

For Fun and Profit: Supporting Research Commercialization with Interdisciplinary Liaison Teams

*Franklin Sayre, Caroline Lilyard, and Mary Schoenborn**

Commercializing research is an inherently interdisciplinary activity that requires many different types of expertise to bring innovations from the bench to the market. Academic libraries and librarians have much to contribute to this process, including subject expertise, collections, and services. In this paper the authors describe an innovative support model that mirrors the interdisciplinary nature of research commercialization by forming a core team of science and business liaisons with support from other library experts when necessary.

Utilizing this interdisciplinary model the authors have been able to successfully support a large research commercialization initiative. Taking full advantage of the expertise that each liaison develops about the disciplines they support, this model facilitates the essential task of translating between different disciplinary languages, and has allowed us to provide personalized services at a reasonable cost of resources and staff time. This has led to a number of benefits, including increased relationships with key stakeholders in the university's technology transfer and commercialization programs, increased exposure for the University Libraries with research faculty, and opportunities to work together in new and exciting ways.

Our goal in this paper is to provide a roadmap for librarians interested in supporting research commercialization at their own institutions. First, we discuss the technology transfer and research commercialization landscape at major research institutions. Second, we describe our value proposition or what value we believe libraries and librarians can add to the research commercialization process. Finally, we discuss the interdisciplinary model we've developed using a large health science commercialization project we've been supporting at the University of Minnesota (UMN) for the last two years as a case study.

Background

We conducted a review of the Library and Information Science (LIS) literature looking specifically for literature about academic libraries directly supporting research commercialization. While there has been an increase in academic library activity supporting entrepreneurship, primarily in conjunction with campus business school programs,¹ the same was not true for formalized technology transfer and commercialization efforts on campuses, with a few notable exceptions.

Elliott, Dewland, Martin, Kramer, and Jackson (2017) describe the Business Intelligence Unit, an initiative developed in partnership with the campus commercialization unit. The library provides business, scientific and patent research to support the development of university research with potential commercial value. Projects are interdisciplinary, but 70% of the projects the unit worked on had a biomedical component. Their team consists of an agile group of library subject specialists with expertise in engineering, biomedicine, market research, com-

* *Franklin Sayre is Pharmacy Librarian at the University of Minnesota, fdsayre@umn.edu; Caroline Lilyard is Business and Global Studies Librarian at the University of Minnesota, lily@umn.edu; Mary Schoenborn is Liaison at Humphrey School of Public Affairs & Carlson School of Management, hawki003@umn.edu.*

petitive intelligence, and others.² Many of the challenges faced by the Arizona team resonated with our team at the University of Minnesota.

In a 2010 article Kathryn Fitzgerald, Laura Anderson & Helen Kula describe how the University of Toronto Libraries partnered with the University's MaRS Discovery District, an entrepreneurship hub, to provide a business intelligence service aimed at local entrepreneurs and members of the university community. Librarians are embedded on site and provide access to market research and business planning resources.³ The University of Toronto also has an Entrepreneurship Librarian who supports entrepreneurship across campus.⁴

Finally, literature also addresses practical requirements of licensing electronic resources when working in the commercialization and entrepreneurship space. With the increased range of interest in entrepreneurship in academic settings, the question of how library licensed content aligns with acceptable use contract language may be questioned. Aagaard and Arguello (2015) offer a practical roadmap for librarians detailing fundamental licensing concept compliance in the context of entrepreneurial use.⁵ We discuss resource licensing for research commercialization in a later section.

The Research Commercialization Landscape

In this section we discuss the commercialization landscape at research institutions using examples from the University of Minnesota. We expect that most institutions will have similar units and that this section can serve as a roadmap for understanding the stakeholders with which libraries may want to partner. Commercialization and technology transfer stakeholders at research institutions typically involve several entities: technology transfer units (which evaluates intellectual property and provides an avenue for moving innovation to the market by developing startups or licensing), academic programs (e.g., business schools, health sciences programs, engineering programs), disciplinary centers and institutes that promote innovation, and specialized interdisciplinary commercialization programs that support the development of innovations and help move them into the market.

