TECHNOLOGY ENTREPRENEURSHIP

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ONLINE

Technology and entrepreneurship

- Entrepreneurial opportunity in the midst of technical change
  - Genentech and recombinant DNA technology
  - Google & Facebook and the internet

- Advancing technology does not imply venture success, though
  - A host of other factors matter: business model choices; resource assembly processes; entry and expansion strategy decisions, etc. are also important

- Founding teams with both technical and commercial knowledge can help

Geographic clustering of technology / entrepreneurship

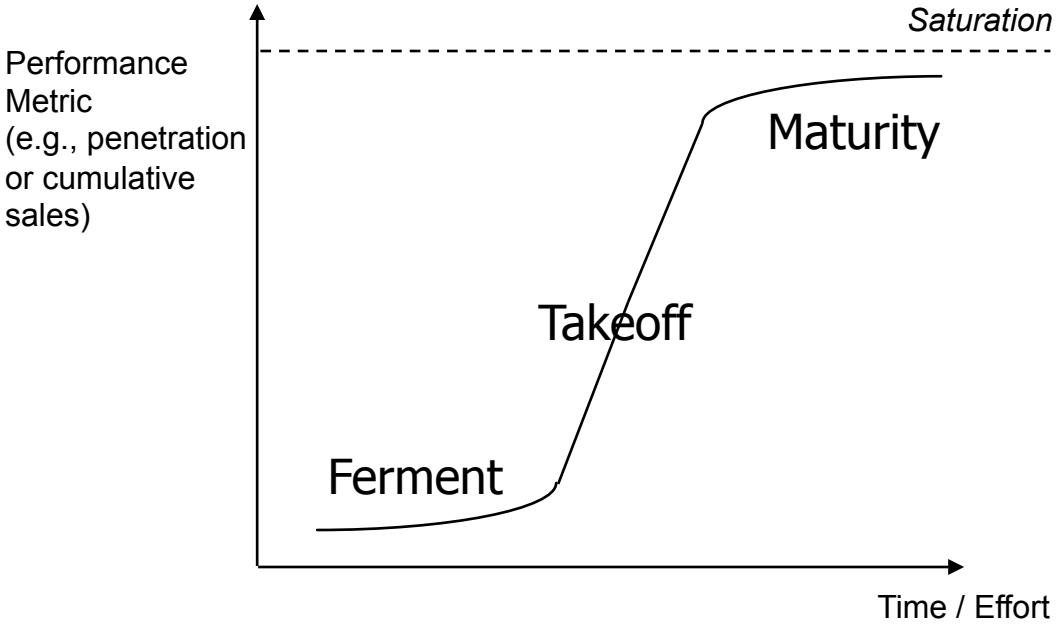
- Why are there sometimes geographic clusters of technology-based ventures? (e.g., a third of U.S. venture capital flows to Silicon Valley and the Boston area)
  - The Silicon Valley example: labor and capital market considerations; knowledge flows
  - Example of the early biotechnology industry and the pre-existing location of star scientists

Economic importance of technology entrepreneurship

- Indicators of private and public value
  - Venture capital backed firms as a percentage of all 7,857 companies going public in the U.S. 1980-2013: 36% (58% of all technology IPOs)
    - Source: https://site.warrington.ufl.edu/ritter/files/2015/04/IPOs2013TechIPOs.pdf
  - The Bill Gates / Steve Jobs / Mark Zuckerberg phenomenon

- Second order effects
  - Google and angel investors
  - The Paypal network (Thiel / Musk / Hoffman)

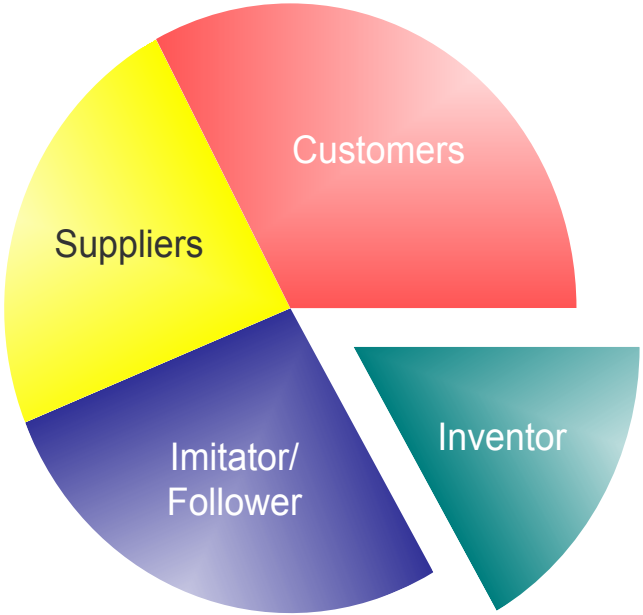
Entrepreneurial opportunity windows in a typical adoption S-curve



Challenges in developing the opportunity

- Appealing to the mainstream
- Tipping points and technology platforms
  - De novo
  - Overcoming an established platform

Dividing the profits from innovation



What determines pie allocation?

- Bargaining power
  - Who controls what is scarce?

- Market power
  - Who can deliver what consumers demand?

