

Original 9/9



MIT SLOAN SCHOOL OF MANAGEMENT

15.567 THE ECONOMICS OF INFORMATION
STRATEGY, STRUCTURE AND PRICING

FALL 2010

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SCHEDULE OF SESSIONS

September		October		November		December	
Thur 9/9	The Economics of Information	Tues 10/5	Amazon Jeff Wilke <i>Due: 1 pager</i>	Tues 11/02	The Mobile Web Or Social Networks	Thur 12/02	Digital Advantage
Tues 9/14	Sermo Dan Palestrant <i>Due: 1 pager</i>	Thur 10/7	Targeted Advertising: Google Hal Varian	Thur 11/04	Enterprise 2.0 Andrew McAfee	Tues 12/07	Emerging Electronic Markets
Thur 9/16	Differential Pricing, Signaling and Screening	Thur 10/14	The Long Tail <i>Due: 1 pager</i>	Tues 11/9	Open Source and Innovation Eugene Lee	Thur 12/9	Future of Information Economy
Tues 9/21	Bundling and Aggregation <i>Due: Bundling Exercise</i>	Tues 10/19: Thur 10/21	SIP week – No Class	Tues 11/16	Policy Debates: net neutrality; industrial policy; copyright law		
Thur 9/23	Search and Competition Gregg Gordon	Tues 10/26	Deep QA and Knowledge work: David Ferrucci	Thur 11/18	Wikipedia <i>Due: 1 pager</i>		
Tues 9/28	Two Sided Networks and Platform Competition Neel Sundaresan <i>Due: 1 pager</i>	Thur 10/28	MidTerm Exam	Tues 11/23	Information Analytics Gary Loveman		
Thur 9/30	Pricing at Zero Chris Anderson			Tues 11/30	Experimentation, Replication and Innovation		

Please check the class website before every class for announcements, assignments and schedule changes.

CLASS INFORMATION

Class Time and Location: Tuesdays and Thursdays: 1-2:30 PM, E62-276

Class Web Sites: <http://stellar.mit.edu/S/course/15/fa10/15.567/> for readings, and assignments
<http://www.economicsofinformation.com> for a class blog and discussion area

Office Hours: Tuesdays, 2:35-4pm and by appointment.

COURSE PERSPECTIVE AND DESCRIPTION

Information, especially digital information, is different in many ways from other goods and services. Yet, information is still subject to the laws of economics. The purpose of this course is to explore some of the economics of information and understand how they affect strategy, structure and pricing.

We will use lectures, cases, class discussion, guest speakers, exercises and team projects to examine a variety of topics including: the pricing of information goods, bundling and other forms of aggregation, open source and innovation, search and competition, targeted advertising, information analytics, social networks and information worker productivity, business process replication and a variety of other topics. Fundamental economic principles will be illustrated using business case studies. At times, we will also discuss emerging digital technologies, business methods and industry structures.

Rapid and radical changes inevitably create opportunities for great wealth creation – and destruction. Business leaders empowered with knowledge of the underlying economics, business and technological principles will be at an advantage in such an environment.

COURSE PRINCIPLES AND EXPECTATIONS

Students in the class are co-producers of class discussions and collective learning. For this to happen, class members need to listen carefully to one another and build on or critique prior comments. Many of you have worked in some of the companies we will be discussing or have worked with the relevant technologies. If past experience is any guide, each of you has unique insights and experiences that can help your classmates better understand the issues we are discussing. The discussion should be a conversation in which all participants recognize that they have an obligation to advance our understanding of the issue at hand. Your contributions to this learning process will be appraised in addition to the specific content that you contribute.

Because this course relies heavily on class participation for its success, class norms and expectations regarding class behavior are very important:

1. Attendance at every class is required. Please schedule outside activities at times other than when 15.567 meets. Please arrive on time and stay from the beginning of class to the end. If you must miss a class, please advise both the TAs and me in advance. You are allowed up to two excused absences before missing class seriously affects your grade. For classes you must miss, it is your responsibility to find out from your classmates what materials were covered and what items were distributed in class. Most classes are video-recorded and can be available for you to view the missed classes. Please ask your TA to get access to the recorded class.

2. Please come to class fully prepared to discuss the readings. I create a reading guide for each session with questions that you should review in advance and be ready to answer. In every class, I will "cold call" students whose hands are not raised. If something has prevented you from being prepared for class that day, you should let me know *before* the start of class.
3. Technology allows us to be connected almost anywhere and anytime. However, there are times when it is more productive *not* to be electronically connected. Class sessions are one such time. During class sessions, please turn off cell phones, beepers, laptops or other such equipment and focus all your attention on the class discussion.
4. On the other hand, I encourage you to interact with me and your classmates outside of class via the class blog and discussion forum at <http://www.economicsofinformation.com>. When you find interesting articles, technologies, business models, or websites that are relevant to any of the topics in our class, please post them to the blog. I especially encourage you to comment on posts originally made by other people. Each student should make at least one comment on the blog by the end of October. Please note that the blog contents are visible to anyone in the world with access to the Internet and use appropriate discretion.
5. Please bring your name card to every class and starting with the second class session, please sit in the same seat each class. This will make it easier for me to get to know you and to make sure you get appropriate credit for your contributions.

Students who are thoroughly prepared for each session will benefit the most from this class. What's more, they add to the learning of their classmates. Hence, if you don't feel comfortable with these expectations, then this is not a good course for you to take this semester.

ASSIGNMENTS AND GRADING

This is a 9-unit course (3-0-6 H-level graduate credits). Grades will be assigned on the following basis:

Class participation (including via blog)	35%
Individual and Group Assignments (One pagers and other exercises)	25%
Midterm Exam	15%
Team project	25%

In addition to the individual and group assignments, there is a Midterm Exam and a major Team Project. Detailed explanations of each assignment and the project will be posted on the class website. Note that most assignments are due via Stellar at 9pm on the night *before* class.

READINGS AND CLASS SCHEDULE

Reading packets are available from the Copy Technology Center, E52-045. The first packet includes the required readings for the course through October 26 and a second packet will be at Copy Tech by mid-October. Occasionally, optional readings will be available via the web. In addition, some required readings will be handed out in class and via the web. Please note that some of the web-based readings require Acrobat PDF (Portable Document Format). A free reader can be found at <http://www.adobe.com/Acrobat/> (Why does Adobe give this software away?)

BOOKS FOR THE COURSE

Strongly suggested:

Shapiro, Carl and Varian, Hal. *Information Rules: A Strategic to the Network Economy*. Harvard Business School Press, 1998.

Brynjolfsson, Erik and Saunders, Adam, *Wired for Innovation: How Information Technology is Reshaping the Economy*, MIT Press, 2009. [All royalties I earn from sales of this book to 15.567 students will be used to fund refreshments in class.]

Optional:

Saloner, Garth and Spence, A. Michael *Creating and Capturing Value: Perspectives and Cases on Electronic Commerce*, John Wiley and Sons, 2001.

Brynjolfsson, Erik and Kahin, Brian, eds *Understanding the Digital Economy*, MIT Press, 2000.

Liebowitz, Stan *Re-Thinking the Network Economy: The True Forces That Drive the Digital Marketplace*, American Management Association, 2002.

Varian, Hal, Farrell, Joe and Shapiro, Carl. *The Economics of Information Technology: An Introduction*, Cambridge University Press (2005).

Sloan Management Review <http://sloanreview.mit.edu/>

CLASS SCHEDULE

	September	Required	Optional
Thur 9/9	Economics of Information	<p>Review Syllabus. Get course pack, Part I.</p> <p>McAfee, Andrew and Brynjolfsson, Erik "Investing in the IT That Makes a Competitive Difference" <i>Harvard Business Review</i>, (July-August, 2008)</p> <p>McAfee, Andrew and Brynjolfsson, Erik "Dog Eat Dog: Industries that Buy a lot of technology are becoming as cutthroat as those that produce technology" <i>Wall Street Journal</i> and <i>Sloan Management Review</i>, (April, 2007)</p>	<p>Brynjolfsson and Saunders, <i>Wired for Innovation</i>, Ch. 1. Technology, Innovation and Productivity in the Information Age.</p> <p>Shapiro and Varian, <i>Information Rules</i>, Ch. 1 – The Information Economy</p> <p>Stiglitz, J. E. (2000). "The Contributions of the Economics of Information to Twentieth Century Economics." <i>Quarterly Journal of Economics</i> 115(4): 1441-1478.</p>
Tues 9/14	Sermo	<p>Case: Eisenman and Nielson, Sermo, Inc. 809142-PDF-ENG</p> <p>Shapiro and Varian, Ch. 7 Networks and Positive Feedback, pp. 173-225</p> <p><u>Due Monday 9pm via Stellar: Sermo 1 pager</u></p>	<p>Economides, N. The Economics of Networks, <i>International Journal of Industrial Organization</i>, vol. 16, no. 4, pp. 673-699 (October 1996).</p> <p>Leibowitz, Steven and Steve Margolis, "Network Externalities (Effects)" <i>The New Palgraves Dictionary of Economics and the Law</i>, MacMillan, 1998. http://wwwpub.utdallas.edu/~liebowitz/palgrave/network.html</p>
Thur 9/16	Differential Pricing	<p>Varian, H. (2000) "Buying, Sharing and Renting Information Goods" <i>The Journal of Industrial Economics</i>, Vol. XLVIII, Number 4, December 2000.</p> <p>Schoder and Talalayevsky, The Price Isn't Right, <i>Wall Street Journal</i>, Aug 23, 2010.</p> <p>Evan Miller, "Golden footballs and the Economics of Groupon" http://www.evanmiller.org/golden-football.html</p> <p>Daniel Hamermesh "What Do Books and Roses Say About Discounting?" February 23, 2009.</p> <p>Linda Wertheimer, "New Pricing Plan Soon to Be For Online Music" NPR, July 27, 2009.</p> <p><i>Meet teammates for team projects</i></p>	<p>Shapiro and Varian, Ch. 2 Pricing Information., Ch.3 Versioning Information.</p> <p>Tirole (1989) <i>The Theory of Industrial Organization</i> Chapter 3: Price Discrimination Read pages 133-152, but skip subsection 3.3.2 (p 148-149).</p> <p>Shiller and Waldfogel "Music for a Song: An Empirical Look at Uniform Song Pricing and its Alternatives" Working Paper, Wharton School, June, 2008.</p>