The 1980 Bayh-Dole Act allowed universities to directly engage in research commercialization by “enabling universities to retain title to inventions and take the lead in patenting and licensing groundbreaking discoveries.”⁶ The act allowed universities to file patents on intellectual property created from federally funded research programs. Since the Bayh-Dole Act was signed into law academic institutions have seen a significant increase in technology transfer activity. For example, before 1980, fewer than 250 patents were issued to U.S. universities each year and discoveries were seldom commercialized for the public's benefit. In contrast, in fiscal year 2014, Association of University Technology Managers (AUTM) members reported that 6,363 U.S. patents were issued, 5,435 new license agreements were signed, 23,526 total US patent applications were filed, 914 startups were formed, and 965 new commercial products were developed.⁷

Technology transfer units promote and support the commercialization of intellectual property developed at universities. At the University of Minnesota, The Office for Technology Commercialization (OTC) “oversees all aspects of technology commercialization at the University, bridging the gap between the lab and the marketplace to connect faculty with companies to achieve results.” (<http://www.research.umn.edu/techcomm/about.html>) These units work with academic programs to identify potentially commercializable research, help file patents for intellectual property, seek partners to license university intellectual property, and support all other aspects of campus research commercialization. As part of their mission these units generate revenue for the university and support broader economic development.

Some smaller institutions participate in statewide coalitions to facilitate technology commercialization. Examples include The University of Maryland's Office of Research Innovation and Entrepreneurship which lists

University and outside entities partnering to encourage innovation.⁸ Dartmouth established the Office of Entrepreneurship and Technology Transfer (OETT) for the Dartmouth community in the areas of entrepreneurship, intellectual property and technology commercialization.⁹ These collaborations create an infrastructure that allows smaller institutions to benefit from the commercialization process.

Many disciplines have centers and institutes designed to promote innovation and feed into the larger commercialization infrastructure. These entities coordinate efforts and resources to conduct research, provide education, and promote technology transfer to industries, among other goals. For example, the Medical Devices Center at UMN provides a prototyping facility lab and immersion education programs for students and faculty looking to develop medical devices.

Academic programs are stakeholders in two main ways. Some programs, especially business and entrepreneurship programs, directly support research commercialization. The UMN Carlson School of Management (CSOM) for example, offers an entrepreneurship degree program, courses on startup development, day long Commercialization Bootcamps, and Value Proposition Workshops for specific disciplinary areas such as biotechnology and engineering. Other academic programs, especially in the applied sciences, are sources of research and may be partners of centers and interdisciplinary programs that support commercialization.

Interdisciplinary commercialization programs and initiatives, often grant funded, attempt to pull together stakeholders in order to promote commercialization and provide needed infrastructure. This creates a synergy by bringing together academic programs, centers and institutes, technology transfer units, and outside consultants and investors. The national NSF Innovation Corps, known as I-Corps, provides entrepreneurship training and guidance via a targeted curriculum taught by established entrepreneurs. I-Corps programs “help researchers translate discoveries into technologies with near-term benefits for the economy and society.”¹⁰

Min-Corps, or Minnesota Innovation Corps, is the University of Minnesota’s I-Corps program. It is a joint initiative of the College of Science and Engineering, the Office for Technology Commercialization, and the Holmes Center for Entrepreneurship at the Carlson School of Management. These stakeholders collaborate to provide business development education and support STEM students and researchers. A major goal is to connect with researchers early in their career and mentor them through the commercialization process.¹¹

Value Proposition: What Libraries Can Bring To Research Commercialization

“In its simplest terms, a value proposition is a positioning statement that explains what benefit you provide for who and how you do it uniquely well.”¹²

In this section we describe what we believe academic libraries’ value propositions are when engaging with stakeholders in research commercialization. We have grouped these together under the themes: navigating the information landscape, collections and licensing, and innovative spaces. We also attempt to cover some of the resources we’ve found valuable and some of the issues we’ve experienced in this section.

Navigating the Information Landscape

“While many of us continue to think of the library as a building containing shelves full of books, in fact it is a value-added data center that you may never physically enter. The value-add comes in two forms: Information in the form of articles, reports and databases worth many thousands

of dollars—way beyond what can be obtained via Google, or what any individual research project or startup could afford.[and] Navigation in the form of advice from research librarians who understand the sources, quality and structure of the data.”¹³

Most academic libraries have liaisons with deep subject expertise assigned to each major discipline. In our experience liaison’s expertise is valuable in two main ways. First, researchers working on commercialization are often not subject experts in the field where their innovation will be applied and therefore a liaison’s subject expertise can serve as a source of information and a guide to navigating a new discipline. For example, a materials engineering researcher may be developing a medical device and a health science liaison will be able to guide them to high-quality evidence-based research. This is especially important when it comes to information about the market and other types of business information which very few researchers will have experience with and where liaisons can provide significant expertise and support.

