

Technology Transfer

Bridging the Cultural Gap Between University and Industry



There appear to be no statistical studies to bear this out, but a recent story about the intellectual property woes of a prominent research institution is common enough that technology transfer staff at other universities readily acknowledge it with a tale of their own... or at least a “there-but-for-the-grace-of-God-go-I” understanding. Here is what happened:

A researcher at the university had invented a technology that could be used to diagnose a condition in humans with unprecedented accuracy. A seasoned academic who had contributed a great deal to the body of knowledge in his field, he promptly published an abstract of his findings at a conference. More than a year later, after having further expanded his research, he appropriately arranged with the university’s tech transfer staff to begin protection of his invention. A patent was duly issued—after all, his work was truly groundbreaking—and the intellectual property was protected. Well, sort of.

The university’s tech transfer office arranged to license the researcher’s intellectual property to a key industry player. As the device manufacturer began to evaluate the intellectual property, its lawyers determined that the patents might very well be invalidated by evidence of “prior art” that had placed the researcher’s invention in the public domain. And this crucial evidence—which likely ensured that anyone can employ this technology without paying a dime for it— comes from the most ironic source: the researcher himself, whose disclosure of his invention in the form of an abstract at a conference occurred more than a year *before* he had his work protected by a patent.

Everyone in this story behaved according to the cultures of their workplace, which usually works out well. The researcher shared his information to advance knowledge and protected it in order to take advantage of its commercial potential, if the opportunity arose. The device manufacturer acted predictably as well; they conducted a review to ensure that licensing of this research was, in fact, necessary.

The problem occurred, however, farther upstream than anyone might have imagined: the university had no process to evaluate the commercial potential of the researcher’s ideas early on, before public disclosure. There was no structure in place to identify whether there might be a path from exciting ideas to revenue opportunity.

Conventional wisdom is that the dominant common interest of universities and companies—increasing revenues— should drive collaboration in the pursuit of technology commercialization. In theory, the sphere that represents a university’s research function is expected to naturally overlap with the technology development and commercialization sphere of industry, creating a vast opportunity for profits and royalties. Some universities—Stanford, M.I.T and R.P.I. come to mind—have built models to link those spheres profitably. But on the majority of campuses, the cultural differences between the research academia and the corporate world can repel those spheres as forcefully as two misaligned magnets.

At the top of most universities’ mission statements is something having to do with “the creation of knowledge for its own sake or the greater good of humanity.” Accordingly, the currency of the research institution is the knowledge produced within the ivied-walls and how that knowledge is recognized by its peers. In the competition for prominence among universities, advantage is gained by increased public disclosure of new ideas and



inventions. Revenues have always been important, but in terms of the academic mission, they have always been a means to an end.

Industry, on the other hand, focuses on profitably solving a problem or fulfilling a need or desire. Though prestige and prominence count, a company necessarily measures its success in terms of market share and profitability, which can only be gained by establishing a potential key driver of competitive advantage which often takes the form of exclusivity. The public disclosure of intellectual property that offers a university substantial opportunity to distinguish itself from its competitors is the kiss of death for a company battling with competitors for market share. Indeed, there is a reason that only two people in the universe know the entire formula for Coca-Cola.

While revenues have long taken a back seat to research at the university, the people who run these institutions have long understood that more money equals more opportunity to advance all aspects of the academic mission. Having already mastered the art of setting tuition at market rates and creating a powerful fund-raising vacuum to suck up philanthropic dollars from alumni, other donors and grantors, university administrations have looked with increasing intensity for an alternative revenue stream. In the spirit of Willie Sutton, then, they have looked where the money is and found it in industry.

Most research universities know that the ideas generated from their faculty and students are a largely untapped revenue source. Accordingly, technology transfer offices have sprung up on campuses across the United States and abroad to create a bridge from academia to industry in order to:

- Facilitate the commercialization of technology for the public good
- Reward, retain and recruit faculty with the opportunity to profit from their work
- Promote economic growth in the region surrounding the university

Once again, theory and intention run aground on the shoals of reality; despite these good intentions, university revenue from tech transfer is almost negligible when compared to traditional funding sources such as tuition, grants and donations. While the above objectives appear consistent with the common interests of academia and industry, there is no clear path toward them. Furthermore, a real possibility exists that the road to success for one institution will not necessarily lead in that direction for others. And finally, driven by the fear that the rights and future income from what's invented at their university will be lost in the public domain, tech transfer offices feel forced to protect inventions prior to academic disclosure, too early to determine their true merit and commercial viability. It is no surprise that protecting everything, rather than developing a process for determining what's worth patenting, has quickly turned most tech transfer offices into cost centers. The only people who feel particularly good about this are the patent lawyers.



In order for technology commercialization efforts to become the third significant revenue stream for research universities, tech transfer offices must create an effective third sphere that links those of their parent institutions and their potential industry partners. Whether the tech transfer office is part of the university or a separate, yet affiliated entity, it must change its own mission and in effect create a hybrid culture in which academic and industry interests create a new dynamic based on the utility of knowledge. In order to accomplish this, the tech transfer office must:

- Create new tools to evaluate the commercial viability of intellectual property generated by the university and create a portfolio of the top candidates for development
- Create an understanding among researchers of what makes their research commercially viable and how and when to protect it
- Become the creator, nurturer and nexus of strategic relationships with industry partners who rely on the university's particular resources to help them maintain a competitive advantage

Recognizing that each institution's circumstances are different and that each must define its own path to successful commercialization, recommending specific actions in this paper will be, at best, inadequate and at worst misleading. That said, it is possible to extract some guidelines from our experiences with tech transfer clients that will provide some direction as tech transfer offices transform themselves from defensive cost centers to strategically driven revenue generators.

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