

Strategic
Computing and Communications
Technology

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The Information Economy

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Systems of products

- Complementary products
 - hardware/software
 - client/server
 - viewer/content
- Product lines
 - high fixed cost, low incremental cost
 - leaders to value based pricing

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Unique features

- Complements
 - Different manufacturers
 - Strategy for complementors as well as competitors
 - Compatibility as strategic choice
 - Standards and interconnection
- Product lines
 - lower quality may be more expensive

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Information

- Anything that can be digitized
 - text, images, videos, music, etc.
 - AKA: content, digital goods
- Unique cost characteristics
- Unique demand characteristics

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Cost structure

- Expensive to produce, cheap to reproduce
- High fixed cost, low marginal cost
 - not only fixed, but sunk
 - no significant capacity constraints
 - particular market structures
 - monopoly
 - cost leadership
 - product differentiation (versioning)

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Rights management

- Low reproduction cost is two-edged sword
 - cheap for owners (high profit margin)
 - but also cheap for copiers
- Maximize *value* of IP, not protection
- Examples
 - Library industry
 - Video industry

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Consumption characteristics

- Experience good
 - browsing
 - always new
 - reputation and brand identity
- Overload
 - economics of attention
 - Hotmail example
 - broadcast, point-to-point, hybrid

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Technology

- Infrastructure to store, retrieve, filter, manipulate, view, transmit, and receive info
- Adds value to information
 - Web = 1 terabyte of text = 1 million books
 - if 10% useful = 1 Borders
 - value of Web is in ease of access
 - front end to databases, etc.
 - currency

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Systems competition

- Intel-Microsoft: Wintel
- Intel: commoditize complementary chips
- Microsoft: commoditize PCs
- Apple: integrated solution
 - integrated solution
 - worked better, but lack of competition and scale led to current problems

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Lock-in and switching costs

- Example: stereos and LPs
 - costly switch to CDs
- Systems lock-in: durable complements
 - hardware, software, and wetware
 - individual, organizational, and societal

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Network effects

- Value depends on number of users
- Positive feedback
 - fax (patented in 1843)
 - Internet (1980s)
- Indirect network effects
 - software
- Expectations management
 - competitive pre-announcements

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Compatibility

- Examples
 - Beta v VHS
 - Sony V Philips for DVD
 - role of 3rd parties
 - read v write standards
- backwards compatibility?
 - Windows 95
 - Windows NT

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Basic strategies

- Go it alone
- Partnerships (Java)
- Formal standard setting
 - widespread use
 - licensing requirements
- Competition *in* a market or *for* a market?

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Policy

- Understand environment
- IP policy
- competition policy
 - regulation
 - antitrust
- electronic commerce
 - contracts
 - privacy

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Information is different

- ...but not so different
- Key concepts
 - versioning, lock-in, systems competition, network effects

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