Tues 9/21	Bundling and Aggregation	<p>Case: Bundling, 9-191-177</p> <p>Bakos, Yannis and Erik Brynjolfsson (2000) "Aggregation and Disaggregation of Information Goods: Implications for Bundling, Site Licensing and Micropayment Systems," in Varian and Kahin, Eds. <i>Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property</i>, MIT Press, 2000.</p> <p>Albanesius, "If Sirius-XM Can Offer A La Carte Programs, Why Can't Cable?" PC magazine, July 30, 2008. http://www.pcmag.com/article2/0,1895,2326817,00.asp</p> <p><u>Due Monday 9pm via Stellar: Bundling Exercise</u></p>	<p>Bakos and Brynjolfsson (2000) "Bundling and Competition on the Internet" <i>Marketing Science</i>, Volume 19, Number 1 (Winter), pp. 63-82.</p> <p>Bakos and Brynjolfsson (1999) "Bundling Information Goods: Pricing, Profits and Efficiency" <i>Management Science</i>, 45(12) pp1613-1630.</p>
Thur 9/23	Search and Competition	<p>Smith, Bailey and Brynjolfsson, Erik "Understanding Digital Markets" in Brynjolfsson and Kahin, eds <i>Understanding the Digital Economy</i>, MIT Press, October, 2000.</p>	<p>Bakos, Y. (1997) "Reducing Buyer Search Costs: Implications for Electronic Marketplaces" <i>Management Science</i>, Volume 43, Issue 12 (December 1997), 1676-1692</p> <p>Brynjolfsson, E. and Smith, M. (2000) "Frictionless Commerce? A Comparison of Internet and Conventional Retailers" <i>Management Science</i>, Vol. 46, No. 4 (April 2000), pp. 563-585</p>
Tues 9/28	Two Sided Networks and Platform Competition	<p>Case: Edelman and Larkin, eBay Partner Network (A), HBS: 910008</p> <p><u>Due Monday 9pm via Stellar: eBay 1 pager</u></p>	<p>Arthur, B. "Increasing Returns and the Two Worlds of Business." <i>Harvard Business Review</i></p>
Thur 9/30	Pricing at Zero	<p>Chris Anderson, "Free! Why \$0.00 Is the Future of Business" <i>Wired</i>, Feb 25, 2008. http://www.wired.com/techbiz/it/magazine/16-03/ff_free</p> <p>Parker and van Alstyne, 2002, "Two-Sided Network Effects: A Theory of Information Product Design", <i>Management Science</i>, Oct, 2005.</p> <p>Malcolm Gladwell, "Priced to Sell: Is Free the Future?" <i>The New Yorker</i>, July 6, 2009.</p> <p>Bloomberg News "Diller Calls Free Web Content a 'Myth, Joins Refrain'", July 24, 2009.</p> <p>Rich, Motoko, "With Kindle, the Best Sellers Don't Need to Sell" <i>New York Times</i>, January 22, 2010.</p>	<p>Parker and Van Alstyne, "Strategies for Two-Sided Markets" <i>Harvard Business Review</i> (2006)</p> <p>Shapiro and Varian, Ch 5 and 6</p> <p>Brynjolfsson and Saunders, Ch. 2 and 7.</p>

	October		
Tues 10/5	Online Retailing: Amazon	Case: Amazon Enters the Cloud Computing Business Stanford University case 2008-353-1; May, 2008. <u>Due Monday 9pm via Stellar:</u> Amazon 1 pager	
Thur 10/7	Targeted Advertising	Case: Edelman, Google, Inc. 910036-PDF-ENG , Feb 2010 Steven Levy, "Secret of Googlenomics", <i>Wired</i> , May 22, 2009	Varian "The Economics of Internet Search" http://people.ischool.berkeley.edu/~hal/Papers/2007/costa-lecture.pdf "Online Search" Stanford Graduate School of Business, December, 2008
Tues 10/12	No Class – Monday Schedule		
Thur 10/14	The Long Tail	Anderson, Chris. "The Long Tail," <i>Wired</i> , http://www.wired.com/wired/archive/12.10/tail_pr.html Brynjolfsson, Erik, Yu (Jeffrey) Hu, and Michael D Smith. 2003. "Consumer Surplus in the Digital Economy: Estimating the Value of Increased Product Variety at Online Booksellers," <i>Management Science</i> 49 (11) 1580-1596. <u>Due Wednesday 9pm via Stellar:</u> Long Tail 1 pager	Brynjolfsson, Erik, Hu, Yu (Jeffrey) and Rahman, Mohammad "Battle of the Retail Channels: How Product Selection and Geography Drive Cross-channel Competition", <i>Management Science</i> , 2009. Varian, Hal R. 2005. "Reading Between the Lines of Used Book Sales," <i>New York Times</i> 28 Jul 2005. Garrity, Brian. 2006. "DMG Bets on 'Long Tail'," <i>Billboard</i> 118 (7) 12, 18 Feb 2006.
Tues 10/19 and Thur 10/21	SIP week	No class meetings this week	
Tues 10/26	Deep QA and Knowledge Work	Clive Thompson "What is IBM's Watson?" <i>New York Times Magazine</i> , June 16, 2010. Hayek, F.A. "The Use of Knowledge in Society." <i>American Economic Review</i> 35:4 (September 1945): 519-530. FIRST COURSE PACK ENDS HERE	
Thur 10/28	Midterm	Review readings and class notes	

November			
Tues 11/2	The Mobile Web Or Social Networks	Case; Alcacer et al. Emerging Nokia, 710429- PDF-ENG Or Lazer, D et al. (2009) "Computational Social Science" <i>Science</i> , Feb. 6, 2009.	
Thur 11/04	Enterprise 2.0	McAfee, A. <i>The U.S. Intelligence Community (A)</i> , MIT Center for Digital Business Case Study #101	McAfee, A. "Enterprise 2.0," <i>Sloan Management Review</i> , 2006. Brynjolfsson and McAfee "Beyond Enterprise 2.0", <i>Sloan Management Review</i> , Spring, 2007.
Tues 11/9	Open Source and Innovation	Raymond, "The Magic Cauldron" Shapiro & Varian, Ch. 4 Davis, Randall "The Digital Dilemma" <i>Communications of the ACM</i> , February, 2001. <u>Due Monday 11/08 via Stellar:</u> <i>Debate on Open Source and Innovation</i>	Brynjolfsson and Saunders, Ch. 6. Richard Stallman, "Why software should not have owners" in <i>Free Software, Free Society: The Selected Essays of Richard M. Stallman</i> . Summary of the Digital Millennium Copyright Act by U.S. Copyright office Besen and Raskind. (1991). An Introduction to the Law and Economics of Intellectual Property. <i>Journal of Economic Perspectives</i> , Vol. 5 (No. 1), pp.3-27. Lessig, L., <i>Free Culture: How Big Media Uses Technology and the Law to Lock Down Creativity</i> , (2004), Penguin Press.
Thur 11/11	No class (Veteran's Day)		
Tues 11/16	Policy Debate: net neutrality; Industrial policy; copyright law	<i>Readings TBA</i>	
Thur 11/18	Wikipedia	Greenstein, Wikipedia case, Northwestern Univ. 2009. <u>Due Wednesday night via Stellar:</u> <i>1 pager on Wikipedia</i>	Eric S. Raymond (2001). The Cathedral and the Bazaar" in <i>The Cathedral & the Bazaar</i> . O'Reilly.
Tues 11/23	Competing on Analytics	Gary Loveman, "Diamonds in the Data Mine" <i>Harvard Business Review</i> , 2003 Lynn Wu, Erik Brynjolfsson "The Future of Prediction: How Google Searches Foreshadow Housing Prices and Sales" NBER Conference Technological Progress & Productivity Measurement, 2009; WISE, 2009; ICIS, 2009.	Anderson, Chris "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete" <i>Wired</i> , 16.07 http://www.wired.com/science/discoveries/magazine/16-07/pb_theory Davenport, "Competing on Analytics" <i>Harvard Business Review</i> , January, 2006. Brynjolfsson and Schrage "The New Faster Pace of Innovation" <i>Wall Street Journal and Sloan Management Review</i> , August, 2010.
Thur 11/25	Holiday		

Tues 11/30	Experimentation, Replication and Innovation	<p>The 4 Ways IT is Driving Innovation An Interview with Erik Brynjolfsson <i>MIT Sloan Management Review</i>, Spring, 2010.</p> <p>Ron Kohavi, Roger Longbotham, and Toby Walker, "Online Experiments: Practical Lessons" <i>IEEE Computer</i> 2010 (in press)</p> <p>Brynjolfsson, Erik and Schrage, Michael "The New, Faster Face of Innovation: Thanks to Technology, Change Has Never Been So Easy-or So Cheap" <i>Wall Street Journal</i> and <i>Sloan Management Review</i> (August 17, 2009)</p>	Simester mimco on how to design experiments
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December			
Thur 12/02	Digital Advantage	<p>Brynjolfsson and Saunders, ch. 4</p> <p>Brynjolfsson, McAfee, Sorell and Zhu "Scale without Mass: Business Process Replication and Industry Dynamics", Center for Digital Business Working Paper, 2009.</p> <p>Brynjolfsson, E., and L. Hitt. "Beyond Computation: IT, Organizational Transformation and Business Performance." <i>Journal of Economic Perspectives</i> 14, no. 4 (2000): 23-48.</p>	Brynjolfsson and Saunders, Ch. 3, and Ch. 5.
Tues 12/07	Emerging Electronic Markets	Upton and Fuller, "The ITC eChoupal Initiative", HBS Case 604016	<p>Malone, Yates and Benjamin, "Electronic Markets and Electronic Hierarchies", <i>Communications of the ACM</i>, 1987.</p> <p>Sachs "The Digital War on Poverty" <i>Project Syndicate</i>. http://www.project-syndicate.org/commentary/sachs144</p>
Thur 12/09	The Digital Organization and the Future of the Information Economy	<p><i>If you're a pessimist, then read:</i></p> <p>Kurzweil, Ray "Reinventing Humanity The Future of Human-Machine Intelligence" <i>KurzweilAI.net</i> Feb, 2006, http://www.kurzweilai.net/meme/frame.html?main=memelist.html?m=1%23664</p> <p><i>If you're an optimist, then read:</i></p> <p>Joy, Bill "Why the Future Doesn't Need Us", <i>Wired</i>, 8.04 http://www.wired.com/wired/archive/8.04/joy.html</p> <p><i>Due via Stellar: Final Project Report</i></p>	<p>Brynjolfsson and Saunders, <i>Wired for Innovation</i>, MIT Press, 2009. Chapter 5.</p> <p>Hayek, F.A. "The Use of Knowledge in Society." <i>American Economic Review</i> 35:4 (September 1945): 519-530.</p> <p>Brynjolfsson and Hitt, "Beyond Computation" <i>J. of Economic Perspectives</i>, Fall, 2000.</p> <p>Arrow et al. "The Promise of Prediction Markets" <i>Science</i>, May 2008. http://bpp.wharton.upenn.edu/jwolffers/Papers/PromiseofPredictionMarkets.pdf</p>

