


NBA 600: IT and Competitive Strategy
First Class Session, Mon 10/15

Prof. Dan Huttenlocher

Goals of the Course


- How IT can be used strategically
 - Computing, communications and software for sustainable competitive advantage
- Coping with high pace of change in global economy
 - Strategies that survive or even benefit from new generations of IT
 - Identifying strategies that are threatened
- Analyzing new technologies
 - Navigating between disruptive hype and head-in-sand wishful thinking



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Premises/Assumptions of Course


- The most successful strategic uses of IT are
 - Driven by both domain (business) and technology expertise
 - Individuals and small teams
 - In service of a clear business strategy
 - Defining scope of what is undertaken
 - Delivered incrementally
 - Refined based on experience
- IT can be a necessary cost or strategic
 - Makes analysis difficult



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What You Should Take Away


- Examples of how IT has been used strategically in a range of industries
- Means for considering the potential strategic role of IT in an industry or company
 - Including effects of technological change
- Exposure to some current and emerging technology trends and their use
 - E.g., digital goods, DRM, social networking, search



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Backgrounds


- Huttenlocher
 - PhD in 1988
 - Computer Science faculty member on and off since then
 - Researcher and manager at Xerox PARC
 - Founder and former CTO of Intelligent Markets
 - Joint appointment in Johnson School and Computer Science past 5 years
- Students



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Class Schedule

- M 10/15 – Intro/Overview
- W 10/17 – When is IT Strategic – Carr, Metcalfe
- M 10/22 – The Internet and Economics of Networks
- W 10/24 – Internet and Strategy
- M 10/29 – Digital Goods and Versioning
- W 10/31 – Digital Music and Video
- M 11/5 – Digital Rights Management and Darknets
- W 11/7 – Online Retail, Customer Experience and Long Tail
- M 11/12 – Search, Keyword Ads, Beyond Google
- W 11/14 – Internet-X, VOIP, IPTV
- M 11/19 – Online Communities and Social Networking
- M 11/26 – Open Source Software (Apache, Linux, ...)
- W 11/28 – Student in-class presentations



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Overview of Topics

- When IT is strategic versus necessary cost of business
 - Can be both, teasing apart and making appropriate investment decisions
 - Carr's position that IT is commoditized so of little strategic value, Metcalfe's response
- Background on economic characteristics of networks and structure of the Internet
 - Network effect, small worlds, power laws and an overview of how the Internet works

Overview of Topics (2)

- Internet and strategy
 - Porter and responses in 2001, still relevant today, "Web 2.0"
- Digital (information) goods and services
 - Implications of change from physical to digital delivery, music industry as an example
 - Economic models
 - Strategic questions, what value are studios and labels providing
 - Role of copy protection

Overview of Topics (3)

- Online living
 - Retailing, communication, search, communities and entertainment
 - How online differs and how the online world is changing them in general
 - Strategies that have been successful
 - Trends such as "long tail"
 - Protecting digital content, delicate balance
 - Moving search beyond naming things
 - Digital telephony, VOIP
- Open source software

Requirements

- Preparation for class
 - Read actively, think about topics before class
 - A few short (approx. 10 min) quizzes
- Form teams of 3 for final project
 - Team background and proposed industry and/or company for strategic analysis due 10/29
- Individual short paper
 - Posted 10/29, due 11/12
- Final project presentation or paper
 - Selection for in-class presentation 11/5

Grading

- Class participation and quizzes 30%
- Individual written assignment 20%
- Final group project 50%
 - Consider whether your team-mates are taking for grade or S/U
- What's an A?
 - The class and I learn from you
- Re-grades will only be considered within one week of an assignment being returned
 - Hand in a concise explanation to me

Questions

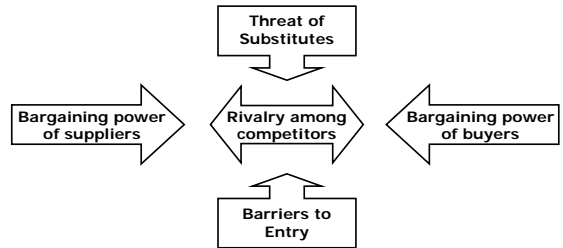
- Course goals, structure, administration?

