects that the recruitment of graduates with particular expertise into SME's can be highly beneficial. This may be an area in which Faraday Partnerships could play an important role.
6. Encourage all collaborating parties to acknowledge that excellent research benefits all. Commercial exploitation is generally best done by those best placed to do it and in particular those close to the market place.

The Lambert Review is very welcome at this time and it is to be hoped that it will result in an improved Business-University collaborative environment. Any move to clarify the existing very mixed messages given out by government, academia and the business world is to be applauded.

The above comments are presented on behalf of the InsightFaraday management team. We wish the Review body well and look forward to its deliberations and recommendations.

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