Version: 9/06/10

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IT - transform biz + life

Cost of processing ↓

markets process info

tech changes, economic laws don't

many of the class want to know how to sell info
- in businesses
 ^
 their

Enterprise 2.0

search + find partners, customers

- long tail

if you buy his book he credits the \$2 to a party slash fund

4/9

Ove Tuesday
15.567 Reading Guide *-screening mechanism*

Sermo, Inc. and Network Economics

There are a lot of interesting aspects about Sermo, Inc. One that we will analyze in this session is the economics of networks. Not only does Sermo give away access to its site and tools for free to qualified physicians, but they also work hard to get them to use it. Understanding this strategy, where it applies and where it doesn't, can be essential for the successful introduction of many types of digital products and services.

Required Readings:

Case: Sermo, Inc. HBS Case 809142-PDF-ENG

Shapiro and Varian, Ch. 7 Networks and Positive Feedback, pp.. 173-225

Optional Readings:

Economides, N. The Economics of Networks, *International Journal of Industrial Organization*, vol. 16, no. 4, pp. 673-699 (October 1996).

Leibowitz, Steven and Steve Margolis , "Network Externalities (Effects) " *The New Palgraves Dictionary of Economics and the Law*, MacMillan, 1998.

<http://wwwpub.utdallas.edu/~liebowit/palgrave/network.html>

URLs:

Stop by Sermo and read how it works: <http://www.sermo.com/about/introduction>

Study Questions

Please think about the following questions as you do the readings.

1. Who are the main stakeholders in Sermo's Community? What to they each contribute and what do they each get?
2. What are some alternative revenue options for Sermo?
3. What do you see as Sermo's immediate challenges? What are the long-term opportunities and challenges?
4. For what other products or services would Sermo's approach work?

Required Assignment "One Pager" for Sermo Class

Please post a one page memo addressed to Dan Palestrant (max 300 words) analysis) by 9pm on Monday, September 13 (the day BEFORE class) on the Stellar Website in the appropriate folder. Please submit either a PDF or MS Word file, with your name, date and assignment title at the top. (If you do not yet have access to Stellar, please acontact a TA to get access as soon as possible.

Question: If you were advising Dan Palestrant facing the situation he did in 2009, what strategy would you recommend and why?

Sermo

9/11

Conversation

(very much like Techer - except for doctors)

- faces usual QnA challenges

40,000 members / 13% of all doctors

- how did he get so many?

Use usernames - not real names

Clients could pay for aggregate data

\$30,000 - \$1 million

65 employees

Could it add consumers?

Verified physicians only

- ~~that~~ keeping it secure hard

* doctors paid for posting + poll results

- random + w/ people's votes

- need actually diminished to pay

- get more info on this

doctors were ranked

did not take ads to show to doctors

wanted to avoid "arcing"

- how to maintain growth after rapid growth over

2

interested in doctors want to represent themselves directly

posted Continuing training materials

- undercut WebMD

AskRx - could ask medical companies

Gave free access to journals

Job board

paid doctors to recruit people to studies

displayed "HotSpots" - learn or earn from sponsors

(I like this approach much better at ads)

deal w/ FDA to provide them w/ info

- provided legitimacy

launched disease tracking map w/ CDC

~~deal~~ - criticism if over faking gov agency

- deal w/ AMA to cross-ad.

members ~ 1 hr/week

(I never knew this existed - seems to be well done

- helpful for doctors)

- HBS should compare w/ WebMD)

Sold access to investment firms

- w/ more search tools

- paid V to create ethics policy

③

pharma companies have love-hate relationship

- don't like anyone can post criticism

- but up to community to confirm

doctors want drug company info on their terms

- not salesperson sent at random time

deal w/ Bloomberg to extend the info

investors can pay to issue surveys

Sermo could get into direct investment

- but does not want to

Consumers

CEO "health care is like last days of Communism"

move to fee for service

- wanted to make scheduling app and help w/ payments

should the doctor community still grow - or has it peaked?

not yet profitable

- really?

(interesting to see how they charged for info)

Information Rules: Networks

9/11

1999

Success based in networks

- was before FB + MySpace
- but correct

(interoperability) - how does it play a roll

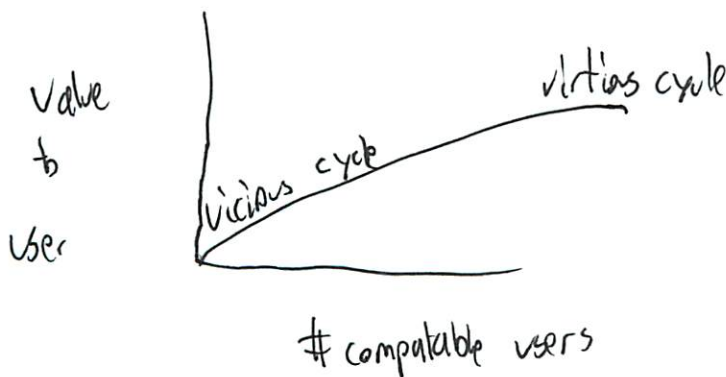
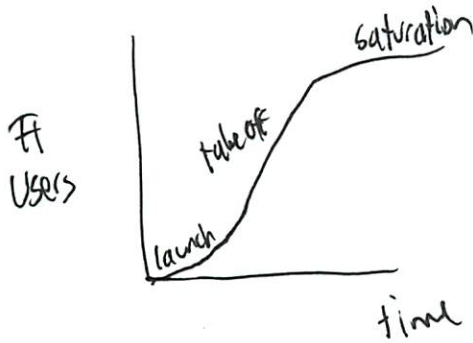
like in transport + communications

positive feedback \rightarrow strong get stronger

need a standard

- DVD +R vs DVD -R

winner takes all



like Palm
now

Collective switching costs make it hard to switch

(2)

(I like this book!)

They mention 'interoperability'

- breaks network effects

(re: then why do companies add it?)

- in order to sell at all

Sony is always incompatible + loses out

MD, UMD, Memory Stick

- would be more profit to them, but consumers avoid)

(look at cloud computing now

- can you take data out?

- consumers + companies demand it

- but in non standardized format

not in every industry

- cars

(since it does not matter what car the guy in front drives)

- (as long as it meets road standards)

* Evolution of compatibility vs revolution of new features *

- or migration path

- tech + legal obstacles

- trying to maintain tech compat. can hobble products

- or ~~the~~ not including upgrade path causes users to ~~not~~ not upgrade or downgrade

3

or converters / bridge tech as last ditch efforts

for revolution need 10x performance to succeed

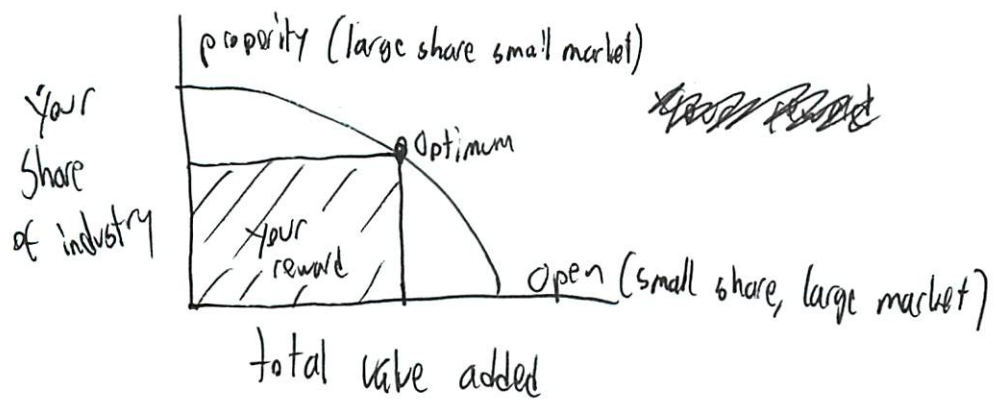
- switching costs
- attracting new consumers

openness v. control

performance v. compatibility

(ok they talked about lock-in in chap 5+6)

are you strong enough to invite (+) feedback on own
 (sony failed b/c Beta, MD, MS not much better)
 (apple win b/c iPhone a lot better)



or big tech
 breakthrough =
 both ways

or grow market quickly but main control of standard
 or selling "official" products
 ie adobe w/ PDF

openness is more cautious

(4)

Some things may be both
or follow open standards in a closed way

full openness or alliance

↑
everyone

↑ Only people that participate

Small companies want openness → (Apple OSX)
big " want closedness → (Apple iPhone)
'strongest

	Control	Openness
Compat	Controlled migration	open migration
Performance	Performance play	Discontinuity

Performance Play - riskiest

tech + product must be far better

little installed base

(ie iPhone)

Controlled Migration

- small improvements to your software

- ie Windows + Turbo Tax

Open Migration

- fax machines, PCs

- one w/ best manufacturing

Discontinuity

- CDs

⑤

(Why then do I look down on biz-person led efforts?)

- not what I want as a consumer

* - trying to protect ^{future} revenue, but end up w/ nothing

↑ this is how I think NFC is

- but sometimes does work - I just don't realize it

(I want to learn a lot more about history - like the HDTV
or cell phone history → STS or 21H?)

Michael Plasmeier

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Plaz

Advice as of the 2009 HBS case

9/12/2010

Dan Palestrant, M. D.