Second, liaisons are able to use their subject expertise in order to help each other understand researcher’s complex and multifaceted information needs. This translational work is essential for the type of interdisciplinary information needs that are common in research commercialization. Researchers involved in commercialization often need subject specific information (e.g. health science, engineering), business information, patent searching, regulatory information, reimbursement information, and information about competitors and potential customers.

Specific types of information that we’ve found useful in supporting health science research commercialization include business, industry, market, and clinical information.

Market and industry reports tend to be the most helpful in identifying trends, competitors, as well as a general overview of the environment within which the researcher’s innovation falls (e.g. exoskeletons, diabetes treatment, heart stents). Faculty research is by definition innovative, so extrapolation is often required in order to identify where an innovation falls within the market landscape. A subject liaison proved valuable in this context to help explain where the innovation fit into the current landscape.

Market reports in the medical area are a critical resource for creating a market analysis for faculty researchers because they cover the broad landscape, global and national market size and forecasts, sales distribution, corporate profiles, and identify the state of the art and other important information. Industry reports provide a current summary of the industry, performance and outlook, the lifecycle of the industry, products, markets, competitive landscape, competitors, operating conditions and key statistics. Customer discovery is often generated from company directories by determining the industry type and then creating a list of similar companies by revenue or employee size. These lists also help with the requirement that applicants talk to people who work in the relevant industry. Finally, pipeline and regulatory information is critical in determining the current state of innovation and the rules and regulations in effect.

Another type of information we found valuable while working with researchers developing healthcare or medical innovations is basic clinical information, especially for researchers who were not from the clinical sciences. For example, epidemiology often proves essential for determining potential market size, current treatment protocols help determine where an innovation fits into the current therapy, and information on the adverse effects help researchers see how innovations would be framed against current practice.

Finally, experience shows a range of other information may also be valuable when supporting commercialization. Of the information types listed in the final section of the table 1, statistics, government documents, state and federal laws, and policy materials are most often required. Another common area of interest is patent searching, however, as this is a complex and highly specialized area of information, we currently point researchers to

licensed and freely available sources of patent information, and encourage consultation with patent experts. Technology transfer units frequently have their own patent experts who do patent searches when necessary.

TABLE 1
Types of Information Valuable When Supporting Commercialization

Business/Market Information
• Customer discovery
• Market analysis
• Competitor analysis
• Company financials
• Pipeline and regulatory compliance
• Business plan development
• Royalties
• Advertising and promotion
• Supply chain / procurement
• Corporate & Industry News
• Industry Contacts
Clinical and Health Science Information
• Background information
• Treatment guidelines
• Epidemiology
• Statistics
• General health information
• Drug prices,
• Procedure costs,
• Major side effects
Other Sources of Information
• Cultural competencies
• Patents
• Government documents
• Statistics
• Mass media
• Free media/graphics for use in promotional materials
• Finding collaborators (Experts@Minnesota, etc.)
• Grey literature searching
• General literature searching
• GIS / Mapping
• State & Federal Laws
• Policy documents

There are a number of ways librarians can support faculty involved in research commercialization which will be familiar to any librarian supporting faculty and students. Liaisons can work individually with researchers to help them find and use information resources, either during as-needed consultations or by being embedded as part of interdisciplinary teams. We discuss our own experience providing mediated and embedded support for research commercialization in the case study section of this paper, but as this is a high-investment role, embedded librarians need to consider the time required and the return on investment their libraries would get from this work.

Librarians can also scale their services when possible by providing instruction to larger groups by partnering with technology transfer units, centers, and interdisciplinary commercialization programs. For example, technology transfer units often hire students to do basic research, and libraries could be involved in training those students or other staff members. Other university units involved with commercialization hold regular workshops where librarians could provide instruction on library resources and research methods. These workshops are often a good opportunity to connect applicants to liaisons and network with stakeholders in research commercialization.

Expertise with Collections & Information Resource Licensing

Academic libraries are recognized for their expertise in selecting, evaluating and negotiating information resources. Librarians use subject expertise along with objective resource evaluation methods and tools to identify gaps in local academic and disciplinary resource needs, then negotiate license agreements that adhere to core principles of broadest possible benefit to the entire campus community, including those researchers with entrepreneurial aspirations.

