Models of, and Missions for, Transfer Offices from Public Research Organizations

by
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Introduction

This article reviews evolving models for Transfer Offices and identifies some of the differences in technology transfer as practiced in Europe and the United States ("US"). It then explores some to the issues related to developing or refining what the stated mission is, or should be, for Transfer Offices

The term Transfer Office (TO) is meant here to encompass the different organizations, which are active in transferring technology or knowledge from universities and other research institutes, which are mainly supported by public funds. The form of such organizations may vary from dedicated offices within university administration to semi-autonomous limited liability companies. In the US, such organizations are generally designated by TTO (Technology Transfer Offices). The term TO is intended to be more general and to encompass the transfer of other forms of knowledge.

The number of TOs has been increasing rapidly over the last 20 years, starting with the US and now spreading over Europe, and is estimated to be in excess of one thousand. The scope of their activities is also being extended from patenting and licensing to collaborative research and company creation.

In spite of being more common, we feel that the missions of TOs and what they can achieve are still largely misunderstood by the many organizations with whom they interface, namely the universities themselves, the researchers, industry, the government and the public in general.

At the same time, their importance is likely to increase because of several trends:

- The economy is moving to a knowledge economy increasingly based on science and technology;
- Public sponsored research accounts for approximately one third of all research and development and is concentrated in universities and public research centers;
- Industry tends to concentrate on short-term development and must rely increasingly on universities for longer-term research.

Although the detailed missions of TOs may vary to some extent according to the local environment, they all share one central mission, which can be defined as follows:

The central mission of Transfer Offices is to increase the chances that university discoveries and research results be turned into useful products and services so that the public shall benefit.

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If we consider that innovation is the process that converts discoveries from research into the development of new products, the mission of the TOs is to help universities to take a pro-active role in the innovation process.

Before attempting to define more precisely the missions of TOs, it is useful to understand the evolution of the different models by which universities have contributed to innovation.

The Open Science Model

Traditionally, universities have been indirectly the source of innovation through two main routes:

- Publications of research results in scientific journals. Most patents filed by industry cite university discoveries as the basis for conceiving new applications;
- Contract work from Industry in which universities have contributed to develop new applications that have been patented by the sponsors.

In either case, there are no intellectual property rights retained by universities, except the moral rights linked to the authors. We call this model the "open science" model because it is comparable in many ways with the open source model in software development. There is no need to manage intellectual property rights, since universities do not retain them, and there is correspondingly no need for technology transfer offices. Innovation is entirely left to the responsibility and diligence of private industry.

The Open Science model is very appealing to scientists because it corresponds to the universal value of science and unrestricted flow of information. The quality of the researchers is still measured by the number and quality of publications. It was the prevailing model in the US until the Bayh/Dole legislation of 1980 (most university TTOs in the US were established after 1980) and still prevails in most countries of Europe.

The current policies of Stanford University with regard to ownership of Intellectual Property created under industry sponsorship reflect the position of many research universities in the US. The underlying principle is that industry sponsors research at the university because of the experience and expertise of the professor supervising the research, and the graduate students conducting the research. Acquiring such experience and expertise in almost all cases has been funded by the university and/or the public (through state or federal government grants and contacts). Industry is exploiting this expertise base for company objectives. If a

useful invention is created by the professor and his/her graduate students that results in added profits for the company, it seems fair that some modest reimbursement for the investments made by the university and the public which permitted the invention to occur should be made. And certainly if the company has no interest in developing the invention into useful products or services, then the university should have the ability to find another party that will do so.

The policy at Stanford University is that the inventor has the right to place any invention in the public domain, unless the invention was created under outside sponsorship and the terms under which funds were accepted require disclosure and notification of the sponsoring party. If the invention has created under industry sponsorship, then normally the company would be offered a non-exclusive royalty-free license, but with an annual payment of a few thousand dollars (such payment would encourage the company not to take the license if they have no intention of developing the invention into useful products or services, or to terminate the license if such decision is made at a later time). The company is also offered the first right to negotiate a royalty-bearing exclusive license. This approach has been fairly well accepted in the US, but does not seem well accepted in other parts of the world, where ownership of IP is frequently transferred to the company.

