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# Vertical and Horizontal Strategies in Converging Ecosystems

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# Agenda

- Evolving Ecosystems and Value Chains
- Technological Convergence
- Vertical and Horizontal Strategies

# **Digital Convergence**

- Convergence: when technologies become similar, functionalities of different products can merge
- Uniting the functionality of computers, TVs, and telephones.
- Implication: digital content changes value creation
  - New S-curves create new markets
  - Faster and higher market evolution curves

# Problem with Convergence: everyone knows it'll happen, but when, where, and how?!

- Most predictors of convergence have been wrong!
  - …we've been predicting it since the 1960s!
  - Failed to see massive managerial creativity and inter-firm coordination barriers
  - Convergence may be non-linear and partial (some parts converge while other do not) because it is a 2sided market:
    - Requires content to develop to make the products worthwhile!

# Be Vertical if you Can...it Creates Value that you can Capture

- Customers want full solutions
  - Cross the chasm with complete bundles of product and service
- Components not widely available
  - Lack of modularity
  - Difficult to transact with suppliers and complements
- Hold-up problems
  - Small number of suppliers can extract all of the value
  - High transaction costs to coordinate with suppliers

# The logic of vertical solutions

- Vertical also works if:
  - Tight integration between layers produces superior performance
    - Game machines
      - hardware is highly optimized for specific applications (graphics and visuals)
  - Razor & blades business models
    - Give away hardware (software) to sell the complement
      - iPod ("give away" the music to drive hardware sales)
      - Game machines (subsidize the hardware to sell software)

# Vertical Examples

- Ford Motor Company
  - Backward integrated into rubber and steel to ensure high quality supply
- IBM
  - Largest manufacturer of ICs from 1960s to mid-1980s
- AT&T
  - Made everything from ICs to service for all customers

...BUT NOTICE THAT THEIR VERTICAL STRATEGIES ALL DISAPPEARED...

# Be Vertical if you can...but it is hard to be Vertical forever!

- Customer's needs change, and your solutions aren't as desired...
  - Disruptive technologies
- Uniqueness is eventually imitated
- Complementary assets become less tightly held
- Scale and Scope economies can become really important in one of the horizontal layers...

– E.g., Microprocessors, Operating Systems, Genomics

- Potential Worst Case Scenario: convergence allows a large firm from another ecosystem to come and eat your lunch!
  - e.g., Apple and Google invade Nokia's space!

### Why go horizontal? H=Horizontal Solutions

- Huge scale in components has led to horizontal solutions in computers
  - CPUs--- \$1 billion to design, \$3 billion to build
  - LCDs--- \$1 billion million to build
  - OSs--- \$1+ billion and 4 yrs to design, \$100 million/yr to support
  - No company can internalize the scale requirements
- Availability of credible suppliers, declining transactions cost (facilitated by IT), growing modularity, makes horizontal strategies feasible

# Horizontal: Advantage to those solving the problems

n Coordination is still a nightmare in the horizontal model

u who is responsible?

n Competitive advantage comes from:

- u dominant scale & solving coordination problems
  - F common interfaces/ plug & play
  - F opportunities for coordinators & contractors
    - F Business process outsourcing
      - F Accenture, IBM Global Services, Wipro

### Solve horizontal problems through: Externalities & Standards

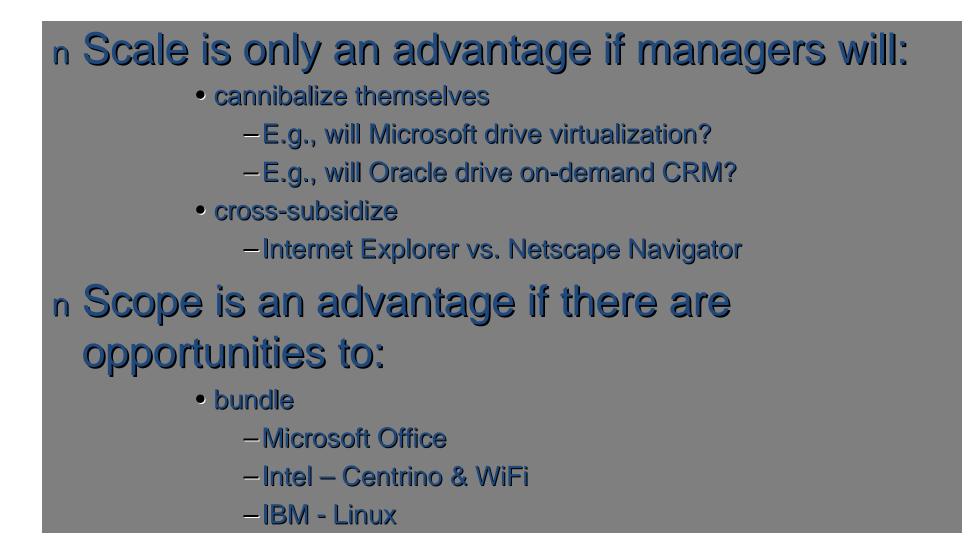
- Standards & network effects generate Lock-in & Lockout:
  - Lock-in:
    - customer sinks so much investment in complementary assets, it is cheaper to stick with known migration path than switch to (even) superior technology
  - Lock-out:
    - exclusion from a standard can be very difficult to reverse
- Standard setters can change the direction of their industries

Scale & Scope= The Incumbent Advantage

# Start-ups pioneer But scale and scope allow incumbent firms to imitate and overwhelm

Incumbents grab the advantage by exploiting their advantages in size (*scale*) & their advantages of breadth (*scope*)

### Advantages from Scale & Scope



# Looking forward

- Read the Nokia case and Phone article packet
- Next session: Last IT/Communications Case:
  - Apple, Google, Nokia Phone Strategy Comparison