Because the library licenses collections for campus use, most resources are available to all staff and students, including the technology transfer office. At

UMN the library has a history of collaborating with this office to meet shared collections needs for research by taking a lead role in negotiating licensing terms and cost sharing for higher cost content. Further, subject liaisons collaborate when demand for business resources arises in other academic areas, taking the lead to ensure researchers have the resources they need. Recognizing campus research priorities and providing coordinated, cost-effective access to needed collections are key strengths the library brings to campus commercialization and entrepreneurship efforts.

One potential issue that may come up when working in the research commercialization space involves non-commercial clauses in licenses. Academic library licenses include terms about authorized use and users of licensed resources. For purposes of the relationship between commercialization activities and use of library-licensed resources, confusion tends to arise in how best to define and address the requirement of what constitutes authorized use with regard to standard non-commercial use clauses found in most license agreements.

Understandably, both database vendors and librarians view authorized uses and users as important and critical contract terms because they are designed to protect intellectual property rights. Librarians recognize their importance and seek a balance with content access needs for research purposes. To aid this work, various national library groups have developed model license language that adheres to library principles while also recognizing concerns of vendors. One such model, first developed in 1997, and most recently updated in 2014, is LIBLICENSE, a project supported by higher education consortial organizations. Here, the model language helps clarify the question of commercial use:

“4.3.d. Restrictions. Commercial Purposes. Other than as specifically permitted in this Agreement, Licensee may not use the Licensed Materials for commercial purposes. This restriction expressly prohibits the Licensee from selling Licensed Materials. For the avoidance of doubt, research conducted by Licensee and Authorized Users that is supported by a commercial entity shall not be considered use for commercial purposes.”¹⁴

Terms of use do vary among vendors and ambiguity may remain around definitions of appropriate use and users. Again, experience demonstrates that a factor that can alleviate negative impacts when issues of use and users arise is having excellent working relationships between vendors and librarians. It is often through these relationships that clarity evolves and mutually beneficial licensing compliance solutions result.

Innovative Spaces

Many academic libraries have recently transformed their spaces and services, creating collaborative workspaces, makerspaces, video studios, and data visualization services that could potentially benefit research commercialization. Conversely, we believe that information services developed to support commercialization initiatives could frequently benefit those using many of these new spaces and services.

Commercialization, entrepreneurship, and innovation are conceptually and pragmatically linked. Conceptually all three focus on identifying pragmatic solutions to real-world problems, with ‘commercialization’ being the most narrowly defined and having the clearest outcomes and ‘innovation’ being the most broadly defined and having the least clear outcomes. Pragmatically all three often involve interdisciplinary teams and require access to information about current practices, potential customers, and market conditions.

For example, a library makerspace could be used to create prototypes or models; video production spaces created to help faculty or students record lectures or assignments can be used to create pitch video for a crowd-funding sites; technology spaces can be used to create websites, graphics, or give access to technologies (e.g. virtual reality,

3D modeling, data visualization) that innovators might not otherwise be able to access. Conversely, students or faculty working in innovation spaces may benefit from learning about other products or gaps in the market, and help determining market size and potential customers for ideas or products they are beginning to explore.

Other space considerations include the possibility of creating spaces that meet the needs of individuals and groups involved in commercialization and entrepreneurship. Some of this may simply be an exercise in branding spaces as being part of an innovation, entrepreneurship, and commercialization services. This branding of spaces could pull in university members who otherwise might not connect with our information-related services. Finally, as libraries typically serve as a neutral space on campus, they are natural places to bring together the type of interdisciplinary teams from across campus that are involved in commercialization.

Case Study: Minnesota Research Evaluation and Commercialization Hub (MN-REACH)

The Minnesota Research Evaluation and Commercialization Hub (MN-REACH) is an example of an interdisciplinary commercialization program. One of three such hubs funded by the National Institute of Health (NIH), these centers promote research commercialization and address the problem of moving health innovations to the market where they can have the greatest impact. REACH sites are tasked with developing programs that identify and develop innovations that possess commercial potential as well as developing a robust local infrastructure to support research commercialization. Each site was awarded a three-year grant with \$3 million dollars provided by the NIH and \$3 million dollars in matching funds from partner institutions. Successful applicants are awarded grants of up to \$150,000 to support their innovation.¹⁵

MN-REACH has three grant cycles each year and uses a project management model that incorporates coaching and mentorship.¹⁶ Each cycle has two stages. In the first stage interested researchers submit a short pre-proposal that is evaluated by the internal MN-REACH team. Successful applicants are then invited to be part of the second phase and submit a full proposal. During the second phase they receive considerable coaching and support, attend a series of mentorship meetings and four value proposition workshops led by faculty from the Carlson School of Management's Holmes Center for Entrepreneurship.