Competitive Strategy

- Gain sustainable competitive advantage
- Clear understanding of distinguishing value for the customer
 - Value that can persist over time
 - How to maintain distinguishing nature of value
 - How to profit from that value
- What not to do as much as what to do
- Porter's 5 forces model, SWOT analysis
 - Analyzing viability/sustainability of strategic advantage

Porters Five Forces Model

- Sustainability of a strategy



Strategy and IT

- Competitive advantage should persist across (some) generations of technology
- Technological change can facilitate or enable new strategies
- IT is in service of the strategy not the strategy itself
 - Terminology can be confusing, an "IT strategy" need not be strategic in competitive sense
- Strategies that exploit continued IT advances – rapid pace of change

Example of Federal Express

- In 1970's package freight was not a time sensitive business
- Fedex founded with idea of guaranteed delivery: "absolutely, positively overnight"
 - Two changes enabled this
 - Regulatory changes in air freight that allowed Fedex to establish its hub system
 - IT systems that enabled rapid entry of shipping forms and tracking of packages
- Strategy: what to do and not to do
 - Focus on value of guarantee rather than volume

Fedex Information Systems

- As early as 1979 founder Fred Smith said
 - "The information about a package is as important as the delivery of the package itself."
- Systems designed to share information with the customer not just for internal use
 - Technology costs limited to customers who did substantial business
 - In 1980's Fedex developed and distributed custom PC based software
 - Gave 100,000 PC's, modems to large customers making customer base into an electronic network
 - Exponential growth from '81-'86

Fedex.com in 1996



Internet and Fedex Strategy

- Change in Fedex strategy?
- Just provided a lower cost way of reaching customers – expanding the base
 - Strategy indicated aggressive deployment
- In 1994 became first Web site to enable customers to track status of packages
 - Rudimentary software “scripts” to tie site to mainframe package tracking system
 - Quickly evolved into full shipping, tracking and billing
 - Tracking became valuable to end consumers

Internet and Fedex Strategy (2)

- Online retailers increased need for small package shipping
 - At about same time as document shipping became less necessary due to email
- Accurate tracking an important part of the online experience
 - But overnight delivery often not as important as predictability
 - Refinement of strategy from overnight to accurate – but not outright change
 - “The world on time”

Role of IT at Fedex

- Viewed as critical to business both strategically and operationally
 - Enables strategy that information about a package is as important as the package
 - Creates competitive advantage
 - Drives excellence (no hiding from customer)
 - Was critical to rapid growth
 - Sub-committee of board specifically on IT
- In contrast many companies see IT as operational but not strategic
 - Is package delivery special?

Fedex and UPS

- UPS is the largest package delivery service in North America
- While Fedex has tended to be information technology leader UPS is aggressive competitor
 - Rapidly rolls out new information services
- Both companies have air and ground services
 - Until recently different emphases
- High cost business for others to enter

Fedex Today

- Do they have clear value proposition over other package freight companies?
 - What untapped strategic advantage remains in the business?
- How do expansions into new businesses fit with original strategy or a new strategy?
 - Logistics business
 - Ground delivery business
 - Kinko's

Fedex Competitive Advantage

- From differentiating to necessary IT
 - Took 25 years for Fedex to lose their clear IT enabled advantage over UPS
- Continued differentiation required substantial ongoing innovation
 - Large changes in technology every few years
- During that time gained them
 - Clear value – “absolutely, positively”
 - Higher customer value and loyalty
 - Market segmentation revenue opportunities

Competitive Advantage from IT

- Any competitive advantage tends to get competed away over time
 - Degree of advantage, duration, relative to costs
 - Path for continued innovation
 - Scale or other more sustainable advantage
- Depends on industry structure
 - Package freight: FedEx had lead for decades
 - Retail: Wal-Mart has sustained IT-enabled lead
 - Banking: fast industry-wide adoption
 - No strategic advantage doesn't mean unimportant

Next Class

- When is IT strategic
 - Carr and Metcalfe readings
 - Syllabus with links on Blackboard site
- For those who have not taken strategy core
 - “What is Strategy?” by Michael Porter, HBR, Nov. 1996