

Strategies for Managing Internal and External Constituencies

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The academic technology transfer professional stands at the nexus of a number of interested parties or constituencies, each of whom may interpret success somewhat or a great deal differently from one another. Of all the skills in the toolkit of the professional, managing interpersonal relationships is central. The professional strives to understand the needs of all parties, interpret them to one another, and find solutions that meet the mission and goals of the institution. At the same time, strong relationships are built with inventors, institutional leaders, and commercial interests. Each of these interested parties is a customer of the professional, some with a greater claim on his or her attention, but all requiring thoughtful response if the professional hopes to be successful.

What Is the Mission of the Office?

The first and essential task of every technology transfer director is to ensure that the technology transfer office is aligned with the goals and missions of the academic institution. Each member of the office must then ensure that he or she is supporting the mission in his or her daily activity. Whether the professional is the director or a member of the department, a clear understanding of what the institution wants of the office is essential. Technology transfer is now a recognized profession both within and outside the university community. However, misunderstanding of the purpose, goals, and outcomes of academic technology transfer persists.

As one of the deans of the profession, Howard Bremer, JD, Wisconsin Alumni Research Foundation, remarked in his address to the National Association of State Universities and Land Grant Colleges: “Of all the controversial subjects which have been addressed by members of Congress and discussed by newspaper editors and columnists over the years, none appears to be less understood than the allocation and disposition of rights to inven-

tions arising from government-funded research and development. In addition, the U.S. patent system has always seemed to be mysterious to the lay public as well as its duly elected representatives. In the words of Howard Markey, chief judge of the Court of Appeals for the Federal Circuit...“no institution has done so much for so many with so little public and judicial understanding as has the American patent system.’ That dichotomy on disposition of rights to inventions and the lack of understanding of the operation and contribution of the patent system to the benefit of the public persists today.”¹

The prudent professional is careful to maintain complementary and related foci:

- The public mandate as first articulated by Vannevar Bush and later codified in Public Health Service regulations related to the award of extramural grants
- The mission of the academic institution within which the office operates
- The expectations of the different stakeholders within the institution, which may include faculty and researchers, administration, deans and department heads, legal and finance, university relations, alumni affairs, and the development department, as well as members of the board of trustees

Understanding Strengths and Weaknesses: What Kind of Team Have I Joined? What Is my Specific Role in the Plan?

Whether working in an established office or participating in the startup of a new effort, the professional should be aware of the strengths, weaknesses, opportunities, and threats of the office. Ideally, the director of the office has performed or is performing an analysis with the participation of as many of the stakeholders as possible. In obtaining their participation in this analysis, the technology transfer director ultimately can obtain their substantial agreement with office goals and the chosen operating model. This agreement is critical when difficult future decisions must be made that may demand tradeoffs among the stakeholders.

Strengths may include an experienced and well-seasoned staff; a long, positive history of interaction between the university and industry; an administration with reasonable expectations of the office as measured by national standards; good office systems; sufficient funds to invest in a robust patent portfolio, systems, and people. Weaknesses are the

reverse mirror of those strengths: inexperienced or poorly trained staff, an administration with unrealistic expectations, a divisive or negative history of interactions with industry, bad or nonexistent office systems and procedures, and insufficient funding. Opportunities may include close proximity and access to venture capital and entrepreneurial management and a supportive local business community with local assistance programs. A unique capability or program within the university may be in place with key potential partners as a basis for doing business. Star faculty can serve as the magnet for attracting important funding for research projects through research consortia and the creation of intellectual property. Board members may offer both connections and expertise. Threats include a risk-averse university or local environment and the absence of economic development infrastructure and assistance programs.

Working from an understanding of the mission of the institution, the interests of key stakeholders, and the environment within which the technology transfer office operates, broad goals can be established for the office. As noted above, maintaining strategic relevance to the mission of the larger institution requires that the director and other professionals in the office continue to check back with key stakeholders to ensure that the primary activities of the office match the expectations of the stakeholders. Regular meetings and reports also ensure an opportunity to educate stakeholders to the technology transfer process, engage them in the challenges facing the office, and arrive at mutually agreed-upon solutions for challenges. With this information in hand, the professional has a context in which to understand his or her function, role, and goals.

The Working Models: A Context for Managing the Relationship²

The majority of offices in the United States are versions of three predominate operating models: service, income, and economic development. In the service model, the emphasis is on service to faculty, not on the generation of income. In this model, each disclosure or case receives the same attention. While customer satisfaction is generally high in this model, the drawbacks of this model, which should be discussed with stakeholders during the environmental assessment period, is that significant income-earning opportunities are lost because all disclosures are treated with equal urgency. In addition, this office will require higher institutional subsidy to compensate for lost income.