Final applications are submitted to an External Review Board made up of business leaders from the local community. This external committee selects applications they think are most likely to succeed and best positioned to take advantage of grant funds. A review committee at NIH then approves applicants and provides feedback.

Library Support for MN-REACH

After an initial meeting with the MN-REACH team we agreed to a pilot project in which the library would provide tailored information to each applicant. Initially we did this by creating branded reports with set types of information for each applicant. These reports were broken into sections for clinical information, patent information, and market information, with subsections for each type of information (e.g. epidemiology, market reports, etc.).

Our core team was made up of three librarians (the authors) whose liaison areas included Health Science, Business, and Public Policy. In planning how we were going to work with applicants we developed an interdisciplinary model that respected the disciplinary expertise of each liaison while allowing us to work together to translate between disciplinary languages.

The core need of applicants was to assess and synthesize business information in order to develop their application. This involves placing their innovation in the existing marketplace and explaining how it would benefit

healthcare consumers over existing products. The business librarians provided market reports, industry reports, and a customer and competitor finding aid. Then in response to researcher needs they provided tailored information and other pertinent intelligence outlining the landscape of the innovation.

As this initiative was specific to innovations that could have an impact on health, a health science librarian was also involved and led the project implementation. This person had two roles within the team. First, they would provide high quality evidence-based health science information to applicants in order to help them understand how their research would fit into the healthcare environment. The types of information this person most frequently provided included current treatment guidelines and protocols, information on adverse effects and failure rates for current therapies, costs of current therapies, and epidemiology.

Second, the health science liaison helped explain the science behind the innovation and translate the often arcane clinical terminology into business language in order to improve the accuracy of the market and business information they provided. One example of this was explaining the difference between large and small molecule drugs, a difference that seems small but often results in different pictures of the market.

The formalized reports we created during the pilot were well received, but in subsequent rounds we moved away from that model. The reports required significant work to format and in our experience faculty respond better to personal communications than branded communications. Most importantly, it became clear that each applicant's needs were too heterogeneous to fit into an information template. Applicants differed in disciplinary background, experience with commercialization, and point in the commercialization process. Instead we adopted a more personal and flexible approach based on individual needs.

Our intent with library support was not to teach scientists the myriad of business and clinical research tools, rather, in collaboration with the MN-REACH project team, our goal was to identify the specific clinical and business research needed to build a strong application. Thus, the model focuses on delivering mediated research support. We always provided market reports where possible and then send individual emails from each liaison with information identified in the intake meetings, during workshops, and through personal communications with the applicant or other members of the MN-REACH team.

One of our team would attend the applicant intake and mentorship meetings in order meet the applicant and understand the information need. Most frequently this was the health science liaison as he had the disciplinary understanding to best translate what he learned to the other librarians. These meetings were also an opportunity for the applicant to meet one of the librarians and to see we were embedded members of the team. Furthermore, during these meetings the innovation and potential market often changed based on feedback from the rest of the team and being in the room let us capture these changes.

Other librarians and library staff provided expertise as needed. Liaisons from the health sciences did some of the searching for applicants within their liaison areas. Our research services librarian provided links to the University of Minnesota's Elsevier Pure system (Experts@Minnesota) system so applicants could find potential people to interview about how their innovation would be utilized.¹⁷ Support staff assisted with finding market reports and with some of the formatting during the initial pilot when we were still using formalized reports.

Applicants from the basic or applied physical sciences often needed extensive clinical information, while applicants who were clinicians often did not need any clinical information. For example, a material's engineering researcher is unlikely to know much about medicine or healthcare, including basic definitions, epidemiology, and current therapy. These applicants benefit from basic medical information, especially evidence based overviews of the condition, information on current treatment protocols, and epidemiology. Conversely, applicants who are clinicians and experts in their field often already know this information and wouldn't need our help finding high quality sources.

Finally, needs often changed as applicants moved through the intake and coaching process and gained an understanding of their product, the market, and the regulatory process. Often the target market completely changed during the intake process as the applicant learned what was and wasn't possible and which market segments or populations were the best bet for initial commercialization. Because of this it didn't make sense to act on the applicant's initial application until these issues were clarified.