The Open Science model has been very successful so far, so why is it changing? Clearly, this is setting a benchmark and any model of knowledge transfer should aim at being more efficient. This lead to a second principle:

One of the key considerations in taking an active role in knowledge transfer is to increase the likelihood that such knowledge would be put to effective use for the benefit of the public.

The License Model

In the US prior to 1980, inventions based on university discoveries funded by the US government belonged to the US government, which had the policy to grant non-exclusive licenses. In practice, there was little incentive to file patent applications and little incentive on the part of industry to take licenses.

This Bayh-Dole Act, which went into effect in 1981, strongly encouraged universities that were receiving research funding from the Federal Government to establish a technology transfer function. The major features of the law are:

- Title to inventions sponsored by the Federal Government are with the university, unless the university chooses not to take title;
- If the university elects to take title, it must file for patent(s) and show due diligence in finding a licensee that will develop commercial products;
- The university must share a portion of royalty income with the inventor;
- The Federal Government is granted a royalty free nonexclusive license for Government procurement purposes only;
- The government retains march-in rights if the contractor is not fulfilling obligations as specified in the Law;

- Preference in licensing is to small businesses;
- If an exclusive license is granted in the United States, the licensee must agree to "substantially manufacture" the licensed product within the United States.

As almost two-thirds of research funding for U.S. universities is from the Federal Government, this Law was taken quite seriously. And the stated purpose of the Law was to facilitate the transfer of technology for the public use and benefit. Thus, the adoption of this statement as a primary mission for the TOs, which were established as a result of the Law, is not surprising.

The results of this law have been quite encouraging. The US Association of University Technology Managers (AUTM) estimates on the basis of the FY2001 survey that at least 358 new products were introduced to the market under licenses from universities. Without direct involvement of universities in the patenting-licensing process one might consider that only a small fraction would have been developed. Also in FY2001, at least 494 new companies based on an academic discovery were formed, and the over $1 billion in royalty income translates in tens of billions of dollars of licensed product sales producing several billion dollars in incremental tax revenues and many new jobs.

In Europe, only a few countries have adopted specific laws concerning ownership of public research results and have encouraged the creation of TOs for patenting and licensing inventions based on university discoveries. Most of them have been enacted only recently. Although the scientific productivity measured by the number and quality of scientific publications is comparable, the average license revenues are one order of magnitude less important than in the US.

The difference is due in part from the time lag between filing a patent application and introducing a product to the market. Since the change of policies and the creation of TOs started later in Europe, it is not surprising that the revenues are lower. For example, the Stanford University TTO was founded in 1970. In the first ten years of operation, total income was $4 million. In the next ten years (1981 – 1990), total income was $40 million.. Since 1990, total income has exceeded $500 million, and much of the $500 million can be traced to inventions that were disclosed in the 1970s.

The main reason, however, is that it is relatively more difficult to license out a university invention in Europe than in the US. The European market is much more fragmented than the US market and the density of technology-based companies is less important. Many licenses from European universities are actually executed with US groups, and do not benefit the European economy.

In order to give reasonable chances to develop university inventions, it has been observed in Europe that it is generally necessary to go one step further than filing a patent application and to participate to the demonstration of the proof of principle of the utility of such inventions.

The Innovation Model

There are two main routes available to universities to demonstrate proof of principle, namely:

- Collaborative research with industry. In exchange of attractive license option rights on the university background technology, which may contain not only patents but also know how, the industry partner will fund the incremental research leading to the proof of principle, often with public development grants. The Programs funded by the European Commission has further supported this model in Europe, which generally impose in addition the presence of partners from several European countries for wider market access. In the US, the government is supporting a similar schema under the CRADA programs for Government Laboratories and STTR programs for universities.

