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15.912 Technology Strategy  
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# Introduction to Industry Life Cycles and Market Evolution

**Professor Jason Davis**

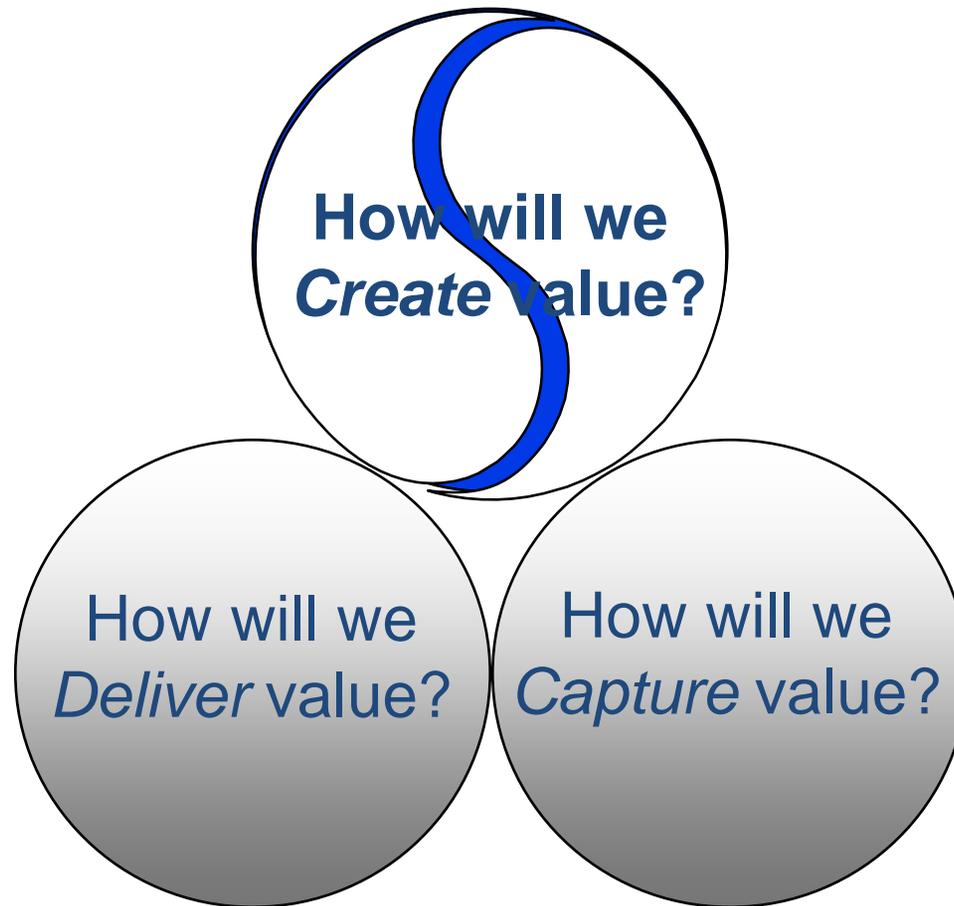
MIT Sloan School of Management



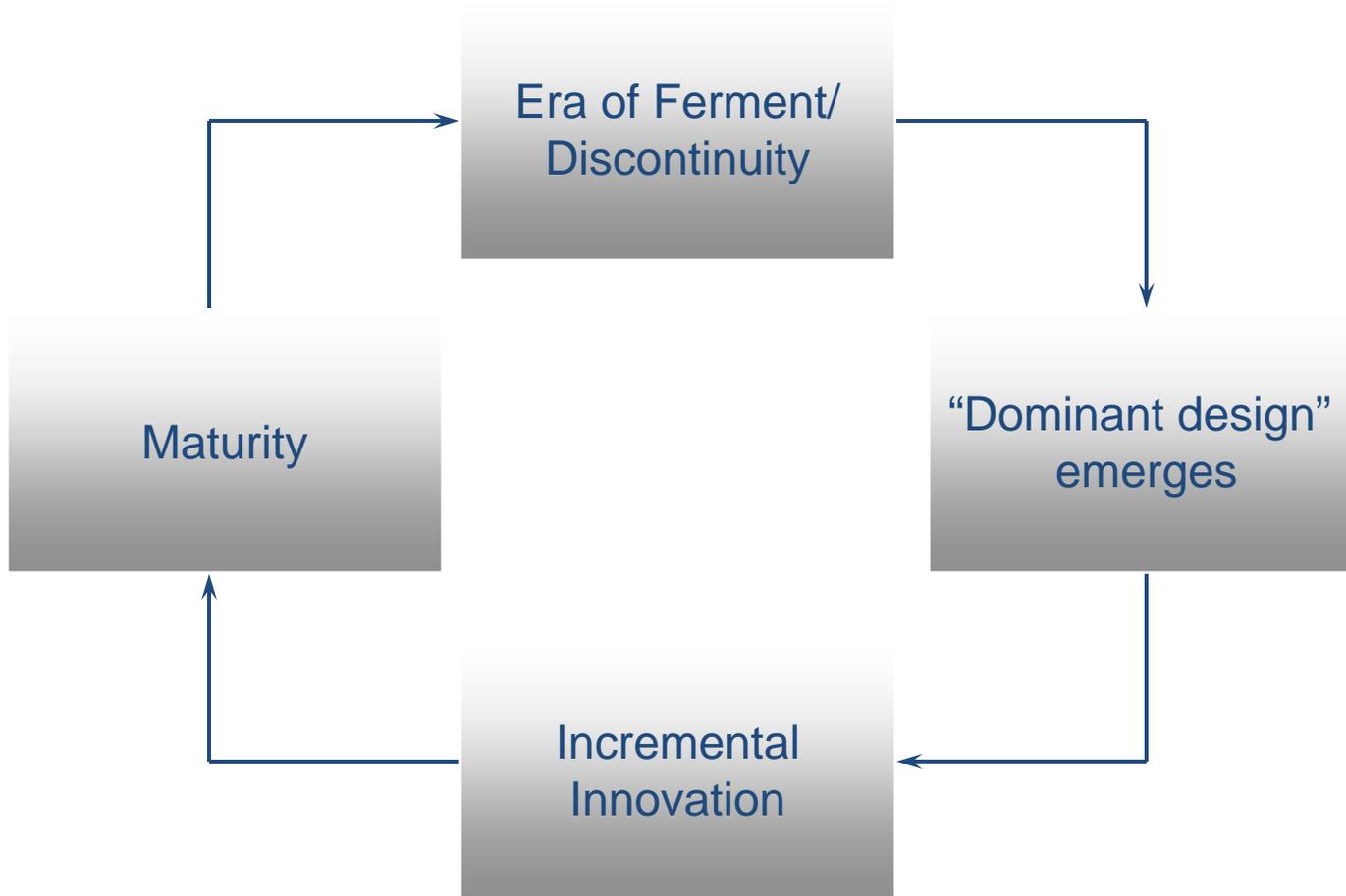
# Apple Update

- Performance:
  - 2007 Revenue Breakout: Computers (43%), iPod (35%), iTunes (10%), iPhone (1%)
  - 2006 vs. 2007 stock price: almost double (75 vs. 130)
- Competition continues:
  - Amazon's store offers competition with iTunes...NBC moves there
  - Handset companies rush to music & video
- Collaboration evolves:
  - Exclusive service provider strategy...might open this up after 2010
  - Friendly relations with MSFT after major investment and Windows iTunes success
  - Friendly relations with Google after Youtube and Google Maps iPhone collaborations
- Relentless Innovation:
  - MacBook AIR a relative flop, but moves them closer to thin client dream...