The income model, as the name implies, emphasizes the generation of income over service. This demands an experienced staff with good understanding of the markets and industries to which technologies might be licensed. It requires a vigorous triage process to separate the potential hits from the losers. It has the potential to generate significant income, which will satisfy administration and those inventors whose technologies are successful. However, it is likely to result in a generally lower level of satisfaction overall from faculty, most of whose technology is not a blockbuster income producer.

The economic development model emphasizes the formation of companies, especially local companies around university technologies. It has the potential for significant long-term income through shares of equity. It tends to downplay straightforward licensing to established companies and requires significant skill sets in company startups. It is a long-term, higher-risk investment in the time and resources of the university. If successful, it permits the university to enjoy substantial public recognition for the creation of jobs and enhancement of the local economy. Because so few technologies can serve as the platforms upon which companies may be formed, measures of general faculty satisfaction are likely to be low.

Who Are these Customers or Stakeholders?

Technology transfer offices operate within private and public universities; large land-grant universities; and small, single-mission institutes all of which hold dearly the core values of the creation of knowledge within an atmosphere of free inquiry. However, each institution strikes its own unique balance of teaching, research, service, and economic development activities. Interviews with the key stakeholders inside and outside of the institution are essential to understanding how each interprets these functions. Asking the question of each stakeholder, how will you know the tech transfer operation is successful? can be used to discuss and measure expectations and set metrics for success. The director of the office has the institutional responsibility for assessing stakeholder expectations at the outset and communicating them to the tech transfer staff. However, each interaction or transaction with a stakeholder is an opportunity for the tech transfer professional to reestablish and come to agreement regarding expectations within the context of the mission of the office and the institution.

Ultimately, the successful technology transfer professional must arrive at an understanding of the mix of functions—service, production of income, and economic development—that suits the institution. The exercise of keen political acumen is essential. While it is doubtless true that the diversity of stakeholders assures that not all of them will be satisfied, the astute technology transfer director will leave as many stakeholders understanding and supporting, if not agreeing completely, with the focus of the office.

Who are some of these stakeholders or customers? Internally, they include:

- academic administration including the president, deans, department chairs
- individual researchers/inventors
- other administrative departments, especially grants administration and fundraising, legal, and finance
- board of directors

Externally, they include:

- companies that work in the various fields of invention disclosures
- local and national venture capitalists and investors
- local economic development officials
- local, state, and federal legislators

What Are my Customers' Expectations? How Do I Manage them?

Managing expectations begins within the technology transfer office itself. The office is, at its heart, a service organization. To be successful, the office must build and sustain a culture of customer focus. The office and each of its staff members must commit to becoming a learning organization, competent in all the disciplines of internal and external communication, sales, marketing, and interpersonal skills. The office must have a process and culture that sustains continuous examination of its own mental models and assumptions of what drives their own behavior as well as their customers'. It must constantly clarify and articulate a shared vision with its customers and practice collaborative team learning. The individual professional must be an active participant in that learning, maintaining a creative edge, and skilled in collaboration and inquiry.

As a service provider, customer expectations can pose a major challenge. That's because expectations grow, shrink, change shape, and change direction. They shift constantly, and they shift easily. How satisfied (or dissatisfied) customers are is determined by these expectations and the professional's performance in meeting them. Customers' level of satisfaction can be affected by changes in either their expectations or the technology transfer professional's performance. That means the professional has to pay attention to both.

And that's where things can get tricky, because how the professional perceives his or her performance may differ from how his or her customers perceive it. In fact, discrepancies between the professional's and the customers' perceptions would not be at all unusual. If customers view the office and/or the individual as unresponsive, then they are—in their eyes. Customer satisfaction is driven by their perceptions, not the professional's. Their perceptions are their reality, and any overlap between their view of the world and the professional's may be simply one of those delightful coincidences. A survey of inventors reported on at the 2005 AUTM Annual MeetingSM by Robert Lowe, PhD, Carnegie Mellon University, revealed that no inventors felt their technology transfer office added anything to the success of their invention—clearly, a very broad perception gap.

Monitoring changes in customers' satisfaction level is critical to the communication process. Good communication should be repeated; ineffective or bad communication must be changed before it is given a chance to do real damage. The professional must guard against getting so wrapped up in delivering services that he or she loses sight of customers' expectations and how well they think he or she is meeting them. The professional is conscientious in observing what's going on in the customers' environment and his or her own that could affect satisfaction level.