- Creation of Spinout companies. The university technology may form the base for creating a new activity. The technology is then made available at attractive conditions under license for consideration of shares and/or royalty stream. This requires in addition to find entrepreneurs and seed capital. In some cases virtual capital may become available under the form of interest free loans or SBICs. Typically, the first years will be devoted to verify the technical feasibility of the concept and the market potential. Regional governments and universities are actively supporting this route because the new companies tend to remain in the vicinity of the originating university and contribute to the rejuvenation of the local economy. Once the proof of principle is achieved, the new companies enter the development stage and other sources of funding become available.

In both cases, the universities are contributing directly to bridging the gap between research and development, hence the reference to the innovation model. The TOs need to master a wider range of tools and services beyond patenting and licensing, including business development, coaching, incubator facilities, seed capital funds, science parks, etc. The staff needs also to be more experienced and should include professionals with industry experience.

The innovation model is comparatively more developed in certain European countries, notably the UK, Scandinavian countries, Netherlands and Belgium, than in the US. The potential benefits for the public and for the university will also be larger and more regional in character. The basic difference is that European universities have to be more directly involved in the innovation process than their US counterparts for achieving the same result.

One of the consequences of this difference is that the metrics developed to measure the efficiency of the knowledge transfer process should not be limited to the patenting licensing cycle but also capture the importance of collaboration with industry and the creation of new companies.

The Mission Statement

The premise is that it is essential for a university technology transfer organization (TO) to have a stated mission, which is understood and agreed to by: (1) the Director and the staff of the TO; (2) the Board of Trustees or other group that has overall responsibility for the university; (3) the researchers who are expected to collaborate to the innovation process; (4) the industry

which will eventually develop and market the new products; and (5) the national and regional governments that are defining the public policies and provide most of the funding. The first task of the TO will then determine what resources are needed to fulfill the mission and how those resources will be deployed. For already established TOs, it is appropriate to review the mission statement periodically to ensure it is accurate and that all parties concur that it reflects the priorities and goals of the TO.

In crafting a mission statement, several possible components should be considered and evaluated, to see which are applicable, and to identify the one to be designated of primary importance. They include:

1 To facilitate the transfer of university created discoveries into new products and services for public use and benefit.
2 To promote regional economic growth and job creation.
3 To reward, retain, and recruit faculty and graduate students.
4 To create (new) relationships with industry.
5 To generate net royalty income for the TO, inventors, and the university.
6 To generate new funding support for the university and/or faculty from sponsored research funding, consulting opportunities for faculty, and donations of money or equipment.
7 To serve as a service center to the university, faculty, students, and staff on all areas related to intellectual property, including providing seminars and consulting assistance when requested.
8 To actively facilitate formation of university-connected start-up (spinout) companies.

Component 1: All TOs should include the core mission (1) as explained before, since this is the legitimate basis for managing intellectual property that has been generated mostly from public funding. One philosophy, we believe more favored in Europe than in the U.S., is that the corresponding policy should be to protect inventions and diligently develop inventions only when this would not be expected to occur by simply putting the results in the public domain. This philosophy could be difficult to implement in the US, given the growth in the number of TLO's and expectations of university inventors. Inventors, and frequently the inventor's department, share in the benefits that come from a new licensing relationship (at Stanford University, net income is distributed 1/3 to inventors, 1/3 to inventors Department, and 1/3 to inventors School),. In addition to a portion of any income generated, benefits can include consulting opportunities, possible research funding, and hiring of students upon graduation. Inventors expect the university TTO to diligently evaluate their invention, and if deemed to have commercial potential, to diligently seek out potential licensees. Many inventors consider this a basic right under their employment contract, and could take legal action if this right was ignored by the TLO placing their invention in the public domain.