There were also four Value Proposition Design workshops (see table 2) hosted by the Carlson School of Business during each MN-REACH cycle that were aimed at familiarizing faculty with the concepts of business development. Librarians attended each value proposition workshop, and were frequently mentioned as the content experts on the topics covered. When appropriate, we worked with teams or fielded individual questions. We created webpages with relevant sources based on the workshop topics and also presented to the groups. The websites included sources noted in the information types section above.

TABLE 2	
Value Proposition Workshops	
Workshop 1: Product-Market Fit	
• Customer segments	
• Value proposition canvas	
• Preparing for customer discovery	
Workshop 2: Customer Discovery	
• Market definition and segmentation	
• Customer discovery methodologies	
• Project-specific application of tools and skills to implement customer discovery	
Workshop 3: Pathway to Commercialization	
• FDA Approval	
• Technology Adoption	
Workshop 4: Market Assessment	
• Sizing a potential market using secondary and primary sources	
• Competitive assessment	
• Update on tech commercialization practices and commercialization research funding	

Conclusion

Supporting research commercialization offers a number of direct benefits to libraries and librarians. It provides a novel way of supporting researchers, many of whom are basic scientists who are difficult to reach through traditional library services such as instruction and research support. The interdisciplinary nature of research commercialization means that librarians are able to provide focused, high value information to users who are often not subject experts within the areas they are operating.

Furthermore, in our experience many of the researchers who are best placed to commercialize their researchers are chairs of departments, hold administrative positions, or run large labs. Thus researchers involved in commercialization are often highly placed and can therefore become excellent advocates for the library. Furthermore, through our work with research commercialization we have had opportunities to support many other researchers and students not currently part of a research commercialization initiative at our institution. This project has also led us to begin to reevaluate how we support entrepreneurship

and social entrepreneurship, which opens up important opportunities to support initiatives that improve society.

Finally, commercialization of faculty and graduate student innovations holds increasing importance to many academic institutions as a recognized revenue stream and a way of demonstrating the impact of academic research to both funders and the public at large. Most importantly, bringing an innovation to market is often the only real way to impact the health of large numbers of people and libraries can be instrumental in supporting this process.

Notes

1. Cory Seeman, January 25, 2017, posted “CFP: Academic Libraries Supporting Entrepreneurship Symposium,” *A Writer’s Library Blog* CFP: Academic Libraries Supporting Entrepreneurship Symposium, November 16, 2016, <http://librarywriting.blogspot.com/2016/11/cfp-academic-libraries-supporting.html>
2. Elliott Cynthia, Jason Dewland, Jennifer R. Martin, Sandra Kramer, and John J. Jackson Sr. “Collaborate and Innovate: The Impact of Academic Librarians on the Commercialization of University Technology.” *Journal of Library Administration* (2016): 1-13.
3. Fitzgerald, Kathryn, Laura Anderson, and Helen Kula. “Embedded Librarians Promote an Innovation Agenda: University of Toronto Libraries and the MaRS Discovery District.” *Journal of Business & Finance Librarianship* 15, no. 3–4 (June 30, 2010): 188–96. doi:10.1080/08963568.2010.487689.
4. Toane, Carey. Kim, Christina, Figueiredo, Rachel, January 12, 2017, posted “Startups in the library: supporting campus entrepreneurs.” *Ontario Library Association*, December 1, 2016 <http://www.open-shelf.ca/161201-ocula-entrepreneur-librarians/>
5. Aagaard, Posie and Arguello, Natasha Z. “Practical Approaches to Compliance for Entrepreneurial Uses of licensed Databases in Libraries,” *Reference Services Review* 43(3): 419–438, accessed January 31, 2017, doi: 10.1108/rsr-03-2015-0016.
6. “Bayh Dole Act,” Association of University Technology Managers, accessed November 28, 2016, <https://www.autm.net/advocacy-topics/government-issues/bayh-dole-act/>
7. “University Technology Transfer, Benefits People, Society and the Economy.” AUTM. March 2015. Accessed November 28, 2016. http://www.autm.net/AUTMMain/media/About/Documents/AUTM_Infographic_FY2014.pdf.
8. “Innovation and Entrepreneurship,” University of Maryland Division of Research, accessed December 5, 2016, <http://www.research.umd.edu/innovation>
9. Dartmouth Office of Entrepreneurship & Technology Transfer, accessed December 5, 2016, <http://www.dartmouth.edu/~oett/tt/>
10. NSF Innovation Corps (I Corps), accessed December 8, 2016, https://www.nsf.gov/news/special_reports/i-corps/
11. MIN Corps. Minnesota Innovation Corps, accessed January 30, 2017, <https://mincorps.umn.edu>
12. Michael Skok, 4 Steps to Building a Compelling Value Proposition. *Forbes*, June 14, 2013.
13. Pavone, Carla. January 31, 2017, posted “Libraries as Strategic Partners,” *MIN-Corps Blog*, February 28, 2016, https://mincorps.blogspot.com/2016_02_01_archive.html
14. “Model Licenses,” LIBLICENSE: Licensing Digital Content, last modified May 3, 2015, accessed January 20, 2017, <http://liblicense.crl.edu/licensing-information/model-license/>
15. “NIH Selects Awardees to Help Speed Development of Health Technologies,” last modified March, 23, 2015, <https://www.nih.gov/news-events/news-releases/nih-selects-awardees-help-speed-development-health-technologies>
16. “MN-REACH Submitting a Proposal,” accessed January 20, 2017, <http://mn-reach.umn.edu/content/submit-proposal>
17. “Experts@Minnesota,” accessed January 20, 2017, <https://experts.umn.edu>