The Elements of Good Communication: Building Trust

Even though they may be great project managers or team leaders or consultants, professionals at all levels communicate inadequately during times of uncertainty. By definition, the academic technology transfer office deals with novel, frequently unproven ideas with many levels of uncertainty related to commercialization. The process of evaluating, marketing, and successfully concluding a deal related to the technology is frequently a mys-

tery to customers and stakeholders outside the office, and the professional may not appreciate the fact that others are not familiar with the process and fail to recognize even the small steps they can take to help their customers or stakeholders maintain a level of comfort. In dealing with an unknown or unfamiliar process, most people have an intense need to know what is happening and how it will affect them. This is especially the case when the technology disclosure is viewed as the inventors' "baby," the path to the entrepreneur's success, or the answer to institutional revenue difficulties. Yet, so often, communication in the form of information, empathy, reassurance, and feedback is in short supply.

Even when the technology transfer professional does understand the information gap, many prefer not to take any action. Particularly for those professionals who have not had training in communications, they avoid communicating because doing so means dealing with those messy "people issues" (such as feelings, for example). As William Bridges notes in *Managing Transitions*, "[Professionals] are sometimes loathe to talk so openly, even arguing that it will 'stir up trouble' to acknowledge people's feelings." Of course, as Bridges emphasizes, it's *not* talking about these reactions that creates the problem.

The more difficult communication relates to unsuccessful commercialization. However, it is this circumstance that is even more important, indeed critical, to communicate well. The communication must be accomplished in a way that acknowledges and respects customers' reactions, while helping them to accept the change and adjust to it as expeditiously as possible. Thus, trust and respect for the professional and the office are built.

What Do Customers Want, Anyway?

Fortunately, what most customers or stakeholders want is exceedingly reasonable: to be treated with respect; to be listened to; and not to be bounced around, ignored, or treated like dummies. Both the product and the process are important to customers. The product refers to the solution, system, response, resolution, deliverable, or result. Whatever form the product takes, customers want it to work properly, to meet their needs, and to have that elusive quality of care. Customers may not keep coming back unless the professional also attends to the process. In fact, for many customers, the process is more important than the product. The process concerns how customers feel they've been treated. This is the human element of service.

People always seem to want to know *when*. For the professional managing many constituencies, establishing and maintaining standards of service are a valuable means to ensure satisfaction. The following illustrates standards that lead to customer satisfaction.

- *For acknowledging customers' voicemail messages:* "We will acknowledge messages to the support line within one hour of the call."
- *For responding to service requests:* "We will provide written feedback on the action we will take within three days of receipt of a service request."
- *For describing variations in service level:* "We will aim to resolve problems with products on the A list within eight hours and products on the B list within one week of receiving a request for assistance."

Time frames may differ. The issue is not the specific time frames, but whether service standards have been established and communicated. When customers complain about poor service, it's often because of an absence of service standards that let them know what they can reasonably expect.

For situations in which the time frame is not clear, the professional should consider establishing and offering a regular interval to report to stakeholders and customers. In fact, agreement on the frequency of reports should be part of the expectation setting at the outset. Following the timetable, even when there is nothing to report, builds trust that the issue hasn't dropped off the edge of the earth. Customers have indicated that they want:

- to be taken seriously
- knowledgeable help
- competent, efficient service
- friendliness
- anticipation of their needs
- to be kept informed
- explanations in their terms
- follow-through
- basic courtesies
- honesty

- to be informed of the options
- feedback
- not to be passed around
- professional service
- to be listened to (and heard)
- empathy
- dedicated attention
- respect

In reality, no office can afford not to have some combination of the models above. At all times, the professional must balance conflicting expectations and priorities. Thus, the professional must have significant communication skills and be proficient in using them in order to stay attuned to the various constituencies within the university community.

Resources Related to Managing Constituencies

To successfully meet a group task—especially with limited resources, equipment, or personnel—one must establish priorities. Establishing priorities helps foster effective and efficient relationships in the workplace and boosts productivity and worker satisfaction. The director or leader of the office will be called upon to set priorities, or at the very least, monitor priorities already set. The clarity with which this is done will impact the comfort level of the staff. This means the director must establish his or her own priorities, differentiate them to others in the office, and work with individual members of the office to establish individual priorities and differentiate them. This process clarifies individual roles and responsibilities within the group and lets everyone see how his or her individual responsibilities contribute to the success of the group.

Clarity about the overall vision for the future allows priorities to be set that have a higher potential for achieving the vision. Each professional and staff member in the office should expect to understand clearly what needs to be done and when, as well as the relationship between the priorities and the overall goals. If priorities are clearly stated and contribute to the overall vision and mission of the institution, the entire staff should be able to follow through even in the director's absence. This will make the professional and staff feel safe in their positions and roles because they can trust the commitment to helping them succeed.