CEO and Founder
Sermo, Inc.

Dear Mr. Palestrant,

The case study conducted by the Harvard Business School stated your intention to enter the consumer market with a "fee-for-service" scheduling application. However, I have significant concerns about the applicability of this new business model to your existing business model. In short, how does your current experience elevate you about other players in this new market? While your push to move into core "need + vocational" services is smart, the proposed product appears to operate completely separate from your existing social community and analytics businesses.

Getting into the health IT industry is a good idea. The US Government is offering \$17.2 billion in incentives to help encourage "meaningful use" of information technology as part of the American Recovery and Reinvestment Act. The market is growing rapidly as companies are rushing to take advantage of the money. However, Nancy Fabozzi, a senior industry analyst at Frost & Sullivan thinks that health IT will have a growth future, solely because the future is not "fee-for-service."¹

"Everybody thinks that fee-for-service is doomed and we have to have a new system of reimbursing physicians for the quality of care instead of the quantity of care because costs are exploding."

1

<http://www.informationweek.com/news/healthcare/EMR/showArticle.jhtml?articleID=227200057> retrieved 9/12/2010

In addition, medical providers will be looking for a comprehensive system that meets the Government's "meaningful use" rules. Such a system would be very costly to develop, and Sermo has not demonstrated how its current strengths will translate in this new market. Perhaps Sermo can integrate its information inside a third party's comprehensive health IT system through a licensing agreement.

did ad agreement w/ Athena Healthcare

Although the market for Health IT is growing rapidly, Sermo should only enter the market if it is able to utilize its existing strengths, namely its vast store of community contributed information.

-Michael Plasmeier

- simple ad model #
- I thought, but didn't write
- too simple
- thought they didn't do ads

2 sided network

- one side creates content
- other side supports site

Conflicts

- ad bias
 - accepting bl
- clients may demand more detail
- drawing conclusions too fast

Diff windows of action

CME → charge for?

Sliding into Dr. lobby

arc of online communities

downward cycle

- feedback effect
- others leave, you do to
- focus on need?

How dominate market

- low marginal cost
- high fixed costs (prevent competitors)
- new-work effect
- multi-homing costs
 - need to pick 1 social network
- high switching costs
- low differentiation

② Direct network effect = fax machine
indirect " " → purchase affects other markets that affect you
friends buy electric cars → more batt swap → helps you
when you
get e-car

Dan Palestrant

- no people here from medical
- a case 2 years ago
- right w/ some things, dead wrong w/ others

One: get insurance co to pay for patient's access to sermo
Student

long term play is consumers

docs + consumers

l. biz model is not sustainable to turn attention

- too many things at once

- need to narrow focus

Q.

ad #s don't add up

- ads by google not effective

- higher value engagements

- sponsorship soon

my ad

Consumers are looking for 2nd opinion

they were involved in health reform into

table set in such a way in this country, but don't get into politics

③ was in their roadmap bubble chart

They are aiming to private practices in socialized 2 tier system

← the rich ← everyone gov

? interesting to target this

They have nothing to do w/ meaningful use

other q - what I thought, was crazy - but did direct ad deal w/ Athena health

fin services failed → client pyramid

+ ~~pharma~~ + meltdown

focused on pharma



← few people, don't like disruptive tech

← people who really would use it

what price do you set it at? for bottom (low) or top (high, few)

doctors have been stuck in pyramid ton

- doctors hate ama
- ama imploding

disruptive to org + biz structure *

suggest events - adj committees

- don't lose focus
- do 1 thing extraordinary well

taking 40 mil

- raise the least amt you can to create next quanta of value

how to build a network + get it to take off

youtube reduced steps to sign up

- drop.io very simple
- *start very simple + delightful*
- they tried, they never went viral
- ~~sta~~ had sign up block

4

long term vision

- Forb's
- they did too much
- they spent too much time on health debate
- sermo 's where docs rock the pyramid

pay to ask for qu

- more their vision for consumer
- info is free
- people won't pay for it
- think consumerism would change health world

* - most important thing
 - people taking responsibility for health

ever thought change doctors, perhaps some content

- doctors live in culture of free
- thing could not monetize

international

- each group wants community
- very little \$ spent there

(realize biz behind everything)

can create flash in pan

- but how to monetize

two selling stats on targeted ads

- some do targeted ads right -> two

how invasive can it be wrong => fb beacon

- an you allow it

big qui lots are free, then have to monetize

- 3 years ago: race for users/valuation (like w/ GV)

- now: need biz models: not google, etc ads

qa: ~~they do~~ are

- they do credentialing
- digg users users to moderate
- they not enough value

15.567 Reading Guide

September 16: Differential Pricing

In the next few classes, we will focus on understanding the opportunities and challenges of selling and buying information goods. A foundation for this understanding begins with differential pricing strategies, including a look at their pros and cons. As we will see, signaling and Screening are related concepts and important in situations of asymmetric information.

Required Readings

Varian, H. (2000) "Buying, Sharing and Renting Information Goods" *The Journal of Industrial Economics*, Vol. XLVIII, Number 4, December 2000.

Schoder and Talalayevsky, The Price Isn't Right, *Wall Street Journal*, Aug 23, 2010.

Evan Miller, "Golden footballs and the Economics of Groupon" May 2009
<http://www.evanmiller.org/golden-football.html>

Daniel Hamermesh "What Do Books and Roses Say About Discounting?" February 23, 2009.

Linda Wertheimer, "New Pricing Plan Soon to Be For Online Music" NPR, July 27, 2009.

Optional: (Not in reading packet)

Shapiro and Varian, Ch. 2 Pricing Information., Ch.3 Versioning Information.

Tirole (1989) *The Theory of Industrial Organization* Chapter 3: Price Discrimination
Read pages 133-152, but skip subsection 3.3.2 (p 148-149).

Shiller and Waldfogel "Music for a Song: An Empirical Look at Uniform Song Pricing and its Alternatives" Working Paper, Wharton School, June, 2008.

Study Questions

Please think about the following questions as you do the readings. Be prepared to explain your answers in class.

1. How would you explain the observed pricing strategies for books and roses around April 23 in Catalonia?
2. Consider an information good or service provided by a company with which you are familiar (e.g. a former or future employer). How can "versioning" be used to increase its profits? Be specific.
3. What are the barriers to the use of differential pricing for information goods? Why might it be difficult to engage in versioning in a competitive market? How can you avoid these problems?
4. What do you think of Groupon's pricing strategy?

- Serng cut ~30% of staff to be close to profitability

- ~~project~~ Tue: comany / product / service

- doing something cool like Grazeon

- Woot

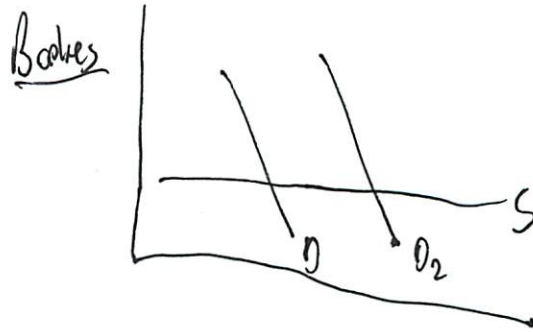
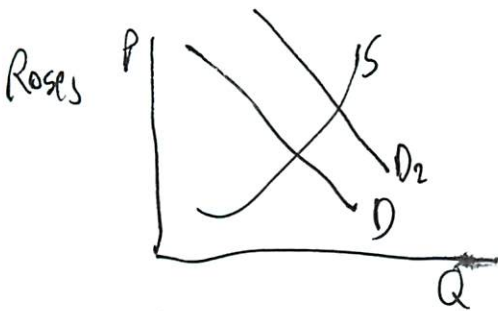
assignment due Mon night

books + roses

why are books cheaper?

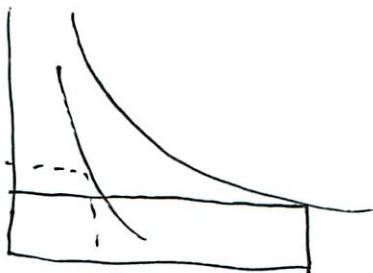
- roses perisibile

- more or less sellers



1 type of rose

multiple types of books



Diff demand elasticities

biggest rectangle

diff: in diff places

$$\frac{\frac{dP}{P}}{\frac{dQ}{Q}} = \frac{1}{\epsilon}$$

②

? are roses lux good?

- buy most expensive one

Who buys it

- what the person's income in

- charge according to client's willingness to pay

- clothing

- how they say, dress

Signaling + ~~after~~ screening

Slides →

Bundling Reading → Erik's Paper

9/18

- online (and many times offline) marginal cost = 0

- can aggregate/bundle

- or disaggregate

- sell stories, not newspaper

(oh this is what I talk about on TWS w/ amusement park
+ sat. subscriptions, not a la carte)

Erik in 1997 found conflicting

- disaggregation helped by ↓ transaction ~~costs~~ costs
↓ distribution

- but aggregation helped by ↓ marginal cost

(are transaction costs ⇒ CC swipe fees ⇒ low ??)

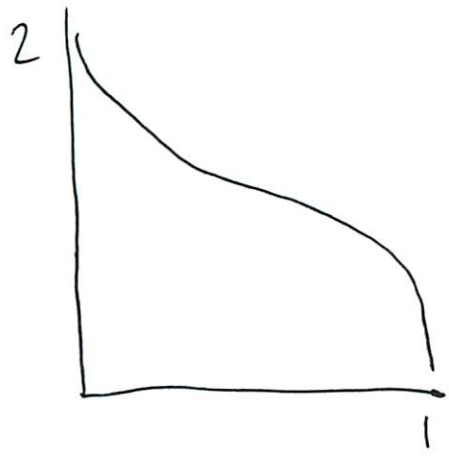
~~Micro~~

micropayments are possible

(but no one has done it)



2

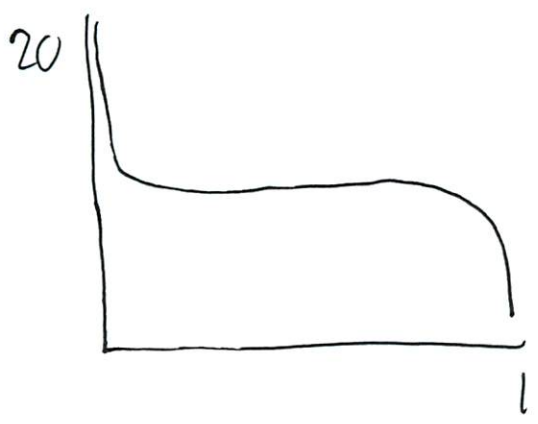


Demand for 2 info goods
\$1 each

(but why that shape?)

