

Academic Librarians Creating Value through Commercialization Partnerships

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ABSTRACT

As higher education evolves and redefines how information is exchanged with industry, an increasing number of universities are creating and expanding technology transfer offices to commercialize faculty created intellectual property and promote innovation. This exchange fosters technology-based economic development and entrepreneurial success. Academic librarians at these institutions have a unique opportunity to serve as commercialization partners in these efforts, contributing to the work and creating greater visibility of the library within the campus community.

This paper focuses on how the University of North Texas (UNT) Libraries was able to develop a successful partnership with the UNT Office of Innovation and Commercialization (OIC) and move outside the Libraries' normal sphere of influence to help create a patent internship program for students. The author explains how this innovative partnership works and provides benefits for all parties involved. Best practices will be shared on ways librarians can develop similar initiatives in their own communities.

Keywords: academic libraries, collaboration, technology transfer, commercialization, partnerships, internships

BACKGROUND

In February 2016 the University of North Texas (UNT), a four-year public university, was designated a top-tier research university by the Carnegie Classification of Institutions of

Higher Education. Later that same year, UNT established the Office of Innovation and Commercialization (OIC) in an effort to further expand its research and innovation enterprise. The OIC is responsible for a variety of activities that promote economic development, including protecting and commercializing UNT's intellectual property through technology transfer. Generally speaking, technology transfer describes the formal process of transferring the rights to new university discoveries and innovations to industry for commercial development (AUTM, 2018). In order to facilitate these activities, many academic institutions establish technology transfer offices to accomplish this work and have ramped up their efforts in recent years (Perkman et al 2013).

Inspired by the University of Arizona Libraries' partnership with their campus technology transfer office (Dewland and Elliott 2015), UNT Libraries and the OIC began discussions in the summer of 2017 regarding the possibility of developing a collaborative patent internship program to support the office's technology commercialization efforts. Typically, internship programs of this sort are managed within a technology transfer office (Stewart 2013). However, since UNT's technology transfer unit within the OIC was rather small, a partnership with UNT Libraries was appealing because of the resources and support that the Libraries could offer.

In addition to the benefits OIC would receive from the internship program, the Libraries and UNT students benefitted as well. UNT Libraries had an opportunity to showcase their value in a new way by supporting campus

technology commercialization efforts. Such a partnership also gave the Libraries greater visibility within the campus community. Student interns were given the rare opportunity to gain specialized skills that were transferable, could help set them apart in the job market, and make them more valuable to future employers.

In summary, UNT Libraries and the OIC's Patent Internship Program set out to achieve the following objectives:

- Increase support of OIC technology commercialization efforts
- Increase the Libraries' visibility as a valuable campus partner
- Offer students the opportunity to gain valuable work experience

WHY COLLABORATE?

In May 2017 I joined UNT Libraries as their Business Librarian. One of the objectives within my position was to work collaboratively to develop innovative approaches to assist with research for the university community. At that same time, UNT Libraries had their eye on establishing creative partnerships that would promote the Libraries and its services across campus. Considering this information, both my supervisor and I felt that a collaboration between UNT Libraries and OIC could achieve these goals.

STARTING THE PROGRAM

In order to move the collaboration forward, my supervisor and I established an ad hoc library team to meet with OIC leadership. We used that meeting to further discuss the possibility of a collaborative internship program that would benefit all parties, especially students. Prior to the meeting, our team posed the following

questions:

- What is the anticipated duration of this need?
- Can this role be fulfilled by graduate or undergraduate student assistants?
- Can we retrain existing student employees of the Libraries to do this work, or will we need to hire new employees especially for this work?
- Will a regular work station space be needed to support these positions?
- How many student employees will be needed?
- What budget will be needed to support these positions?
- Is there a sense of anticipated demand for this support?

During the meeting, our team also learned more about the specific work these interns would be doing, which included prior art and market potential assessments for various university inventions. Prior art assessments involved searching for evidence indicating an invention had already been made available to the public prior to the effective filing date of a patent application. Market potential assessments involved considering whether an invention met a market need and its potential to successfully compete for customers.

Once we had a clearer picture of what a collaborative patent internship program with OIC might look like, our team set out to get buy-in from the Libraries' administration. I gave a presentation to our Libraries' Dean's Council, and we were given permission to move forward with the program. After a joint meeting between OIC and library leadership, an agreement was reached to evenly contribute student wage funding for two patent internship positions.

To become more familiar with technology transfer and what would be involved in supervising these interns, I signed up for the "Essentials Course" offered by AUTM, the member organization for university technology managers. The course provided foundational information on academic technology transfer and opportunities to practice assessing sample innovation cases. Other topics

covered in the course included market research, reaching potential partners, innovative transfer strategies, and licensing. Following the course, I had a much better understanding of the fundamental skills that would be necessary to support OIC's tech transfer unit.

Initially, our team thought we would hire one graduate and one undergraduate student intern. However, by the end of August, we were only able to identify one candidate with the background and experience required for the position. After a quick interview with myself and the Associate Vice President for OIC, the student was offered the position. Our first intern, a graduate student majoring in Electrical Engineering with a passion for technology, started in mid-September. In December, we identified our second intern for the program, an undergraduate student majoring in Mechanical and Energy Engineering who started work in January 2018.