Typically, university technology transfer offices operate as departments within the university, reporting to the provost, vice president of research, or vice president for finance. On occasion, as in the case at Cornell University, the Wisconsin Alumni Research Foundation, or Florida State University, offices are established as freestanding corporations of their own with obligations to commercialize technologies arising out of the parent university. This discussion will not go into the benefits and drawbacks of each of those models except to note that relationships to constituencies and priorities are influenced by the structure and placement of the office within the institution.

Tools to Help Manage Internal and External Constituencies

Software and Systems

Clear communication with customers and stakeholders requires that information be readily available and manageable by the professional. Today, there are several software systems on the market that may be selected to manage office operations but also ensure a mechanism for follow-up and communication. It is worth noting that the office manager and docket clerk should have a role in the selection of a system since these individuals will be working most closely with it. Time and funds should be set aside to provide sufficient training for all members of the office to ensure its most effective use. The office manager may be the person designated to set up protocols for use of the system to ensure consistent data input, setup, and manage system reports.

Another critical tool in the office is a triage system that weighs generally recognized criteria to come up with a total score for a disclosure. This score is then used to help make a decision regarding the effort and resources dedicated to a particular technology. A well-managed triage system can be a very effective mechanism for helping inventors and other stakeholders understand the multiple factors that contribute to deciding whether to move forward with the project or not. Hearing bad news is not nearly as devastating as the impression that a disclosure or opportunity was not fairly, competently, and expertly reviewed.

Advisers and other Resources

Good business decisions cannot be made in isolation. Just as the technology transfer director has assessed the environment and the strengths, weaknesses, opportunities, and

threats confronting the organization, so should that individual reach out to understand what is happening in other offices and what is evolving as best practice in the larger community.

Some of these resources are close to home: professionals within the office, selected members of the board of trustees, faculty. Business faculty and the inventors themselves can assist in providing perspective, market assessment, and a sense of the environment for any particular technology. Colleagues who manage similar offices are key resources in improving the operations of the office as well as specific deal construction. Some offices conduct the very useful practice of having colleagues from other offices visit and consult in overall office operations or specific skill sets, such as how to triage disclosures. This continuing quality improvement ensures that the office is regularly reenergized with the best ideas and that stakeholders remain satisfied with the office work product.

Consideration should be given to exposing office staff to a broad range of related training. General sales and marketing techniques, as well as principles of customer service, are widely applicable. One- or two-day courses are generally available in major cities around the country. Thought should be given to establishing a regular education process for all members of the office to introduce new skills and refresh old ones. Getting out of the office and meeting individuals from other industries is useful, energizing, and good for morale.

The Internet provides resources in the form of listservs such as techno-L (<http://lists.ou.edu/archives/techno-l.html>) that provide a forum for technology transfer professionals to exchange questions and information. General business newsletters, such as from McKinsey or Recombinant Capital, and other newsletters from a broad range of industry sources, as well as specific industry Web sites, such as GenomeWeb (<http://www.genomeweb.com>) or information technology Web sites, can be helpful in monitoring the general environment and understanding the practice of deal making and technology transfer at all stages of the innovation process.

Professional Associations

The Association of University Technology Managers (<http://www.autm.net>) is generally regarded as the premier organization for academic technology transfer managers. AUTM

offers profession specific courses, publishes a newsletter and journal, and conducts national and regional meetings that offer the academic technology transfer manager courses at all levels of experience and aspects of the profession.

Other academic professional organizations, such as the Society of Research Administrators ([http:// www.srainternational.org](http://www.srainternational.org)), National Council of University Research Administrators ([http:// www.ncura.edu](http://www.ncura.edu)), and National Association of State and Land Grant Universities and Colleges (<http://www.nasulgc.org>), can be useful to technology transfer professionals. The Licensing Executive Society ([http:// www.usa-canada.les.org](http://www.usa-canada.les.org)) is another organization useful to academic technology transfer professionals. Both AUTM and LES have members from academia as well as industry who can enormously enhance the academic technology transfer members' depth and understanding of the profession.

The Council on Governmental Relations (<http://www.cogr.edu>) and the Association of American Universities (<http://www.aau.edu>), as well as the American Association of Medical Colleges (<http://www.aamc.org>), are professional organizations that provide thoughtful material and suggestions for policy as they relate to the practice of technology transfer in academic institutions.

Each member of the technology transfer office should be encouraged to become members of one of these organizations, participate, and learn.

Marketing and Communications

The technology transfer professional must develop a capacity to speak to each constituency in a way that is important to that audience (think customer here).