Bibliography

- Aagaard, Posie, Natasha Z. Arguello. “Practical Approaches to Compliance for Entrepreneurial Uses of Licensed Databases in Libraries.” *Reference Services Review* 43(3): 419–438, accessed January 31, 2017. doi: 10.1108/rsr-03-2015-0016.
- “Bayh Dole Act.” Association of University Technology Managers. Accessed November 28, 2016. <https://www.autm.net/advocacy-topics/government-issues/bayh-dole-act/>.
- “Dartmouth Office of Entrepreneurship & Technology Transfer.” Accessed December 5, 2016. <http://www.dartmouth.edu/~oett/tt/>.
- Elliott, Cynthia, Jason Dewland, Jennifer R. Martin, Sandra Kramer and John J. Jackson Sr. “Collaborate and Innovate: The Impact of Academic Librarians on the Commercialization of University Technology.” *Journal of Library Administration* (2016): 1–13.
- “Experts@Minnesota.” Accessed January 20, 2017. <https://experts.umn.edu>.
- “Innovation and Entrepreneurship.” University of Maryland Division of Research, Accessed December 5, 2016. <http://www.research.umd.edu/innovation>.
- “MIN Corps. Minnesota Innovation Corps.” Accessed January 30, 2017. <https://mincorps.umn.edu>.
- “MN-REACH Submitting a Proposal.” Accessed January 20, 2017. <http://mn-reach.umn.edu/content/submit-proposal>.
- “Model Licenses.” LIBLICENSE: Licensing Digital Content.” Last modified May 3, 2015. Accessed January 20, 2017. <http://liblicense.crl.edu/licensing-information/model-license/>.

- “NIH Selects Awardees to Help Speed Development of Health Technologies.” Last modified March, 23, 2015. <https://www.nih.gov/news-events/news-releases/nih-selects-awardees-help-speed-development-health-technologies>.
- “NSF Innovation Corps (I Corps).” Accessed December 8, 2016. https://www.nsf.gov/news/special_reports/i-corps/.
- Pavone, Carla. January 31, 2017. Posted “Libraries as Strategic Partners.” *MIN-Corps Blog*. February 28, 2016. https://mincorps.blogspot.com/2016_02_01_archive.html.
- Seeman, Cory. January 25, 2017. Posted “CFP: Academic Libraries Supporting Entrepreneurship Symposium.” *A Writer’s Library Blog*. November 16, 2016. <http://librarywriting.blogspot.com/2016/11/cfp-academic-libraries-supporting.html>.
- Skok, Michael .4 Steps to Building a Compelling Value Proposition. *Forbes*, June 14, 2013.
- Toane, Carey, Christina Kim, Rachel Figueiredo. January 12, 201. Posted “Startups in the Library: Supporting Campus Entrepreneurs.” *Ontario Library Association*. December 1, 2016. <http://www.open-shelf.ca/161201-ocula-entrepreneur-librarians/>.
- “University Technology Transfer, Benefits People, Society and the Economy.” AUTM. March 2015. Accessed November 28, 2016. http://www.autm.net/AUTMMain/media/About/Documents/AUTM_Infographic_FY2014.pdf.