15.912 Technology Strategy
Fall 2008

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Introduction to Industry Life Cycles and Market Evolution

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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

How will we **Create** value?

How will we **Deliver** value?

How will we **Capture** value?
A Key Framework: The industry life cycle

- Era of Ferment/Discontinuity
- "Dominant design" emerges
- Maturity
- Incremental Innovation
The Industry Life Cycle as an S curve

- Performance
- Takeoff
- Ferment
- Maturity
- Discontinuity

Time
The S-curve Maps Major Transitions

- Performance
- Takeoff
- Ferment
- Maturity
- Discontinuity

Time
Transitions often challenge existing organizations severely.

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

We need to be responsive & flexible but *controlled*

Can we make 100,000?
And service them?

Will it work?
Exploration, fun,
creativity key

Core Ideas:
*Forecasting S curves?*

Time
The marketing challenge evolves

Performance

Stay close to your customer – really close

Do we have any reference customers?

Who needs this?

Who needs this?

Time

Core Ideas:
Market segmentation
The Innovator’s Dilemma
What is the relationship between the S curve and the diffusion curve?

Performance Cumulative sales

Time

= ?
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\textsuperscript{nd} paper due Session 6 (so you have a breather)