# Value Creation: Technology, Markets, and Organizations

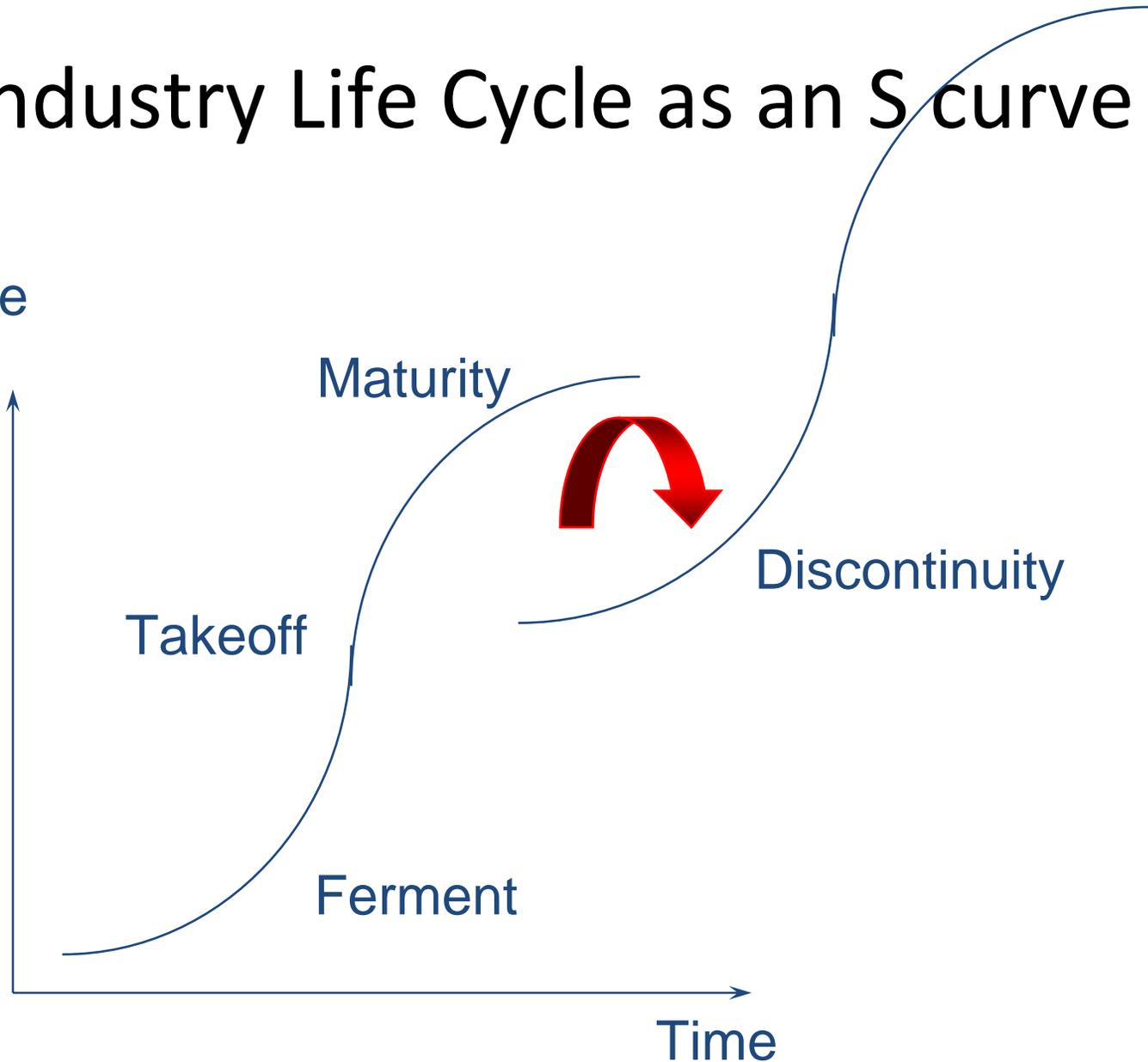


# A Key Framework: The industry life cycle



# The Industry Life Cycle as an S curve

Performance



Maturity