Component 2: The promotion of regional economic growth and job creation tends to be more prevalent for "public" universities that receive a portion of their financial base from regional taxes. This provides a rationale for giving preference to regional industry in licensing technology and also a greater incentive to form start-up companies in the region that will contribute to regional economic growth.

Component 3: Universities are highly competitive in seeking the best faculty and the best students. The reputation and relative ranking of universities and their respective departments is directly linked to the perceived quality of faculty members and their publications. This, in turn, is linked to the skill and intelligence of the graduate students who are doing a good deal of the research work itself. Highly intelligent and creative faculty and students tend to be those who create important inventions, and thus they are interested and concerned about how their inventions will be handled. Thus, the reputation of the TO may be a factor when considering where they choose to do their research.

Component 4: It is our personal opinion that the most valuable contribution of a TO to its affiliated university is the new relationships with industry that it creates. From the relationship, many benefits can flow. These include net royalty income, but also potential sponsorship of research, consulting opportunities for faculty, the hiring of students when they graduate (especially the students listed as co-inventors on the licensed patent[s]), and possible donations of money or equipment. For example, when James Clark, a former faculty member at Stanford University and founder of such companies as Silicon Graphics and Netscape, decided to give Stanford University $150,000,000, he specifically cited as a factor in his decision the fair treatment he had received from the Stanford TO when licensing the technology that was the basis for Silicon Graphics.

Component 5: Certainly generating net royalty income for the TO, the inventors, and the university is an important goal, but we would strongly advise against making this a primary mission of the TO. This issue was actively debated at Stanford University in the early 1990's, following the formation of the Stanford Management Company (SMC). The SMC was formed to manage the income producing assets of Stanford, such as the endowment (now almost $8 Billion), real estate and income producing properties donated to Stanford. The compensation of SMC employees is linked to the SMC financial results in their particular area.

The concern if Stanford's TO became part of the SMC, and thus compensation of TO staff was linked to financial results, was that little attention would be given to non-revenue producing services, and the focus of TO licensing people would be directed only to faculty and departments that are likely to produce inventions with significant commercial potential. Faculty and students with "marginal" inventions would be given little or no service. The TO licensing people could become "greedy" and over-reaching when negotiating the financial terms of licensing agreements, potentially damaging the relationship with the licensee and giving the Stanford TO a bad reputation as greedy and difficult to deal. And by not respecting the purpose and intent of the Bayh/Dole legislation (to transfer technology for public use and benefit, not to create wealth for the university), the university might endanger receiving Federal Government support for research at the university. Stanford decided not to make income generation the primary mission of its TO and not to make the TO part of the SMC."

And some people in the U. S. public policy sector are beginning to question whether U.S. universities are going too far in patenting very basic discoveries in the pursuit of licensing income. This is especially true in the biomedical area. Professors Arti K. Rai (University of Pennsylvania Law School) and Rebecca S. Eisenberg (University of Michigan Law School)

propose that the Bayh-Dole Act be reformed to give government funding agencies discretion to determine when to require that publicly-funded research discoveries be dedicated to the public domain. They argue, in their paper "Bayh-Dole Reform and the Progress of Biomedicine", that patenting of research tools and very basic research discoveries may impede the progress of science. (this paper may be obtained at no charge from http://ssrn.com/abstract/id=348343)

Component 6: The relationships the TO creates does offer opportunities for research sponsorship by the licensee, paid consulting work for faculty (and sometimes graduate students as well when approved by their advisor), and the loan or donation of specialized research equipment. Recently Stanford negotiated a package arrangement with a company in Japan that included all of the above. The TO should be aware of such opportunities, but it is the faculty inventor who would normally determine whether to accept or pursue such opportunities.

