

# University Licensing Offices Need to Clarify Role of Licensing in Economic Development

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University Licensing Offices Need to Clarify that the Role of Licensing in Economic Development isn't Transferring Technology, it's Catalyzing Commercialization: This will improve the perception and operation of these offices.

The term “tech transfer” is a widespread misnomer for highlighting the role of university technology licensing offices (TLOs). That descriptor not only inaccurately conveys the major activity and objective of TLOs, it also undervalues their economic impact, and leads to suboptimal operating practices. In pursuing their primary activity of patenting and licensing, TLOs have a more ambitious agenda for economic development than just shepherding knowledge from universities to industries. These offices try to catalyze the commercialization of technology; and they do this by pursuing IP agreements and relationships that motivate the broad, expeditious commercialization of university technology. Accordingly, a more appropriate and less confusing moniker for TLOs is technology commercialization catalyst; and the widespread replacement of “tech xfer” with “comm catalyst” will concretize this key mission of TLOs – and thereby improve how TLOs manage IP as well as enhance how TLOs are perceived on campus, within government and throughout industry.

Economic development has become an important role of universities, and the transfer of university-developed technologies to companies is a key part of the economic engine that universities can fuel. There are numerous ways in which university

technologies are transferred to industry. These methods include recruiting graduates, hiring faculty as consultants and advisory board members, reviewing publications, as well as establishing collaborative research relationships between universities and companies.

Apparently, the patenting of inventions that are developed at universities and the licensing of these patent rights to companies is also considered another way for universities to transfer technology. This conclusion is based on the fact that licensing is a primary activity of TLOs, and TLOs commonly summarize their mission as tech transfer.

While university licensing has several objectives (including supporting research and education as well as rewarding inventors for their ingenuity), as a means of merely passing technology from the lab to the market, patenting is an inefficient approach. In fact, patenting can postpone the transfer of university research because it can lead investigators to delay the publishing of their work in order to maintain the right to obtain patents for their inventive concepts. (This occurs because most nations won't grant patents for inventions that have been publicly disclosed before a patent application is submitted.)

Despite the realizations above, why is the verb “transfer” and its synonyms included in so many TLO mission statements and web sites? In a recent browsing of the TLO web pages for 20 top research universities, 17 had “transfer” on their home and/or about pages. Even the two major licensing professional organizations, the Licensing Executive Society (LES), and the Association of Technology Managers (AUTM) have

“transfer” peppered throughout their web sites and collateral materials. Interestingly, one highly respected TLO, MIT, doesn't mention “transfer” or similar words on their home and about web pages.

If the patenting and licensing activity of TLOs isn't tech transfer, then what is it, and how does it stimulate economic development—above and beyond the transfer of technology?

To answer these questions, first we have to understand that many of the technologies developed at universities are early stage in that these technologies barely have been proven functionally viable, let alone commercially successful. This shouldn't be surprising, as the role of universities is research, not product development. However, because university technologies are so immature, the companies that want to commercialize these technologies must invest a great deal of resources, over a long period of time to evolve a technology into a successful product. These large, long-term investments are risky because the chances of them leading to a commercial success are historically low.

The second dynamic to understand in order to clarify the value of university licensing in economic development is that in assessing whether to

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make an investment, companies consider several factors including the project's forecasted risk and return on investment (ROI). This risk-return analysis considers the estimated profitability as one factor, and the estimated risk of success as the other factor. If a project's forecasted profitability is high and its risk is relatively low, then that project is more likely to be approved. (Depending on its business model and its alternative investment opportunities, each company has its own hurdle rate for determining whether a project's ROI is worthy enough to pursue.)

In determining whether to make a large, long-term investment in an immature but promising technology, companies are usually hard-pressed to project a worthy ROI that will justify going forward with the risky commercialization effort. Consequently, many university technologies would lie dormant – if not for the work of TLOs. Recognizing that a company needs to show a compelling risk-return analysis in order to pursue the commercialization of early stage technologies, TLOs use the licensing of patent rights to improve this risk-return ratio.

In general there are two ways that TLOs use licensing to improve risk-return and thereby catalyze tech commercialization. In the most common of these two approaches, a TLO establishes a licensing strategy in which the technology's patent rights are only licensed to a single company. This exclusive right enables that licensed company to prevent other companies from using the technology (in countries where the university has patent rights to that technology) – and that allows the licensed company to potentially charge higher prices and earn larger profits. This barrier-to-competitors can improve the licensed company's projected ROI for the commercialization effort enough to move the investment decision from rejection to approval.