Q

[Demand for each independent]

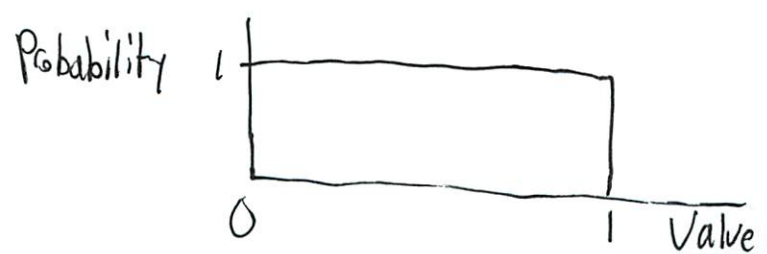


Demand for 2 goods

↑ at \$10 almost every consumers would buy it
but ~~any~~ individually half of consumers would have bought
at profit maximizing .50 c price

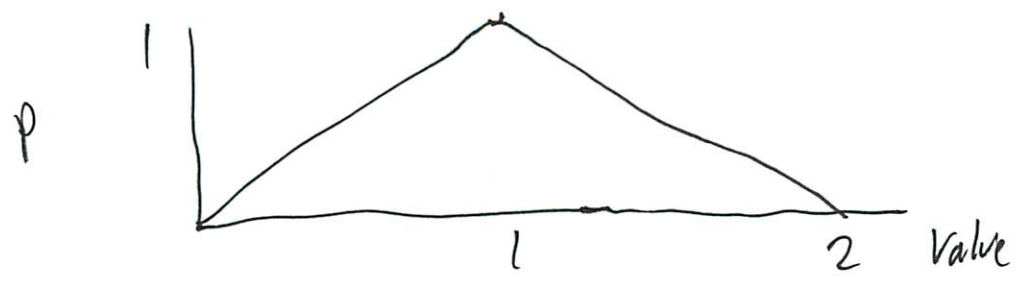
Why does shape change?

- as goods are added the valuations will be more concentrated near the center



1 good

3



2 goods

? demand concentrates

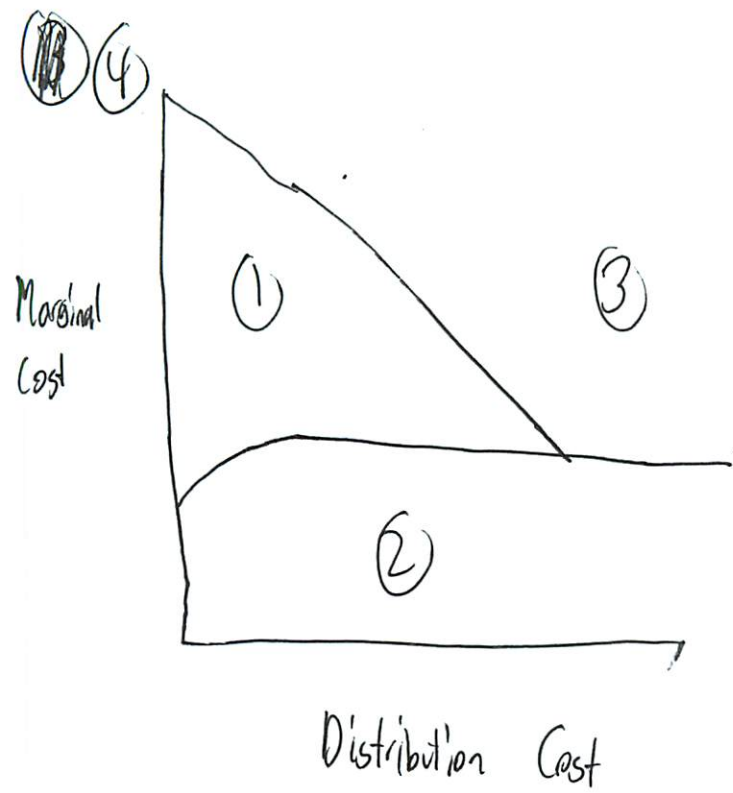
* Changes a consumer's demand so a single price fits them all *

- reduces the heterogeneous distribution of WTP

- Consumer A	would pay \$20 for good 1	and \$5 for #2
B	\$5	\$20
C	\$12.50	\$12.50

So charge them all \$25

(~~is it also~~ but that 'is not what I was thinking w/ the psychological pull at wallet "cost")



- (1) = unbundled) more profitable
- (2) = bundling)
- (3) all sales unprofitable

if consumers don't value a lot of ~~the~~ goods in bundle - marginal cost effects magnified

if valuations exponentially

- few people high value
- many people low value
- popular in early days of web
- (but does not describe why this failed
- cc pull out psychology?

5

Site license

- aggregate across ~~all~~ users
- reduces admin costs for purchase
- " maintenance " " updating, etc
- and charges people who won't use software
- needs an agent to buy on behalf

Subscription

(liquid web is good at this)

(my use is uneven)

- aggregates use better than hourly charge
- ^ 1 year

(this is all why aggregation is good for multiple users

- getting them to buy

- not the "I-consumer" "why not throw it in box for \$1 more"

- or the pull CC out psychology)

Mixed Aggregation

- ~~simultaneously~~ aggregating + disaggregating on multiple dimensions simultaneously
- site license subscription

(6)

or mixed aggregation

- offer both aggregation + subsets for lower-value consumers

disaggregate on dimensions where consumers give their WTP
or menu of benefits

kerenka

could charge for every verifiable action

(amazon S3 does it)

they say: reduces aggregation

(does not talk about psy.)

When use micropayments?

- if marginal costs are high

- if a few users ~~can~~ have high-valuation than rest
(that exponential thing?)

- if don't have many goods to aggregate

(if he had all the ans - he would be making a biz -
not being a prof)

15.567 Reading Guide

September 21: Bundling and Aggregation

How, why and where do bundling and aggregation work? How are revenue models for content online similar to the revenue models offline, and how are they different?

Required Readings:

Bundling, HBS Case 9-191-177

Bakos, Yannis and Erik Brynjolfsson "Aggregation and Disaggregation of Information Goods: Implications for Bundling, Site Licensing and Micropayment Systems," in Varian and Kahin, Eds. *Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property*, MIT Press, 2000.

Albanesius, "If Sirius-XM Can Offer A La Carte Programs, Why Can't Cable?" PC magazine, July 30, 2008. <http://www.pcmag.com/article2/0,1895,2326817,00.asp>

Optional:

Bakos and Brynjolfsson (2000) "Bundling and Competition on the Internet" *Marketing Science*, Volume 19, Number 1 (Winter 2000), pp. 63-82

Bakos and Brynjolfsson. (1999) "Bundling Information Goods" *Management Science*, Vol. 45, No. 12 pp. 1613-1630.

URLs:

Here are some interesting content sites to visit – check out the pricing pages of each one. For content which is available both online and offline, what differences do you notice?

Comcast pricing: <http://www.comcast.com/shop/buyflow/default.ashx>

Sirius pricing:

<http://www.sirius.com/servlet/ContentServer?pagename=Sirius/CachedPage&c=Page&cid=1065475754240>

Apple TV Pricing <http://www.apple.com/appletv/>

Napster subscriptions:

<http://www.napster.com/faq/subscribetonapster.html#subscribetonapsterq1>

Consumer Reports: <http://www.consumerreports.org> or Wall Street Journal online: <http://www.wsj.com>

Here's an interesting blog post about iTunes and Bundling:

<http://elidourado.com/blog/itunes-bundling/>

Study Questions

Please think about the following questions as you do the readings.

1. Visit a few content sites and note the similarities and differences of the sites and approaches. What other examples of subscriptions, bundling, per-unit pricing and advertising can you identify? What patterns do you observe?
2. Bundling unrelated goods is relatively uncommon for physical goods, but much more common for information goods. Why?
3. Why haven't "micropayments" caught on more widely on the Internet?
4. How are the economics of site licensing and subscriptions similar to the economics of bundling? What characteristics of the Internet make aggregation more or less attractive?
5. What's the future of content? What will be the revenue models in 5 years?

Required Assignment: Bundling Exercise

Please submit your answers to the four questions below via Stellar 9pm on Monday, September 20 (the day BEFORE class).

Questions:

Please refer "The Concert Series" example from the short HBS Bundling Case in the course pack and answer these two questions:

1. What price per concert maximizes revenue if you are *only* selling individual tickets per concert and do not offer a series price? (Hint: 4 Groups (everybody in this case) would pay at least \$5.00 for either concert $4 \times 5 \times 2 = \$40 =$ Total revenue for the two concerts at per concert price of \$5.00.)
2. What price maximizes revenue for the series if you are *not* offering individual tickets and offer the customer only the "buy the series or nothing" option? (Hint: The "Romantic" group would pay \$60 for a series (bundle) of the two concerts, but the "Sophisticate" group would not pay that much for the series.)

