

Success Factors in University Technology Transfer through Patenting and Licensing

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Successful licensing of research results (sometimes referred to as undeveloped technology) created in universities or federal laboratories is difficult. The "product" to be licensed is not developed in response to commercial market need, the technology is very embryonic with uncertainty as to whether it will work reliably outside of the laboratory environment, and the financial risk to the licensee in bringing such embryonic technology to market is typically very significant. The licensee must anticipate what competing products will exist some years in the future (when the licensed product finally reaches the market), and have faith that their product can gain sufficient market share to justify the development, manufacturing, and marketing investments. The up-front and advanced royalty payments are typically inconsequential when compared to the other required investments to bring a new product to market.

A key attribute of organizations or licensing offices that are successful is that they view the process from a marketing perspective. They recognize the key role of the inventor, and develop policies and operating procedures that provide incentives to the key participants in the process. The key participants are: (1) the inventor, (2) the licensing associate employed by the university or federal lab, and (3) a person employed by the potential licensee who believes the invention is important to his/her company's future. The latter person we will refer to as the Invention Advocate within the Company ("IAC").

The Inventor's Role: The inventor's participation and cooperation in the licensing process is normally required for there to be a successful outcome. The inventor: (1) creates and discloses the invention to be licensed; (2) identifies people in industry who should be interested in the invention (such contacts are extremely valuable); (3) participates in obtaining patent protection; (4) responds to technical questions about the invention; and (5) hosts laboratory visits of potential IACs, where future research may lead to important discoveries of value to the licensee. The inventor may also, via a separate consulting agreement, provide know-how and show-how that may be critical to the commercialization of the invention.

It should be noted that for university researchers, involvement in the licensing process is normally not required and is seldom, if ever, included in their job description. Thus, policies must create incentives to encourage inventor participation in the process. Potential benefits to the inventor may include some or all of the following: (1) A share of net royalties from the licensing of their invention (at Stanford, the share is 1/3); (2) research funding by the licensee directly to the lab of the inventor; (3) paid consulting agreements between inventors and the licensee; (4) employment of the inventor by the licensee (this is common when students are inventors/co-inventors); and (5) payment

(cash or equity or both) to serve on Scientific Advisory Boards (this is relatively common when the licensee is a start-up company).

The Role of the Licensing Associate: The licensing associate first evaluates invention disclosures and selects those to be patented and marketed (at Stanford, from 30% to 40% of the invention disclosures received are selected and of those selected, about 65% are eventually licensed). Selection factors include: (1) prior success in licensing the inventions of this inventor; (2) the inventor's reputation in the field of the invention and willingness to participate in the licensing process; (3) the expectation of future new discoveries related to the invention; (4) the application areas of the invention and are they in growing markets; and (5) responses from industry contacts asked to review the invention.

The key to licensing success is identifying a person within a company, gaining the attention of that person, and then converting interest into a conviction that your invention is needed by their company. The inventor is an important source of names of people in companies that may be interested in their invention, and where by referring to the inventor when contacting such people, there is a good chance of creating initial interest in the invention. Without such a referral, gaining the attention of people in industry is usually very difficult. The initial contact document should be a brief one-page invention summary that can be read in a few seconds, providing an abstract of the invention, its advantages over currently available technology, and applications for its use. Once initial interest is gained, then more detailed information is provided, such as invention disclosure material, journal articles describing the invention, and issued or pending patents. At this stage, it is normally a good practice for the Licensing Associate to coordinate a meeting between the potential IAC and the inventor.

The next stage is the negotiation of the License Agreement. This requires a realistic assessment of the value of the licensing arrangement to the company, and an understanding as to what the company is seeking from the licensing arrangement. The Licensing Associate should have full authority to negotiate the final terms of the License Agreement, although the Licensing Associate may wish to consult with others (e.g., the inventors, other Licensing Associates, or the Licensing Office Director) if unusual or difficult requests are made by the other party. Once completed, the Licensing Associate then monitors the progress of Licensed Product development by the licensee to ensure diligence terms are followed. Because the licensed invention is typically far from market, and much can happen as a product is prepared for market, amending License Agreements is very common.

