

### Information Rules:

A Strategic Guide to the Network Economy

## 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.
  - a.k.a. 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 information
- Adds value to information
  - Web = 1 terabyte of text = 1 million books
  - If 10% useful = 1 Borders Bookstore
  - Value of Web is in ease of access
    - Front end to databases, etc.
    - Currency

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## Systems Competition

- Microsoft-Intel: Wintel
  - Intel
    - Commoditize complementary chips
  - Microsoft
    - Commoditize PCs
- Apple
  - 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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