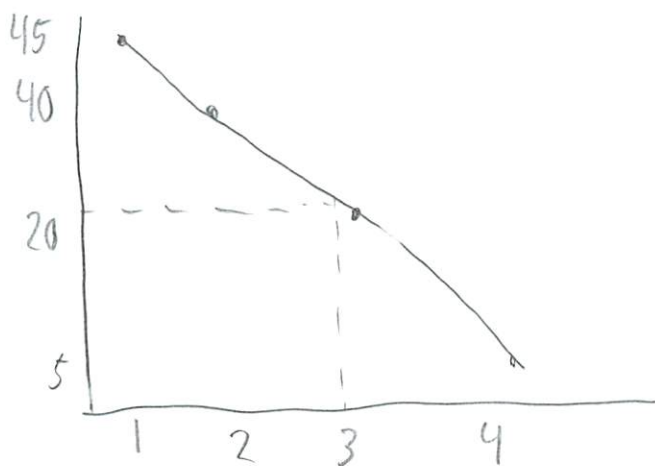
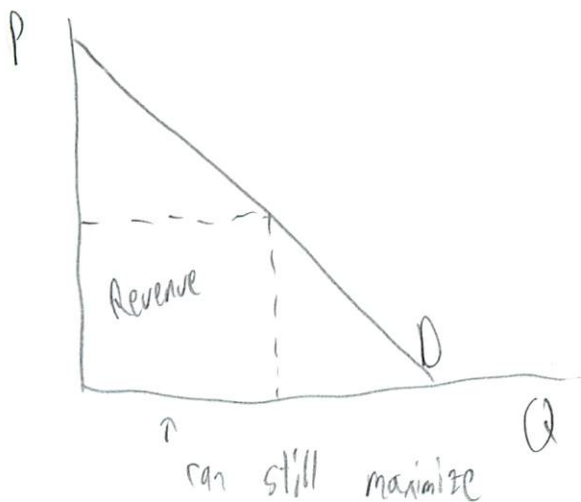
Please refer the "Multiproduct Pricing" example from the short HBS Bundling Case in the course pack and answer these two questions

3. If, in this population of 10,000 potential buyers, the willingness-to-pay for product A was *perfectly correlated* with the willingness-to-pay for product B, what would the demand curve look like for a bundle of A and B? (Perfect correlation means that every person with a \$100 value for A also values B at \$100, while those who value A at \$99 will value B at \$99, etc.) What is the price that maximizes total profits in this case?
4. What is the demand curve like and what is the optimal price if willingness-to-pay were perfectly **NEGATIVELY** correlated (i.e. WTP for A=\$100 implies that the WTP for B=\$0, etc)?

1. What price to charge for each concert?

- set price where $MC = MR$

- but no MC?



<u>P</u>	<u>Q</u>	<u>Revenue</u>
5	4	20
20	3	60
40	2	80
45	1	45

← max is at least 80

- how to calc again if not one of these functions?

Textbook:
$$\text{Price} = \frac{MC}{1 + (1/E_d)}$$

helpful!

2

But if $MC = 0 \rightarrow$ then that does not help

2. What if bundle only?

60

40

50

50

<u>P</u>	<u>Q</u>	<u>R</u>	
50	4	= \$ 200	←
60	2	= \$ 120	

3. Price perfectly correlated - where are they getting those #'s?

So we have A+B \$200

\$148

etc

$$\frac{(200 - 2P)}{200} = \% \text{ willing to pay}$$

willing to buy

See spreadsheet

- exactly the same revenue!

4. See spreadsheet

- but it's not 100% of the people

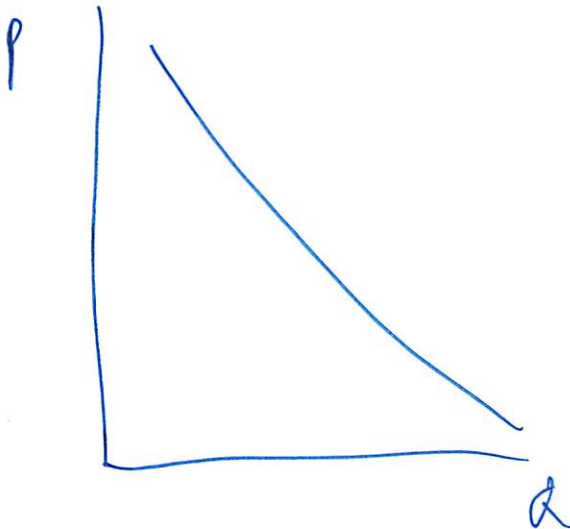
Confused

1. Only consider discrete cases
- not continuous

~~same~~ diff Const, same demand curve
so same price

2. \$40 more independent

3. That is what supposed to get
Make demand curve



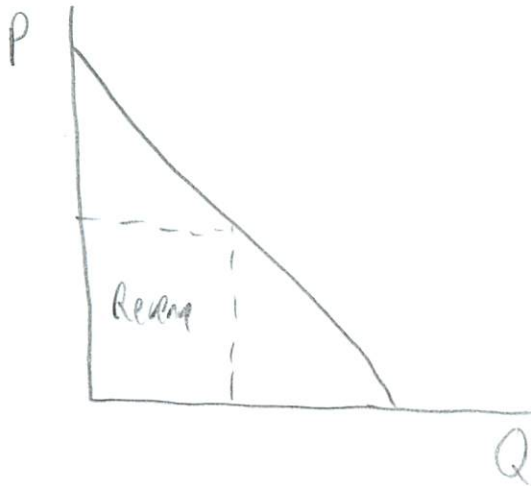
4. Demand curve as well
at b bundled

15.567 Bundling

Reds Before Turn
In

9/20

1.



Same for both concerts

<u>P</u>	<u>Q</u>	<u>Revenue</u>
5	4	20
20	3	60
40	2	80 ← maximizes
45	1	45

We only care about discrete

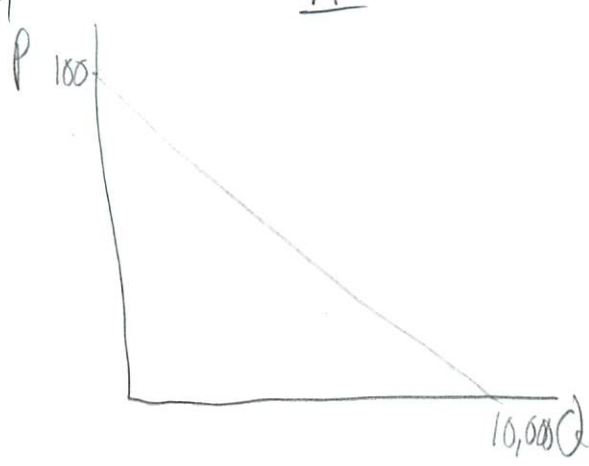
2.

<u>P</u>	<u>Q</u>	<u>R</u>
50	4	200 ← best, bundling good
60	2	120

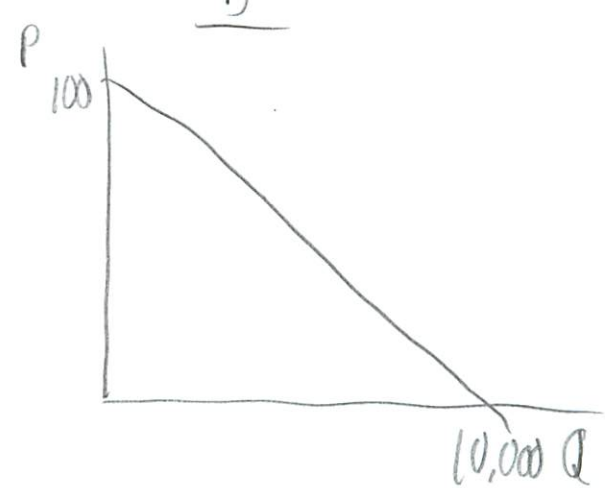
2

3.44

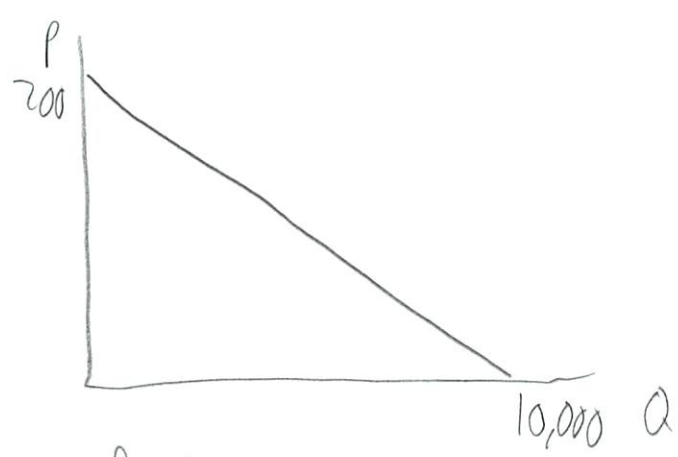
A



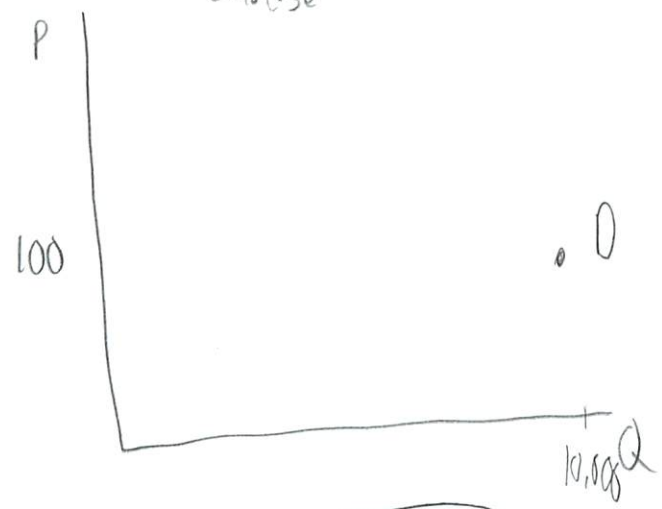
B



Bundel



4. Bundel Inverse



+ see Excel file

Price Discrimination (continuation)
↳ good test question

- 1st Individual
- 2nd Versioning
- 3rd Group

Colleges charge a personalized price
- financial aid

(never thought about it)

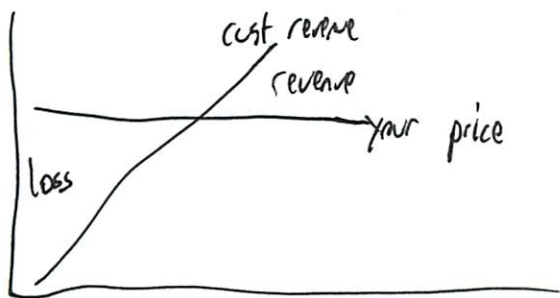
(why should not just "charge what you pay" lang not "scholarship")

Kurzweil Voice Reg price discrimination

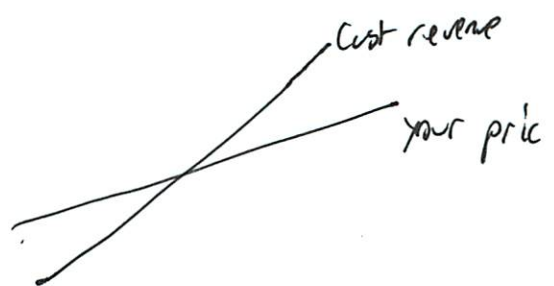
Revenue based pricing

- form of 2nd

- how much people use to profit



upfront fee



revenue based

Smaller possible loss
no upside

②

Online + Offline version

- discriminate here too

Amazon does online + offline and new and used

How do you decide how much to price?