University administrators, senior management, and the board of trustees have invested resources in the technology transfer office. Regular communication with this group to inform them of the office's successes, in the context of the larger environment, and to inform them of important policy and legislative issues, is critical. Managing the expectations of this group is essential. The typical university technology takes ten years to fifteen years to produce income, if it ever does. At Stanford, one of the "granddaddies" of uni-

iversity technology licensing, only 31 cases have generated more than \$1 million or more in cumulative royalties. One in 4,850 has been a big winner.³

In fact, experience tells us that, on average, it takes up to ten years for an institution to obtain a positive rate of return. Around the world, the cost of an effective technology transfer system is about 1 percent of research and development. An invention disclosure rate of \$2 million to \$2.3 million of research per invention disclosure is remarkably consistent across the United States and around the world.⁴

Faculties, especially inventors, need to know about the progress of the office in general and their invention in particular. Getting out to departmental meetings, holding seminars, sending newsletters, or inserting articles in the institution newsletter are good general mechanisms to maintain interest, encourage disclosures, and give report cards. Meeting with inventors, copying them on correspondence, and including them in meetings ensures their greater cooperation and continued disclosure.

It is important as well that the technology transfer office relate effectively with offices of public and legislative affairs in the institution. Public affairs offices can be very helpful in getting attention for successful deals. This media exposure elevates the profile of the office, smoothing the way for interactions with potential licensees and investors. The legislative affair officer in the institution is a key member of the team in ensuring that local, state, and federal policies continue to support the technology transfer agenda of the institution.

Outside the institution, the office must cultivate a presence in its cities and regions, as well as with their potential licensees. Academic technology transfer is widely seen as the engine of economic development. The challenge for most technology transfer offices is balancing the large numbers of meetings and events held any year to promote new business and startups with the routine tasks of the office. A careful selection needs to be made to ensure that the technology transfer office obtains the optimal value for its participation to support its goals. Technology transfer officers should attend and participate whenever possible in meetings dedicated to bringing together sellers and buyers of technology.

Measuring Success

The highest marks of success go to the technology transfer office that can successfully communicate the ways it contributes to the goals of the institution to which it is related. Telling the story, the effect of university research on the public good, and the results of public investment in the university research infrastructure, must be a central component of the office communication strategy. Numbers alone will not do it, and, in fact, can become distracting. Being able to tell the story of the movement of an idea from the laboratory or clinic, through development, into a startup or license leading to a product or service is powerful. As it has matured, the profession is recognizing that the best statistics are those in support of a story leading to public good.

For eleven years, AUTM has performed an annual survey of academic technology transfer. The technology transfer office must be able to measure the amount of research dollars coming into the institution; the disclosures received; patents filed for and issued; and licenses, options, and startups formed. These national standards then become the norm against which the office is measured. Some offices, especially in the early years when deals have not yet come to fruition, measure the number of contacts with faculty members as a method of establishing that they are reaching out as well as reassuring themselves that they are seeking the first fruits of research: disclosures.

Other measurements include research support negotiated related to a licensing or option deal and numbers of confidentiality, material transfer agreements, and consulting agreements reviewed. Other metrics may be established in concert with faculty and administration and may include a satisfaction survey. The discussion of what metrics to be used is an opportunity to set expectations and market the office. The office may want to consider publishing a yearly report: This provides an opportunity to present results, set them in a national and international context, honor inventors, and create a public image.

Every technology transfer office exists in a continuously changing environment requiring flexibility and continuous learning and improvement. New technologies and new approaches to solving scientific problems are constantly appearing. Local, state, and federal governments continue to seek new ways to make use of intellectual assets to improve the economy and create jobs. Faculty members come and go. Professional develop-

ment, as noted earlier, should be a central and ongoing component of the operation of each office. A budget should be allocated for each member of the office to attend at least one annual meeting, appropriate to his or her job, for job-skill enhancement. More established technology transfer offices are also a great resource for one-day seminars and/or operations audits. Ongoing formal and informal dialog with customers is essential to ensure their needs are being met.

It is difficult to imagine a more exciting business than a well-run academic technology transfer office at the nexus of scientific discovery, business, and law.

Notes

1. Howard Bremer, National Association of State Universities and Land Grant Colleges, Nov. 11, 2001, Washington, D.C.
2. With permission taken from a presentation by James A. Severson, PhD, on the structure and function of technology transfer offices.
3. Mary Watanabe, "Stanford Office of Technology Transfer," Presentation to AUTM, 2003.
4. Tony Heher, Presentation to the First Globelics Conference, Rio de Janeiro, November 2003.

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