The Role of the Invention Advocate within the Company: The IAC convinces the management of his/her company that the licensed invention is important to the future of the company. The IAC therefore must be fully aware of the present and future value of the licensed invention, and the potential value of the relationship between the company

and the university. An example: In 1974, an engineer based at his company's headquarters in Japan was visiting his company's office in Los Angeles. By chance, he happened to sit in on a presentation on a computer-based sound synthesis technique given by a professor at Stanford. Although this invention had been shown to many others, only this engineer recognized the potential. He became an invention advocate, and convinced his company to become licensed. Ten years later, licensed products were introduced. These products were highly profitable for the company, and Stanford received many millions of dollars in royalties. In 1989, Stanford developed a follow-on technology and an alliance was created between Stanford and this company. That young engineer subsequently became President of this multi-billion dollar company.

Policies, Procedures, and Resources:

1. Policies

- a. Inventors must be a stakeholder in the financial success of licensing. They should receive a meaningful share of royalty income. This creates a justification for inventors to disclose inventions and to participate in various aspects of the licensing process. At Stanford University, inventors receive one-third of net royalties earned by their invention.
- b. The licensing office should receive a share of royalties, to offset the costs of the office and with the objective of total self-funding. This motivates the licensing office people, as they create the funding for their salaries and office operations from their success in bringing in licensing income.
- c. The licensing associate should be empowered to make all decisions concerning an invention assigned to him/her. Decisions include: (1) if an invention should be accepted and a patent filed; (2) who files the patent; (3) what companies to contact; (4) how to market the invention; (5) the type of license appropriate for the situation (e.g., option agreement, exclusive, or nonexclusive license); (6) financial terms of the license; (7) diligence provisions of the license; and (8) issues that arise after the license is signed.
- d. Patent investments should be treated as inventory (an asset), and expensed only when it is clear that they are unlicensable.

2. Procedures

- a. Have a very simple invention disclosure form. Detailed information can be obtained at the first interview with the inventor. The barrier to disclosure should be minimal.
- b. Maintain a contacts file, indexed both by company name and by the person's name. Contacts are essential in this business.
- c. Be responsive to inquiries from inventors and companies. Always return telephone calls promptly.
- d. Maintain a simple docketing and filing system, with an effective tickler system for follow up as needed.
- e. Keep the inventor(s) fully informed about actions taken on their invention.

f. Always be on the look-out for a better way to do things.

3. Resources

a. Licensing Associates. Effective people in licensing usually have some experience in industry -- in marketing, sales, or business development. Good communication skills (both oral and written) are essential. The emphasis and related allocation of time by Associates should be focused on finding potential licensees and on structuring effective license agreements. Effective license agreements are written in easy-to-understand plain language and they contain terms that both sides view as fair. The licensing associate only needs to know in very general terms what the invention is or does, why it is useful, and where it can be applied.

b. Clerical support. Licensing generates lots of telephone calls and lots of correspondence. Most marketing materials are paper-based. Keeping track of multiple deals in progress requires efficient filing and tracking systems. An efficient support infrastructure frees licensing associates to focus on marketing.

c. Communication and computer tools. Telephone, facsimile, and electronic mail have become essential tools in the licensing office. The use of regular mail has declined dramatically given the explosive growth of email and facsimile machine use. Access to computer tools and services is essential, and investments in hardware, software, and training are required.

Guiding Principles:

1. Focus attention on marketing and finding the IAC.
2. Target efforts towards likely buyers, and give them personal attention.
3. The inventor must be a willing participant in the licensing process. Keep inventors fully informed about what you are doing to license their invention.
4. Make it as easy as possible for people to join and/or participate in the licensing process. License agreements should be written in easy-to-understand plain language. It should be a simple straightforward process to obtain a license.
5. Universities and industry are motivated to be good friends and many benefits flow from industry to the university outside of licensing. Maintain a university view, not a licensing office view, when looking at issues.
6. Attorneys can provide good advice, but should not be in control of the license negotiation. Also, decisions should be made by individuals, not committees.
7. Negotiation is a mutual problem-solving process. Seek creative solutions to the concerns of the other party. Understanding what is important to the other side is necessary for reaching a strong lasting agreement.