In the second general approach that a TLO uses licensing to improve ROI and stimulate investment, a TLO establishes a licensing strategy in which the technology's patent rights

are licensed to more than one company. This non-exclusive right reduces the possibility that a third party could subsequently assert that the university's licensees are infringing on the third party's patent rights – which could in turn make an entire commercialization investment a disastrous failure. This freedom-to-use lowers the risk of a licensee's investment, and thereby makes the project's risk-return profile more favorable to the licensed companies.

Through exclusive and some cases non-exclusive licensing strategies, the TLO uses the granting of patent rights to encourage companies to commercialize its university's technology – mission accomplished for the TLO, university, community, and also the Bayh-Dole Act – the federal law enacted in 1980 that spearheaded this relationship between university licensing and industry investment.

Even after clarifying how TLOs induce tech commercialization instead of just facilitate tech transfer, some might consider distinguishing this TLO activity as comm catalyst versus tech transfer as merely superficial semantics. Likewise, some licensing professionals might view “tech transfer” as a term of art, and therefore dismiss its literal meaning. However, outside of the TLO profession these two characterizations are distinctly different, and as any good executive, marketer or author knows, the meaning of words in mission statements, tag lines and titles fundamentally drive the mindsets of organizations, constituencies and individuals.

The tech transfer descriptor conjures a role that is passive, or at best, only facilitative. This leads to a mindset of university licensing as primarily a money-extracting transaction – a tollbooth for the passage of technology. Not surprisingly, it also creates an image in universities, governments and companies of TLOs as speed-bumps that add little value to economic development. Indeed, people that equate university licensing with tech transfer (especially when the university technology was developed using tax dollars) often ask, “Why does the university have

to patent its technology? Why doesn't it give away its technology? Why is it licensing its technology to just one company exclusively?” These questions are emblematic that TLOs aren't effectively communicating the benefits of licensing to economic development – and this ineffectiveness starts with the miscommunication that licensing is done to transfer technology.

In contrast, a commercialization catalyst descriptor evokes a role that is active and necessary. This leads to a mindset of licensing as part of a greater relationship with a company; and this relationship can include collaborations between the licensed company and the university that in turn foster the university's goal of education and research. This difference in how these two mindsets impact TLO management is detailed in the following three examples.

**Patenting:** Deciding which technologies to patent is a critical decision for TLOs because patenting is expensive, and the immature nature of university technologies makes it difficult to determine which technologies are worth incurring patent costs. If patenting is viewed as a tech transfer function, then that objective doesn't give much guidance to the patent decision. However, when patenting is considered as part of the process of motivating the commercialization of technology, then it helps prioritize the patenting of those technologies that will require a company to make a large investment and incur substantial risk. Conversely, it might not make sense to patent those technologies that don't require huge investments or big risk-taking.

**Licensing:** Determining the financial terms of a license is also a challenging decision for TLOs because (in comparison to other types of transactions) the value of a license is highly speculative at the time that it's negotiated. If licensing is viewed as a tech transfer procedure, then that perspective doesn't provide much direction on negotiating the financial terms. But, when licensing is considered in the context of catalyzing technology commercialization, then it helps to narrow the license terms so

that they favorably impact the company's risk-return analysis enough to convince the company to pursue the commercialization effort.

Management: Establishing a successful culture in TLOs can be difficult because they operate at the nexus between universities that are frequently bureaucratic, risk-averse institutions, and companies that are typically fast moving, entrepreneurial organizations. If TLO employees view themselves as primarily facilitating the transfer of technology, then they can simply adopt inflexible, slow-paced cultures, and pursue licenses that are hard to understand and manage. This culture can ironically impede the commercialization of technology. However, when viewed as offices for driving commercialization, TLOs more readily adopt creative, efficient cultures, and craft licenses that are market-driven and easy to manage.

It's time for TLOs to stop miscommunicating that the role of their patenting and licensing activity in economic development is for transferring technology. Instead, TLOs need to clarify that the key value that licensing provides is catalyzing the commercialization of technology. The replacement of tech transfer with this comm catalyst battle-cry will improve the image and operation of TLOs – making them more successful at their critical economic development role.

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