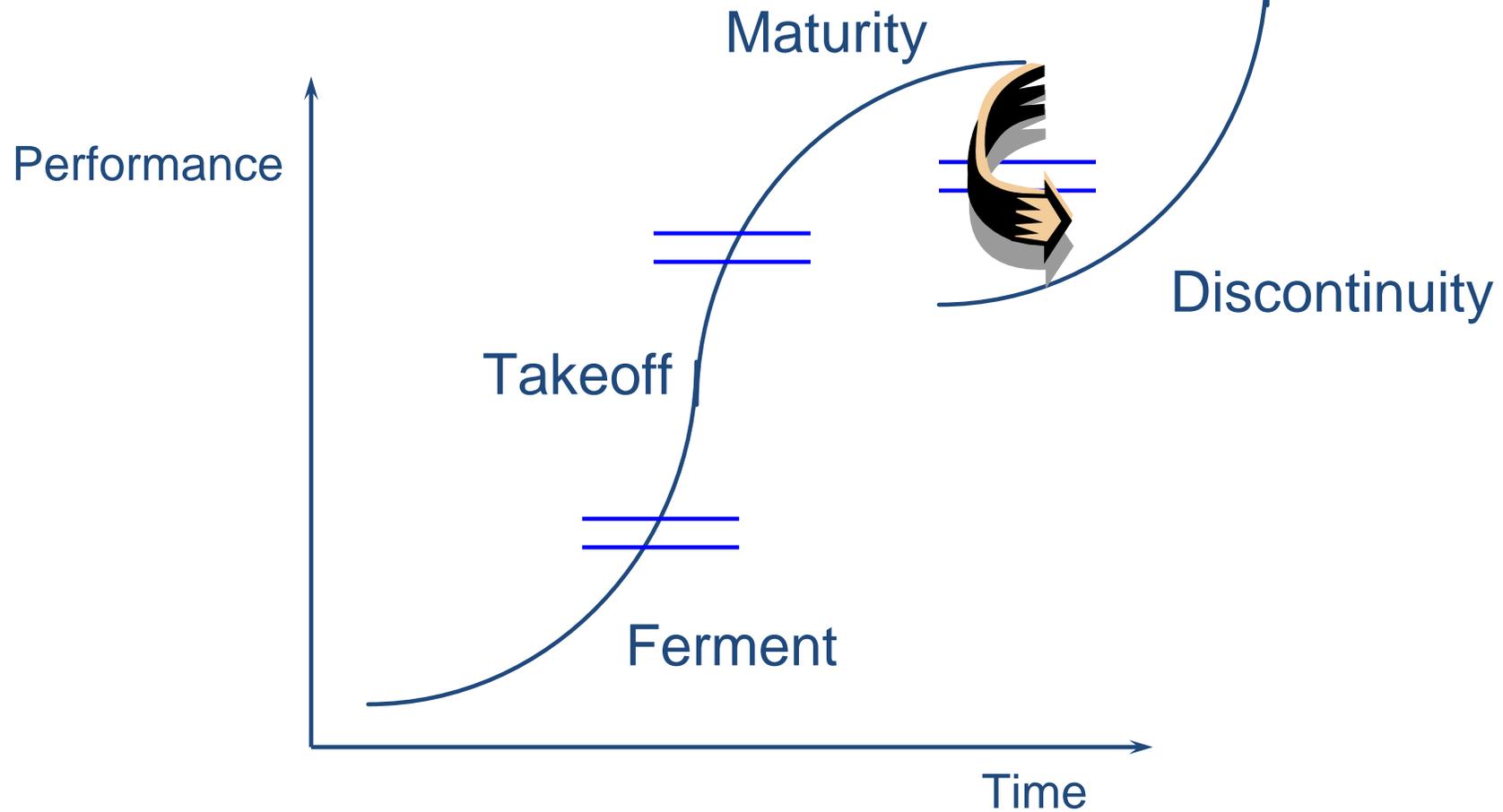
Takeoff

Ferment

Discontinuity

Time

# The S-curve Maps Major Transitions



# Transitions often challenge existing organizations severely

**Cumulate share of sales of photolithographic alignment