- book sellers: random, just decide, see what competitors do
 - a lot of old fiction writers out of a job :)
-

Need to look at cross elasticities

- try to do some experimentation

Amie Street - song price changes based on how much purchased

- ~~she~~ has not sure it worked super well

- assume low price = low WTP

- could be other way around

- ^{few} fanatical fans may be willing to pay a lot, few sales

- are people willing to pay more to go straight to good songs

Guidelines

need characteristics that are correlated w/ valuation

aim for complements

arbitrage: easy to get around lock

Value subtract

when in doubt: 3 versions

- famous microwave experiment → framing → go for middle version

3

Gas - octane rating

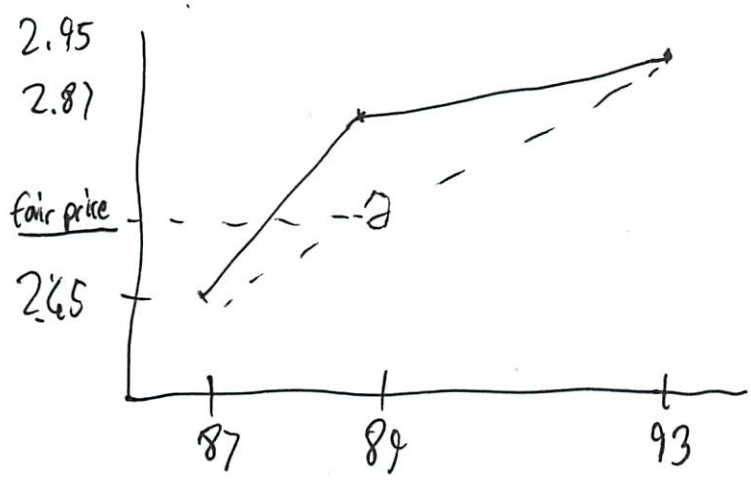
2.65 2.83 2.95

87 89 93

Reg Special Super +

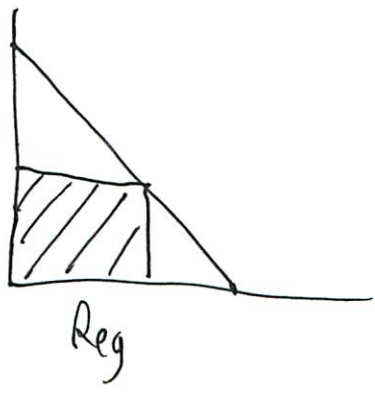
- many gas stations mix 87 + 93 to make 89
 \uparrow \uparrow
 $\frac{2}{3}$ $\frac{1}{3}$

- look at pricing



Group / 3rd^o Pricing

- diff WTP



vs



9

- student discounts
- senior citizen discounts
 - have higher income actually
 - but have more time to compare
- BoA hard to sell CDs in FL
 - needs to offer a good rate
- pharma companies

Pit falls

- confusion + resentment
- arbitrage - easy to convert
- implementation cost
- law?

How to make a ~~break~~ bundle

- closely related to price discrimination
- Blockbuster vs HBO
 - ↑ separate price
 - ↑ bundles

(see slides)



15.567 Reading Guide

September 23: Search and Competition

"Price dispersion is a manifestation – and indeed, it is the measure -- of ignorance of the market" --George Stigler, Nobel Laureate in Economics

The Internet and other information technologies are profoundly affecting the quantity and quality of information available to consumers. How is this affecting competition?

Readings

Smith, Bailey and Brynjolfsson, Erik "Understanding Digital Markets" in Brynjolfsson and Kahin, eds *Understanding the Digital Economy*, MIT Press, October, 2000.

Optional:

Bakos, Y. (1997) "Reducing Buyer Search Costs: Implications for Electronic Marketplaces." *Management Science*, Volume 43, Issue 12 (December 1997), 1676-1692

Brynjolfsson, E. and Smith, M. (2000) "Frictionless Commerce? A Comparison of Internet and Conventional Retailers" *Management Science*, Vol. 46, No. 4 (April 2000), pp. 563-585

URLs

<http://www.pricegrabber.com/>

<http://www3.dealtime.com/>

<http://www.expedia.com/>

<http://www.mysimon.com/>

<http://www.redlaser.com/>

Study Questions

Please think about the following questions as you do the readings. Be prepared to defend your answers in class.

1. Before class, search for a consumer product like an iPod at Amazon, eBay and one of the shopping agents above. What is the range of prices you encounter?
2. How do search costs affect pricing and competition? How have search costs changed in recent years? Does your answer differ for consumer vs. business-to-business markets?
3. Do you normally use price comparison engines when you shop? If not, why not? If yes, for what products or services do you find them most useful?
4. Has the Internet made branding more or less important? Looking ahead 5 years, how would your answer change?
5. With smart mobile phones proliferating, it is increasingly possible to do real-time price and feature comparisons anywhere and at anytime. How will this affect competition? Who will win, who will lose and who will need to change?
6. As both sellers and buyers get better tools for pricing and price discovery, who will win? How will competition change?

15.567 Reading Guide

eBay

Network effects are interesting when there is only one relevant network, but they become downright fascinating when two networks interact. The effects can be profound and confusing for revenue models and platform competition. eBay provides a fascinating case example.

Readings Required:

Case: Edelman and Larkin, eBay Partner Network (A), HBS: 910008

Optional:

Arthur, B. "Increasing Returns and the Two Worlds of Business." *HBR*

URLs:

Visit (or revisit) eBay and remind yourself how it works
<http://pages.ebay.com/education/index.html>

Study Questions

Please think about the following questions as you do the readings.

- 1) eBay runs substantial online marketing through paid search (ads on search engines) as well as display campaigns (banner advertisements on thousands of web sites). What, if anything, does affiliate marketing add?
- 2) The case presents eBay deciding to cease using Commission Junction, the web's largest affiliate marketing network, and instead go it alone. Is this a wise decision? Why or why not?
- 3) Exhibit 6 presents commission schedules. Why do you think eBay chose this commission structure? Could it be improved? How?"
- 4) Neel Sundaresan, head of eBay Research Labs, may be joining us for this class. What questions do you have for him?

Required Assignment "One Pager" for eBay Class

Please post a one page memo addressed to Steve Hartman (max 300 words) analysis) by 9pm on Monday, September 27 (the day BEFORE class) on the Stellar Website in the appropriate folder. Please submit either a PDF or MS Word file, with your name, date and assignment title at the top.

Question: Based on the eBay case you read, what advice would you give to Steve Hartman and his team at eBay?

ebay Case

9/25

- affiliate program
- to refer custs to ebay
- controversial
- largest in history
- fraud
- had been using Commission Junction
- Q6-07 sales dropping
 - fees ↑ as record revenue
 - people moving to Amazon
 - people buying less

(I agree, I buy less → too much opp. for fraud

- ~~action~~ and hassle of auction
- good for used, one of kind items)
- cost per sale or cost per lead
- Only pay on action
- so can put ads anywhere
- networks (Commission Junction) do processing for a site
 - and easier for affiliates to sign up
 - Link Share + Google also players

② CJ ~~paid~~ charges merchants \$3,000 setup
30% extra on payments
and a few cents to email affiliates

ebay paid affiliates for each signup (and placed a bid)
between 25-35¢

if won within 7 days affiliated paid 50-75% of ebay's revenue
(a lot!)

both ebay + CJ monitored program

3/08 → announced own affiliate program
affiliates had to change their code over

- among the web's largest affiliate program

(I dislike affiliate → its by any means necessary

- and not really quality brand building

- or even if people search for prices

- rather if they stumble into dark corner of internet)

were used in free ipod promotions

some affiliates had browser add ons which auto added code

③ DPS allegedly opened a ebay window so cookie placed on pc
then if user later vol. went to ebay, DPS paid
what do they keep and what do they charge?

- whole thing spammy
- see what they actually changed
- more rules against free ipod etc
- offer payments for other things
- more tools to identify fraud
 - track clicks
- I kinda like amazons better
 - seems more honest
 - look at

- video
- more tools to display actual auctions
 - context ~~agnostic~~ agnostic
 - driving traffic to your own auctions
 - commission and higher bids
 - geo targeted
 - full api
 - rich js tags "widgets"
 - 60,000 in us
 - 100,000 world

④ each country has separate rules

W/API Full custom apps

reporting graphs

- Downloadable

Quality Click Pricing

- price per click

- not auction win

- but price based on your history of sending traffic

- ~~does not depend~~ smooths things out more

- Used to get dinged when ebay had a sale

- tips

get people interested to buy before ebay

niche content

relevant content

UGC

Use widgets

Send to right global

which page to send to

test + optimize

long term value per user

click filtering - to ↓ EPC

set for each day

ebay video

Gridview
- int was problem

5)

(Should not have cheated + watched video)

- actually great way to hide prices
 - and possibly ↓
 - or pay for diff. things
 - * black box *
- presenting it as good, wonder what people thought
- or for mid-level earners how it changed
- also bogus clicks have more of impact
 - ↓ EPC
 - but what matters is EPC • clicks
 - so ↑ clicks ↓ EPC should iron out
 - depends on EPC formula
 - good way to stop phantom clicks
- very ingenious fix
- perhaps due to taxation
 - APC ≠ affiliate
- if EPC ↓ .03 → drop out
 - but could do other things
- Beta testers say earning about same

(6)

So base it off my example from GV

- hard to monetize international traffic

- -? are they worth less in US\$

Could focus whole pager on this

really don't want to copy from what they actually did

try to devalue free ipod.com + etc

technical get around cookie

Standard widgets

- don't want ebay clone

big idea: apps

- everyone wants an app store

- api

- ~~app~~ app owners make a portion of transactions

↑ goal - everyone loves an app store

↳ classic consultant thinking → copy successful thinking

- and you know people would like the idea

- but of course need a twist on it

- \$ per trans

- though less than ACQ

- more of continuing usage

Standard - why API good

- as long as making trans. fees

- not just ebay website

- ~~should~~ seems to be 2 uses of API

- new features

- new frontend ← making new devices

- should I focus on API?

