

Lecture 12

So, what did we do?

E5104 – Economics of Innovation

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What is Innovation?

- Three stages: invention, innovation, diffusion
- Linear model of innovative process
- Learning
- Uncertainty in the innovative process
- Types of innovation:
 - incremental vs. radical

Supply and Demand for Innovation

- Supply factors and motivators: innovators, scientific/technical knowledge, expected profits, absorptive capacity
- What motivates scientists (money, sure; “being first”)
- **Appropriability** is the ability of inventors to capture profits of an innovation
- Where does demand for innovation come from?
- Direction of innovation
 - broad science/tech field
 - product vs. process innovation (Assignment 2)
 - incremental vs. radical innovation

Appropriation Mechanisms – Intro to IP

- Forms of intellectual property
 - Patents
 - Copyright
 - Trademarks
 - Design rights
 - Trade secrets

Innovation and Market Structure

- How does the market environment affect firms' innovative activities?
- R&D and firm size?
- Which market structure is favorable to innovation? Monopoly or competition?
 - Schumpeter (1942)
 - Arrow (1962): replacement effect
 - Gilbert and Newberry (1982): entry threats can reverse this result
- More empirical evidence
- Competition is good for innovation!
- Assignment 3

Trade Secrets

- Risch (2007): trade secrets are “most important and most heavily litigated intellectual property right”
- What are trade secrets?
- How are they protected?
- Empirical literature on trade secrecy and effects on outcomes

Diffusion

- S-curve of diffusion
- Models of diffusion: heterogeneous adopters; epidemic diffusion
- Factors affecting diffusion
- Network goods
- Technological standards

Some More Things About Patents

- What's a patent?
- How to read a patent: dates, inventors, assignees, claims
- Patent as a datasource
 - lots of text
 - → Introduction to Text Analysis in R – HWS 2022

Strategic Patents

- Using patents beyond “traditional” use
- Patent paradox (more patents, but less important)
- Strategic patenting
- Patent thickets

Sharing and Exchange of IP

- (Cross-)licensing
- Patent pools
- Patent pledges/commons
- Shared ownership

Technology Standards and Standard Essential Patents

- What are Standards and SSOs?
- How do SSOs work?
- What are standard essential patents?
- Holdup and holdout
- What does FRAND licensing mean?
- Assignment 4

To-Do List

- Assignment 1 is due June 16
- Assignment 4 is due June 15 (16)
- Term paper is due July 15
 - You haven't talked to me about your term paper? Please do so ASAP!
 - Keep updating me, bug me with questions
- Grading: Assignment 3 & 4