Copyright within the Context of University Technology Transfer:

Implications for Policy and Management

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First, the Conclusions

- University technology transfer has been conceptualized in terms of a patent-centric, linear model
  - Not in terms of maximizing the dissemination of knowledge and commercialization

- However, tech transfer is a social phenomenon; facets of the current model often gets in the way
  - An ‘ecosystem approach’ is needed

- No research exists within the economics or policy literature relating to copyright (or other IP mechanisms) within the university context
What is Technology Transfer?

- Flow of ideas and tools (knowledge) from people, groups, institutions, and geographies to others...

“I’d rather drink (good) wine”
Technology Transfer

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Why is Knowledge Creation and ‘Transfer’ Important?

- Intrinsic benefit: enlightenment notion of enablement
- Helps solve important societal problems in health, environment, defense, etc.
- Foundation for innovation and, thus, economic development

Beyond intrinsic purposes, value depends on the extent to which knowledge is *applied*
University Technology Transfer

- Research universities are primary sources of new knowledge
  - Combines research and teaching

- Characteristics of knowledge
  - Codified – publications and other ‘written’ mechanisms
  - Tacit – embodied within individuals, skill-based, relational
Bayh-Dole Act of 1980

Goal: improve commercialization of federally-funded research

- Universities given responsibility for management of technologies stemming from federal research
- Mandates: invention disclosure, reporting, protection of government interests
- Universities can claim ownership (or not). If so, university must patent and provide government paid-up royalty-free license

Tech Transfer Literature

- Tech transfer is a primary economic development contribution of universities
- Focus is on patents and licenses, to a lesser extent, ‘formal’ spinoffs
- Conceptualizes tech transfer as a linear ‘process’

Challenges Associated With Current Conceptualizations

- Outliers vs. the struggling TTO
  - Both instances drive revenue focus
  - Universities can appear ‘greedy’

- Current *interpretation* of Bayh-Dole has become ‘sacred’
  - Many frustrations exist among faculty, industry, and non-profits
  - Neglects allowable ‘alternative practices’

- May be negatively impacting knowledge dissemination writ large, among other public missions
Question: To whom does a research go when they have a question about technology commercialization?

Answer:
(1) a colleague and (2) tech transfer office
"And if the blind lead the blind, both shall fall into the ditch."
(Matthew 15:14)
Commitment Phase

(Hypothetical) Progression

Academic Contact

Non-academic Contact

Academic Entrepreneur

Intermediary (1st Order)

Non-academic Contact

Academic Contact

Intermediary (1st Order)

Non-academic Contact

Intermediary (2nd order)

Academic Entrepreneur

Academic Contact

Non-academic Contact

Z

Y

X
Technology transfer has been ‘sold’ as the primary vehicle for the economic contributions of universities.

However tech transfer has largely been conceptualized in terms of a patent-centric, linear model.

- Primary responsibility of TTO is regulatory compliance and revenue maximization.

At best, model neglects innovative ways to improve commercialization.

- At worst, it may impact the dissemination and commercialization of knowledge, other public missions.
The Point

- Technology Transfer is a social phenomenon
- ‘Democratic’ approaches are needed; bounded chaos
  - ‘University ecosystems’ have many opportunities to:
    - Impart Entrepreneurial skills and knowledge
    - ‘Substantively Network’ with individuals outside the university (within other networks)
- More research needed, including on the role of other IP mechanisms such as copyright

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Questions?

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Alternative Conceptualization

- Process of technology transfer
- Influence on process of technology transfer

Scientific discovery made by:
- University scientist
- Graduate students
- Research teams

Funding source:
- Federal contracts
- Federal grants
- Private grants
- Corporate contracts
- Donations
- Venture capital

University reward systems and culture

TTO evaluates invention for commercialization potential

University holds title to invention

- Federal funding agency holds title to invention
- Inventor retains title to invention

University policies and funding source

Invention enters public domain

IP Protection:
- Patents
- Copyrights
- Trademarks
- Trade secrets

Market technology to firms/entrepreneurs

Negotiate licensing agreements/royalties/equity stake, etc.

License technology

Spinoffs & Startup companies

Firm and university cultures

Informal technology transfer:
- Talks and meetings
- Joint publications
- Technical assistance

Academic-industry collaboration:
- Consulting
- Research contracts
- Joint labs

Existing firms adapt and use technology

Formal and informal mechanisms

Firm and university cultures