PATENT INTERNSHIP PROGRAM OVERVIEW

UNT Libraries and OIC's Patent Internship Program is co-managed by OIC's Director of Licensing and myself. Working together, we identify suitable candidates for the program and coordinate our efforts to develop their skills so they are able to successfully complete assignments. The OIC Director of Licensing manages intern workload, assigns projects, and arranges for technical training. I supervise and mentor interns, offering administrative support, business experience, and research expertise.

The Patent Internship Program provides an opportunity for interns to learn about the patentability and other aspects of intellectual property (IP). Interns are also trained on how to market technologies to industry with the hopes of licensing the IP for development and commercialization. I educate interns on useful and important information sources, complex search strategies, and analytical and judicious evaluation processes that further develop their research and critical thinking skills.

Interns contribute to the analysis of various technologies, patents, markets

and industry relations in an effort to advise on the patentability and possible commercialization of IP owned by UNT. More specifically, they assist OIC in conducting patent research in public information databases and in scientific and technical literature. Interns research similar inventions, products, and ideas and advise on whether patent claims are currently predicted or practiced in the existing art.

Interns write technical reports based on their research for OIC staff to review, check, and verify their recommendations. Report information, data, and recommendations are supported by evidence from authoritative sources that are referenced throughout and cited at the end of each report. In addition, interns create marketing pieces to promote UNT technology and research to industry, identify relevant company contacts that might be interested in licensing the IP, and reach out to those identified under the direction of OIC staff and guidance from myself.

PATENT INTERNSHIP PROGRAM RESULTS

The program has not only achieved all of its objectives originally set forward at its formation, it has also exceeded expectations for all parties involved (UNT 2018). OIC was able to save valuable time and resources through the hard work of program interns and UNT Libraries was able to help advance important campus initiatives and prove itself as a trusted partner. Finally, UNT students were able to gain valuable work experience and specialized skills that they can leverage in today's competitive job market.

As a result of intern research and analysis, OIC was able to reduce expenditures on filing for patents with little commercial potential and increase staff outreach to researchers, leading to more disclosures. Royalty revenues from UNT technology licensed for commercialization in 2019 totaled \$425,000, a new record high for OIC (UNT 2019). Also in 2019, UNT faculty filed 44 disclosures of inventions and intellectual property with commercial potential, up from 7 in 2015. OIC leadership has indicated that student interns offered the same value or better

than regular paid professionals. OIC's Director of Licensing stated, "The quality of [the interns'] reports have been equal to or surpassed tech transfer assessment by industry consultants who do this every day. We were not expecting results of this caliber this quickly" (UNT 2018).

In addition, the internship program has given the Libraries the opportunity to help advance the research and student development initiatives set as high priorities for UNT. By handling administrative tasks associated with student employment, the Libraries allowed OIC the opportunity to focus on the work of their unit. This relationship also helped demonstrate the Libraries' capacity to be a trusted partner that can make meaningful contributions in new ways to the campus community. Lastly, the Libraries was able to go beyond offering internships to only Library and Information Science students, a model that can help contribute to the growth of similar programs at other institutions (Dahl 2011).

Student interns in the program are given the opportunity to work as a team, supporting the development of solutions to real-world problems through research innovation. The program offers interns experience that is broader than just the licensing

and marketing aspects of technology transfer: interns learn how to evaluate IP and industry research, write technology assessments that are helpful to industry, and analyze markets. They are assigned important and challenging work that enhances their communication, teamwork, and critical thinking skills – all skills that employers say are lacking in new college graduates (Hart Research Associates 2015). In the end, students acquire invaluable work experience that prepares them for career opportunities in technology transfer, patent law, marketing, venture capital, and private equity analysis.

After a successful 2.5 years, we are now in the process of moving the program under OIC entirely; I will be taking on more of a consultant role. In August 2019 UNT chose a new Vice President for Research and Innovation who is currently restructuring and expanding the division. As a result, the tech transfer unit is adding staff and additional space to their operations, so they are now in a position to take over all aspects of the internship program. Similarly, in my position as the Business Librarian, I have been expanding the reach of my services and now am physically embedded in UNT's G. Brint Ryan College of Business. Although I no longer have the resources to directly

supervise and mentor interns, I will continue to offer my research expertise when needed.

BEST PRACTICES

UNT's Patent Internship Program offers many best practices on how librarians can develop collaborative partnerships that support important community initiatives. First, librarians need to identify those initiatives that are top priorities within their communities. Paying attention to community leadership and strategic plans will help librarians stay informed of the top issues being considered. Once an initiative is identified, librarians can look for new ways to support it by considering partnerships with those involved in the initiative. Such partnerships help mitigate risks in new ventures (Lin and Darnall 2014) and offer an opportunity to improve the library's standing in the community (Serpico 2016). Collaborative partnerships, like the one at UNT, require an open mind, flexibility, and responsiveness to change. Although failure may be a possibility, it should not deter creative attempts to solve problems.

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