Component 7: The TO can be the primary source of service and assistance to university faculty, staff, and students on issues related to intellectual property (IP). This includes serving on committees that are creating or reviewing intellectual property policies and procedures, answering questions related to IP, providing seminars as requested on IP issues or on how IP is handled at the university, providing support for student projects that involve IP, and in general being the place people go whenever an issue about IP arises. This is a very important service to members of the university community, and how the TO deals with it may determine the reputation the TO enjoys among the university's faculty, students, and staff.

Component 8: The TO must make clear what role it will, and will not, play in the formation of new companies utilizing university technology and/or university people. Passive involvement is the most common model for U. S. TOs. This means providing referrals to resources which can assist in the start-up process, but not active involvement of the TO itself. Active involvement in this process, which is much more common in Europe, means some or all of the following: helping to write or actually writing the business plan, incorporation of the company, finding initial seed funding, recruiting the management team, and securing the first round venture funding. Such involvement can be very time consuming, and requires people with special skills and experience.

In determining the mission and operating philosophy of a TO, one should also consider the interests, needs, and expectations of the other parties involved in the overall process. Some of the parties to consider include:

A. The inventor(s): These people play a crucial role in the process, and without their active involvement and support, it would be very difficult to achieve any measure of success. They must make the effort to reflect on the possible uses of their discoveries, disclose inventions, help identify potential licensees, participate in obtaining strong patent protection, host visits of potential licensees, and on a voluntary basis, provide the know-how and show-how that is sometimes crucial to successful commercialization of a technology. These are typically very busy people, so it is important to respect this and not make undo demands on their time. For instance, the invention disclosure form

should be simple and easy to complete. You can obtain the detailed information you need at your initial meeting with the inventor(s), which should be at their office, not yours (thus not wasting their time traveling to your location and trying to locate a parking place). The Stanford University TO implemented an automatic survey system a few years ago, to ensure people were satisfied with the services of their TO. The first time an inventor discloses an invention, she/he receives an email survey asking if she/he was promptly contacted about their invention, was a meeting scheduled to discuss it, at the meeting were things fully explained, and are they fully satisfied with how things were handled. When an invention is rejected or if it is licensed, in either case a survey is automatically sent, again asking questions related to how things were handled and if they are satisfied with the outcome. If an inventor expresses dissatisfaction with any aspect of the process, the office Director meets with them to discuss and resolve problems.

B. The University: The interests of the TO should be aligned with the interests of the university. This means the TO operates in a manner that supports the objectives of the university, where rapid dissemination of research discoveries via conferences and/or publication is very important to the faculty and students. Any delay in such dissemination to protect intellectual property rights would need a very, very strong justification. The TO must also be careful that research, licensing, or other forms of agreements do not entangle future intellectual property rights in a way that compromises the ability of a faculty member to obtain sponsored research funding. And in creating or maintaining relationships with industry, the TO must be recognized that a given company may have a number of important relationships with the university (e.g., participation in collaboration agreements, membership in Affiliate Programs, major donations of money or equipment, and so on) which must be taken into account should the TO find itself in a disagreement with a potential or actual licensee.

C. The industry partner: Unfortunately some interests and objectives of Industry are opposed to the principles of the university. The university seeks open and free availability of all research results, where industry seeks to keep secret any information it believes provides a competitive advantage. Industry seeks to earn money for it's shareholders and is driven by financial gain, whereas the university seeks to avoid any situations where holding a financial interest or the promise for making money may compromise academic principles. However both parties wish to create a strong long-term partnership relationship, and this should be stressed when the foundation for the relationship is being laid. Most university inventions are far from market and there is considerable risk that a commercial product will ever emerge. Thus, the parties should view the license that is the starting basis for the relationship as a work in progress. Things are very likely to change, and the agreement can be amended to reflect such changes or unexpected developments. Indeed, most agreements that survive for a long time and where a Licensed Product reaches the market will be amended at least once, and sometimes a number of times. It is important that both parties are aware of the concerns and limitations of the other party, and openly discuss such concerns. This is why most TOs require their licensing staff to have had a few years of experience in

industry, in areas such as technical marketing or business development. Without this, understanding and being sensitive to the position of industry in negotiations, and finding creative approaches to respect such positions, is much more difficult.

