

Dealing With University Intellectual Property



Growing Your Business

RIC Centre

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IP and Commercialization Stats for Canadian Universities (AUTM 2009)

- 1,921 invention disclosures received
- 872 new patent applications filed
- 62 new commercial products created
- 48 new companies formed (90% located in the institution's province)

Cost of Research and Commercialization in Canadian Universities (AUTM 2009)

- C\$ 5.8 billion in sponsored research expenditures (45% from Federal Government)
- A PI receives about \$160 thousand a year in research money (on average), but it varies widely
- In Canada, an invention disclosure costs about C\$ 3 million (on average), but it includes basic research
- About 15% of invention disclosures are considered candidates for commercialization

Common Types of University IP (or Barriers to Competition)

1. Patents (IP): A patent gives the holder the right to **STOP OTHERS** from practicing the invention (for commercial purposes). Patent lasts 20 yrs (5yr extension possible), but may take up to 5 yrs to issue.... Implications for different types of tech businesses (eg. IT vs. Biotech)
2. Know-how: “Tricks of the Trade”
3. Proprietary Material: Difficult to reproduce
4. Trade Secret: Just don’t tell anyone (like secret sauce, or KFC’s seasoning)

IP Strategies for Technology Sectors

- ✓ Depends on many factors.
- ✓ Factors may include but are not limited to: business model, development timelines, technology type, etc.

IP Strategies for Technology Sectors

- ✓ Life Sciences: *Long development timelines, high development costs, complex biologically-based technologies*
- ✓ Common strategies include:
 - Patents: address cost and time risk
 - Proprietary material: “irreproducibility” complex nature of biological systems and the need to characterize every new model
 - Know how: complex systems are not easily reduced to a “recipe” that can be simply reproduced

IP Strategies for Technology Sectors

- ✓ Physical Sciences: *Medium to long development timelines, medium to high development costs, complex technologies*
- ✓ Common strategies include:
 - Patents: address cost and time risk
 - Trade secret: address the reproducibility, and IP enforcement/ infringement detection risk

IP Strategies for Technology Sectors

- ✓ *ICT: Short to medium development timelines, low to medium development costs, very big “first mover” advantage*
- ✓ Common strategies include:
 - First to market
 - Patents: address opportunity risk (defensive)
 - Trade secret: address the reproducibility, and IP enforcement/ infringement detection risk
 - Brand development (Trademark)
 - Copyright: Source code and content
 - Know how: advanced programming techniques and strategies

Starting Companies based on University Intellectual Property

- Greater chance of success when a non-academic entrepreneur is involved as the business person
- Be aware of possible conflicts of interest and of the researchers' expectations
- University Tech Transfer Offices can be helpful to startups in obtaining funds from public sources
- Some key issues to be understood by the startup:
Authorship, Inventorship, Ownership, Revenue

Starting Companies based on University Intellectual Property

- Authorship vs. Inventorship: Not all authors on a manuscript are necessarily inventors.
- Ownership vs. Revenue: A technology could be owned solely by a specific party, but revenues can be shared by many parties (including non-owner parties too).

Working With Universities To Create New Intellectual Property (1)

- University research primary goal is to advance general knowledge in the academic, scientific or professional community, predicated on new untested hypotheses.
- Research Grant - lower overhead rate, and there are no inherent IP rights to company
- Collaborative Research - higher overhead rate, company can pre-negotiate some IP rights
- There are different types of IP rights: right of first refusal, option to license, non-exclusive royalty-free license

Working With Universities To Create New Intellectual Property (2)

- Service Contract - aims to solve a specific technical problem put forward by the company
 - The intellectual property belongs to the company
 - Overhead rate is fully burdened (40% or more)
- Fee-For-Service Contract - typically aims to allow the company to have access to specialized equipment
 - Paid by the hour, may include operators
 - No IP involved, but if any, it belongs to the company

Working With Universities To Create New Intellectual Property (3)

- Consulting Contract
 - Is a personal contract with the researcher, not with the University
 - Contract does not give automatic access to university resources and facilities
 - Contract does not bind the University background IP, and neither future University IP

Dealing With Universities

- Incentives For Partnerships

- There are sources of capital from government programs that are non-dilutive
- In some government programs, the intellectual property is owned by the company
- Matching funding programs: NSERC (I2I, Engage, Strategic), FedDev, OCE, IRAP, etc.
- R&D tax credit programs: SRED, OITC, OBRI, etc.

Universities Aim To Commercialize Their Intellectual Property

- Federal and provincial government innovation agendas drive commercialization efforts
- Most universities have Tech Transfer Offices (TTO) to promote commercialization
- In Canada, each university has its own intellectual property (IP) policies, but statistically these do not determine success
- Commercialization activities are not profitable for most universities worldwide

Dealing With Universities

- Tips for Success

- Find a champion, either a researcher or someone at the TTO
- Check university and government websites for opportunities
- Learn about current events, and sign onto mailing lists
- Attend university workshops and conferences
- Hire graduate students, co-op students or summer students

Dealing With Universities

- Tips for Survival

- Realize that there are no low-hanging fruit
 - If it is too good to be true, it probably is
- Choose projects off the company's critical path
 - Be sure that no more than one miracle is required
- Negotiate a fair and reasonable contract upfront
 - Good fences make good neighbours
- Be aware that you are dealing with a career academic
 - Interests may not be completely aligned with your company's interests

Thank you!

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