equipment, 1962-1986, by generation**

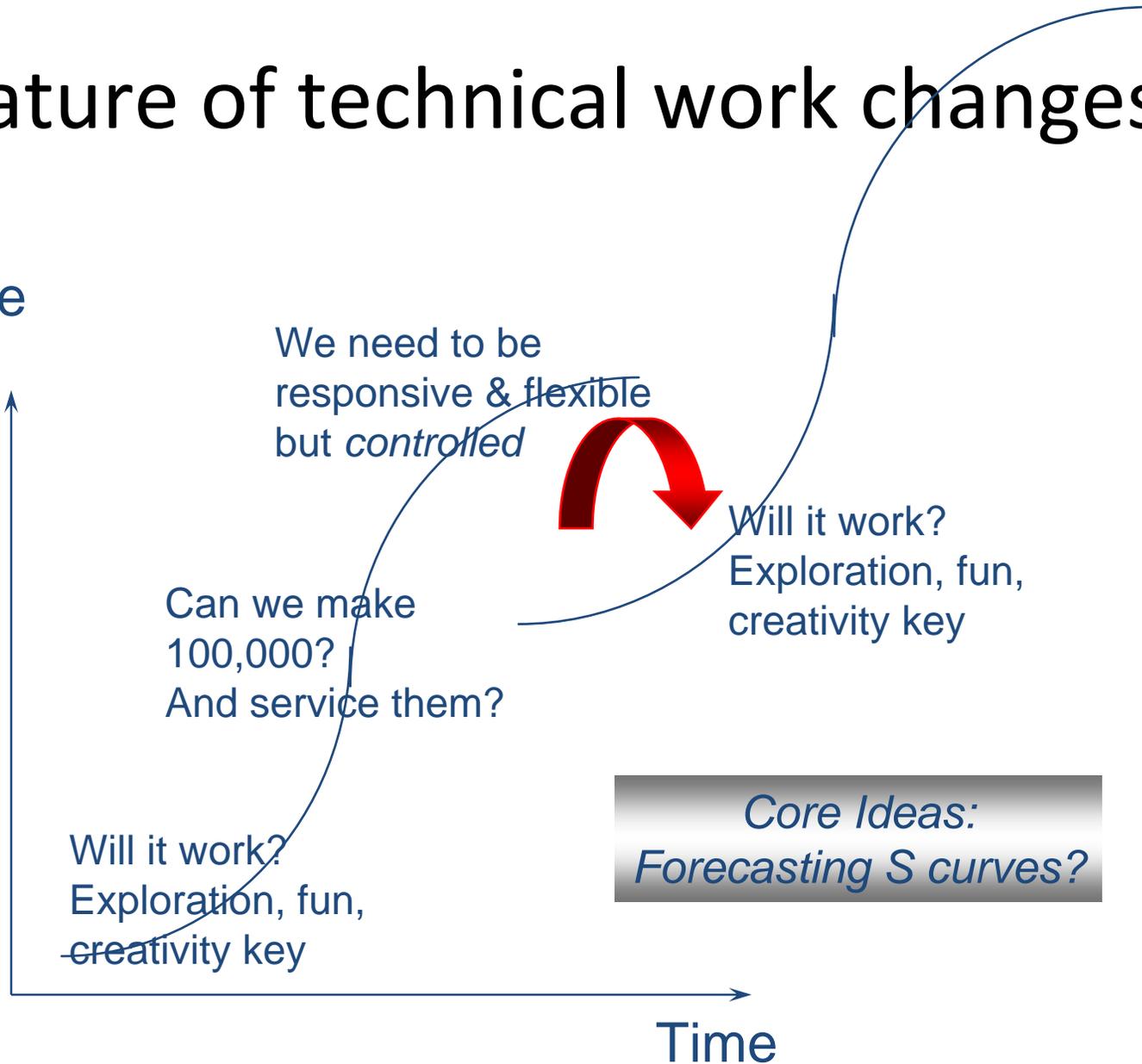
	Contact	Proximity	Scanner	S&R (1)	S&R (2)
	44		<1		
<b>Kasper</b>	17	8		7	
			21		
<b>P-Elmer</b>			78	10	<1
					12
<b>Nikon</b>					70
	61		99+		82+