D. The Government(s): In theory, the national or regional government is looking after the collective best interests of the people it represents. In this context, it passes laws and develops implementing regulations to create a better standard of living and improved living environment for it's citizens. In the U. S., people from university TOs have been active in the creation and implementation of legislation related to intellectual property and university/industry/government relationships for decades. The Society of University Patent Administrators (SUPA) formed in 1974, which renamed itself the Association of University Technology Managers (AUTM) in 1989, was created specifically to participate in and help shape legislation concerning ownership and licensing of inventions created under Federal Government sponsorship. In Europe, the situation is more complex as the laws are different in each country. There are many national and international organizations representing the TO professionals. The new ProTon-Europe network is attempting to federate them at the European level.

Scope of Services

Once the primary mission of the TO is defined and agreed to, the next step is to clarify what services the TO will provide and what services it will not support. The TO must inventory what resources it has within the TO and what resources it may call upon within the university and in the surrounding community in pursuing it's mission.

The more successful TOs in the U.S. are independent (i.e., not part of an existing administrative office of the university) with a business entrepreneurial focus. They understand that they must create and support an environment that encourages the disclosure of inventions and where the benefits from disclosure are understood and the inventors are willing participants in the technology transfer process. Some of the benefits for inventors can include: (a) a share of any income from the licensing of their invention; (b) consulting opportunities; (c) sponsorship of research by the licensee; (d) the hiring of graduating students by the licensee; (e) paid service on Advisory Boards, such a Scientific Advisory Board; and (f) the satisfaction of being named on patents and seeing their research work put into productive use. The more such benefits are known within your university community, the more likely it is that inventions will be disclosed and inventors will actively assist in the technology transfer process.

The core functions of a TO are: (a) the evaluation of invention disclosures; (b) selection of those to be patented and identifying the patent attorney with the expertise to obtain (with the inventors active collaboration) the strongest possible patent claims; (c) identifying (with the inventors active collaboration) who would be possible licensees or partners and preparing/collecting marketing materials; (d) contacting the most promising licensee or partners prospects giving directed personal attention; (e) negotiating the terms of the license or the collaborative research agreement; (f) monitoring the performance of the licensee and amending agreements as necessary;

Beyond these core functions, the TO must determine and make known what services it will provide. Such services might include:

Negotiation and handling of agreements with industry beyond license agreements. This could include sponsored research agreements, material transfer agreements, collaboration agreements, equipment loan agreements, and so on.

Actively assist in the formation of university-connected start-up companies. As this can be a very labor-intensive activity, it must be made clear what the TO can and cannot be expected to provide. The TO will normally provide the exclusive license to the university owned technology which the faculty, student, or staff entrepreneurs must have to raise funding for their company, but services beyond that can include preparing the business plan, providing seed level funding, recruiting the management team, and securing investor financing.

Provide consulting or advisory services on any issues regarding intellectual property, to include advice on patent trademark and copyright matters. The TO is the first place the faculty, staff and students turn to with any questions relating to intellectual property. For complex legal questions, the TO should have access to intellectual property attorneys, normally on some form of retainer.

Provide lectures and seminars on intellectual property topics. Work with faculty and students on research projects related to intellectual property issues.