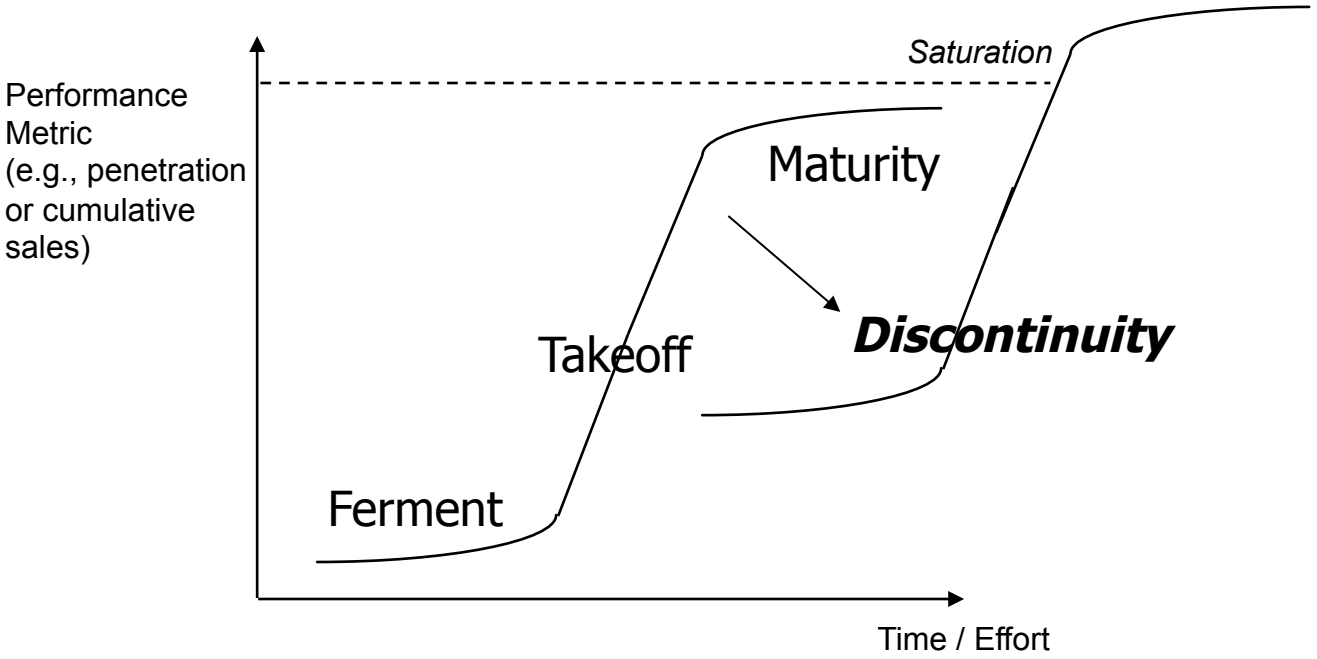
Drivers of market and bargaining power

- Appropriability:
  - Can the knowledge be controlled?
- Complementary assets:
  - Can the assets necessary to exploit the knowledge be controlled?
- Stage of industry evolution
  - Has a dominant design been established? Is it relatively early or late in the industry's evolution?

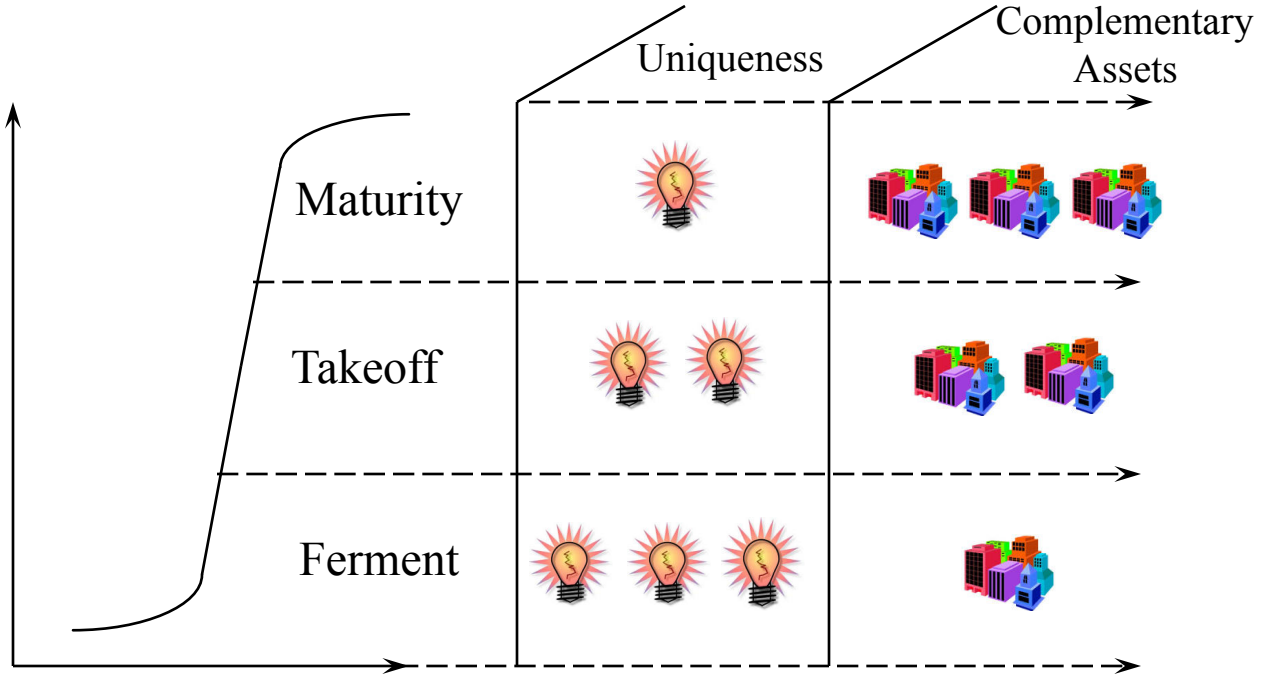
Appropriability

- If knowledge about an innovation can be completely "appropriated" it means that no one else can use it or copy it, and so the knowledge is "unique"
- Uniqueness is a tremendous source of *bargaining* power
- Sources: intellectual property protection, trade secrecy, and speed

Which complementary assets are important in a disruption?



Appropriability and complementary assets over the life cycle



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