# But they also create major opportunity

- Corning glass
  - Cookware to optical fiber
- Nokia
  - Rubber boots to cell phones
- IBM
  - Mainframes to PCs to Services
- Eli Lilly
  - “Random” drug discovery to genetics and genomics

# The nature of technical work changes

Performance



# The marketing challenge evolves

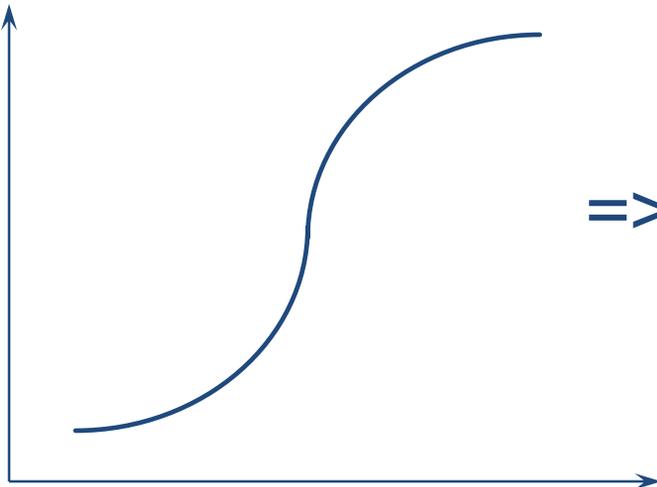
Performance



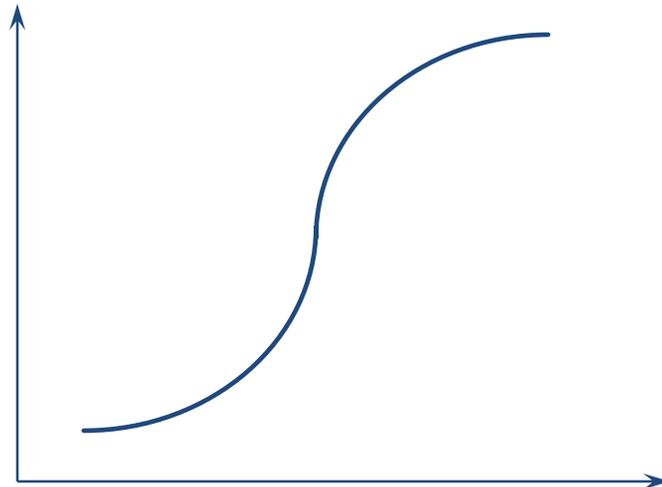
*Core Ideas:  
Market segmentation  
The Innovator's  
Dilemma*

# What is the relationship between the S curve and the diffusion curve?

Performance



Cumulative sales



=> ?

# Diffusion is Hard...start with limits and growth

- Supply:
  - Technology S-curves! ...a natural constraint.
  - Effective Organization ...we're not there yet.
- Demand:
  - Ultimate Market Limit...changes with demographic growth & changing preferences
  - Rate of Information Transfer
  - Substitutes
  - ...
- Competition:
  - Price competition can shift growth...
- ...and the interactions between Supply, Demand, and Competition!

# For Next Session:

- Reflections on Market Evolution:
  - Diffusion over the lifecycle
  - Relationship between S-curves and Diffusion curves
  - Roger's Customer Segments:
    - Crossing the Chasm
    - Innovator's Dilemma
  - Disruptive Innovations
  - Shifting Customer Preferences
- 2<sup>nd</sup> paper due Session 6 (so you have a breather)