Summary and Conclusion:

The efficient and effective transfer of research results from Public Research Organizations (which includes private universities) to industry for conversion into new products and services is vital for economic growth and job creation. On a global level, National and Regional Governments are focusing increasing attention on this area. This is fueled by the reported results from the United States, following legislation in the early 1980s, to stimulate this activity in U.S. Universities and National Laboratories (the most well-known being Public Law 96-517, or the Bayh/Dole Act). Prior to the 1980 Bayh/Dole Act, the prevailing model for such transfer was under the Open Science Model, where the Public Research Organization did not seek to own Intellectual Property Rights to the research results of its employees. The License Model grew rapidly in the U.S. following passage of the Bayh/Dole act. This Model was favored as: (1) it largely avoids conflict of interest and conflict of commitment situations for the institution and its inventors; and (2) the rapid grow of the biotechnology industry and the friendly attitude of other life sciences industries towards licensing inventions from Public Research Organizations provided a substantial royalty income sourcing. The Innovation Model has been more favored in Europe (also in Asia and in Canada), and it is becoming increasing accepted in the U.S.

Our conclusion is that a clearly defined and widely understood and accepted statement of mission is necessary for the efficient and effective transfer of research results from Transfer

Offices. We believe the most important components of a mission statement are to facilitate such transfer for public use and benefit and to create new operating relationships with industry and others that support the Innovation Model. As the analysis of Stanford University demonstrates, a primary focus on earning income may be detrimental to the transfer process and to the Public Research Organization which it serves.

Appendix A (or to be included as a sidebar)

In considering the mission and operating procedures of a university TO, it may be useful to consider some situations that may arise, and determine how the TO would react to them. Below are some examples:

Example 1: A faculty member on the medical staff of your university brings you an invention disclosure for a treatment procedure for a very rare disease. The disease is so rare that less than 200 people worldwide suffer from this disease. The invention, if made available, would significantly improve the lives of the people with this disease. However it is obvious that such an invention would produce very little if any royalty income. There is, however, a foundation (with very little financial resources) to try to help people with this disease, located in the Netherlands. The faculty inventor is aware that the TO has a special fund for investing in the incremental development of inventions, with an upper limit of $25,000. How would your TO react to the following two requests;

Request A: The faculty inventor has not yet built a working prototype of this invention, and asks for $5,000 from your invention development fund to do so.

Request B: The faculty inventor has a working prototype of the invention, and requests that you contact and work with the foundation in the Netherlands to make the invention available to people suffering from the disease. It is understood that people with this disease are typically very poor and could not afford to buy or pay for the treatment procedure.

Example 2: A faculty member in your School of Business is introducing a new course in entrepreneurship. She approaches your TO with two requests.

Request A: The students will form small teams, and they must then select a product opportunity around which they will build a business plan. She asks if the TO would review it's portfolio of inventions, identify those that might have the potential for being the basis of a

start-up company, prepare a summary for each candidate invention, and then attend an organizing meeting of the class to discuss the candidates.

Request B: The faculty teacher is aware that potential entrepreneurs must have an understanding of intellectual property (IP). She therefore asks if a staff person of the TO would prepare a course module on intellectual property, to cover: (a) the different forms of IP and their characteristics; (b) how and why IP can affect in positive and negative ways a new business; and (c) how one acquires IP that the business may need. The person preparing the module would then present it to the class.

Example 3: A graduate student is interested in studying the various parameters that cause inventions to be made and disclosed to the TO, as part of his Ph.D. thesis research. To do so, he would need a place in the TO to work, access to both paper and computer records, assistance in finding the specific information needed, and he also requests that TO staff review his findings and provide comments and suggestions. The project is projected to take about one year to complete.

Example 4: A graduate student has created an invention that is totally unrelated to her university-supported research. She has not used any university resources in developing the invention. Therefore, the university, under its policy, has no claim of ownership for the invention. However she believes the invention would be an important product benefiting society and she is determined to see it developed. She comes to the TO and requests help. She would like the TO to help her locate whatever resources might assist her in starting a company. She understands she will need a business plan, and therefore asks the TO to assist in preparing such a document, as the TO has access to market information needed for the business plan. She would also like the TO to make introductions for her to the resources the TO helps in finding. She would be very grateful for such help, and indicates that if she is successful in creating a company to develop and market her invention, she will make a substantial donation to the university general fund at a future time.