Econ Info Blog: Time Warner Pricing

-check

Continue from last time

did halfway then projector broke

ebay affiliate

- what people suggested/said
 - adds eyeballs would not get otherwise
 - hazards w/ shady deals
 - (J) no incentive to improve
 - moral hazard?
 - enforce affiliates to play fair
 - like the ebates
 - split proceeds w/ a law firm to go after
 - bad affiliates: does it hurt ebay?
 - not domain intermediary
 - waiting
 - (^{me} - merchants offering other kickbacks)
 - in addition to ebay
- Oh ebates depends on category
1-3%

(2)

affiliate things done offline
"kickbacks"

- referral feeds
- now automated

of whole affiliate network
or slw through CT? or against ~~CT~~ CT?

Strengths

- data
 - and good that CJ does not have it
 - valuable to analyze
 - (how, you always hear you can, but how)
- direct connection
- direct interaction
- CJ fees avoided
30%

Weaknesses

- police for fraud
- ~~no~~ intermede
- switching cost
- multi homing
 - partners part of multiple affiliate plans
- employees to build up network

Some people think colling your own is bad

- affiliates won't switch to you
- but if you are largest ~~operator~~ advertiser
- market power

③

- Can have multiple ~~partners~~ affiliate networks
- Paypal great for dealing w/ small players

Head of eBay Labs via Skype

Current issues

- Was pure 2 sided network
- people are basically good
 - reputation
 - ~~they recently changed~~
 - ~~since~~ original part of ebay
 - originally anyone could leave feedback
 - w/o transaction!
 - then just buyers + sellers
 - but people leave + or no feedback
 - no one ever leaves -
 - when most people are 99% and above
 - 4 dimensions to leave feedback
 - ~~sellers~~ sellers → buyers must be ⊕
- same w/ ~~challenge~~ changing fees
 - how?
 - data driven
 - see behavior
 - it depends on the categories

(4)

Mitigate affiliate cannibalization

- don't step on

have a developer community

200,000

- what I suggested!

They don't step on developer's toes

- by duplicating feature on main line sellers

except checkout

- as long as experience is good
- some don't scale well

how do you police affiliates

- all logged + monitored
- all gets monitored
- they bid on google ads directly
- can tell quickly

build incentives for good

fraud down a bit since now

See trust + fraud as different

what they want to fix
 everyone lies a little
 their big problem

how much revenue from affiliate

- pass

5

How improve trust:

- ebay + paypal guarantee
- they can control
- ~~big~~ one of big issues

big ? when launched guarantees

- see a little abuse
- buyer fraud
 - cold feet
- jewelry + watches
 - market smaller
 - can buy inventory
 - go to trade show
 - if does not sell return

Closing

- trying to include more economists in labs
- ebay built by software engineers
- economists never said it would work
- changes way economists do research
 - can run tests
- everyone is testing stuff
 - whole community

15.567 Reading Guide

September 30: Pricing at Zero

The marginal cost of digital information is often very close to zero. Does this mean the natural price is also zero? Chris Anderson thinks so. Malcolm Gladwell and Barry Diller don't agree. What are some of the arguments for pricing at zero? Is this the future?

Required Readings:

Chris Anderson, "Free! Why \$0.00 Is the Future of Business" *Wired*, Feb 25, 2008.
http://www.wired.com/techbiz/it/magazine/16-03/ff_free

Parker and van Alstyne, 2002, "Two-Sided Network Effects: A Theory of Information Product Design", *Management Science*, Oct, 2005.

Malcolm Gladwell, "Priced to Sell: Is Free the Future?" *The New Yorker*, July 6, 2009.

Bloomberg News "Diller Calls Free Web Content a 'Myth, Joins Refrain'", July 24, 2009.

Rich, Motoko, "With Kindle, the Best Sellers Don't Need to Sell" *New York Times*, January 22, 2010.

Optional:

Parker and Van Alstyne, "Strategies for Two-Sided Markets" *Harvard Business Review* (2006)

Shapiro and Varian, Ch 5 and 6

Brynjolfsson and Saunders, Ch. 2 and 7.

Chris Anderson, *Free: The Future of a Radical Price*. Hyperion, July 2009.

Study Questions

Please think about the following questions as you do the readings.

1. What are the main arguments that Chris Anderson makes for why \$0.00 is the "future of business"?
2. Do you find Malcolm Gladwell's rebuttal convincing? Why or why not?
3. Describe a formal taxonomy listing all the distinct revenue models that can make zero the optimal price. Can you identify real-world examples of each branch of your taxonomy?
4. What three questions would you ask Chris Anderson if he visited our class?

Pricing at Zero Lecture

9/30

- did not fully read

free

- Credit card block

- even more than free vs 01 cents experiment

Class Discussion

freemium

- promotion

- get some to pay

2 sided network effects

Cost of things going down

- tech to run stuff

- frameworks to build on

- open source

~10x improvement every 5 years

100x " " " 10 "

Psychology of free

WSJ: go to site, copy headline, paste into Google
to get around Paywall
arbitrage

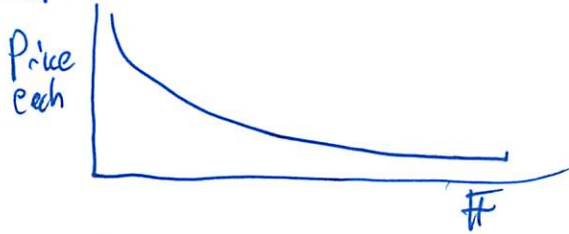
Google's YouTube can't get much \$ from their ads
- analyst: losing half a billion \$/year

McGladwell: not sustainable

②

estimate of Netflix movie bandwidth cost
~ 220 in 1998

Learning Curve



Price at MC where a want to be

Telcos massively overshoot in fiber install

- predicted things will grow faster than they did

VCS ~~want~~ invest a lot hoping they make it up

~~fast~~

asiani its a very western view

- and its only info sector

- which is small sector of ~~the~~ econ

Content on Youtube + MySpace Crappy

Oxw + Fin Aid

- not really free market

- brand rec.

- they ~~tried to charge~~

thought about charging - but # did not add up

- MBAs pay for recruiting, networking

- versioning

3

- alumni + donations cover
 - not really driven by \$
 - mission
 - "gift" economy
- 80-90% drop off w/ a pay wall
even for small amt
-

Free

- was not free anymore
- Chris Anderson interview
skype: the long tail
- digital form was free for a month
- audio book is still free - unabridged
- abridged version \$
- did too much free:
- Japan did 10,000 free ~~of~~ e-books
 - sold for more
- was too complex
 - simplify free → pay
 - what is difference?
- controlling messaging + presentation

9

- when free was no longer available, listing expired
not ~~from~~ try to upsell
- when marketplace confused
 - do nothing
- do: free and simple
- geo restrictions
- free, but no PDF

- Simple, clear choices

QnA

- free part of creating market?

- advertising -> 3rd party
- freemium
 - no 3rd party
 - sample, marketing
 - where the marketplace is shifting
 - challenge is getting balance right
 - too little: won't try
 - iPad wired: simple upgrade
- so many things to do for iPad app
 - why iPad cost more
 - very inefficient: very expensive w/ CDNs
 - creating artificial scarcity
 - then you can price what market will bear

5

Raise barriers to entry → app

will do multiple prices

- subscription

- bundle w/ print

- not done yet

archive, retail, etc

Q: Low value of online ads

- not as powerful on ~~web~~ + print + iPad

- low engagement

2-3 min

very highly fragmented

Stream undifferentiate content

Value is in presentation, packaging, curation

1-1.5 hrs on mag, iPad

not immersive

So much competition

Q: Web dead, rise of closed platform

- some content iPad only

- some given away

- war free vs. premium

- choice b/w 2 free models

- shift to what makes \$

6

Concerned about future of web as consumer

- closed locked down

- premium

economic vs cultural hypocrisy

- closed = scarcity \rightarrow profit power

- strictly commercial contest

Shift to mobile + dedicated devices

- TV

- ad biz model did not work out

- not concentrated

Q: Will newspapers move to pay wall?

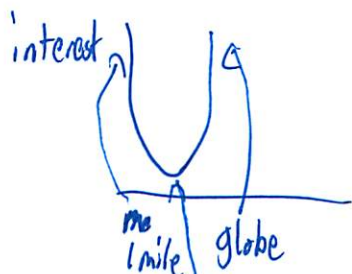
- premium brands could do it

- most won't

- competing global stage

- if any model will work - not sure

- not adding any unique content



city & metropolitan dailys
worst place

global & world class or niche

⑦

Supprised that one would question YouTube profitability

- Wall St. analysts stink
- google owns big chunk of internet
- barter from ISPs

Q: Labor Exchange

- create content as they engage
- ~~open~~ DIY Drones sell hardware, software is free
- development is done by community → free
- ~~for~~ solving own, data belonging, community

↑ biggest reason

- hardware has to be paid
- people volunteered
- royalty scheme - community turned it down
- hurts consumer

(SIPB)

↳ how I don't really fit in

- labor arbitrage: free labor better than China + India
- US + European
- can compete w/ any market
- Chinese don't get it - it costs more for them
- they can't copy
- community won't support

diydrone.com

call over

8

asked again: he retracted

- direction of wired changing w/ iPad

What did the course reader cost?

- Copyright clearance ~~for~~ center did it

- he will get price list

How make more on iPad?

- How can wired charge?

- Hulu Plus?

- user base i very discretionary income

as become widespread perhaps will change

Half of best sellers on kindle are free

Slides



Free a Myth? Late Reading

10/4

- well Yes people will pay

Netflix, Hulu

it better be very good content + experience

iPad, etc

Media mogels have not figured that out

Very interesting how publishers are giving books away as promo

- Support's anderson's thesis

if you don't sell it at a price

- What do you have to lose?

"devalues content"

- harder to charge more in future

15.567 Reading Guide

October 5: Amazon.com

Amazon.com has long been a poster child of the information economy. Jeff Bezos's "get big fast" strategy led to thousands of me-too business plans: "*Our plan is to be the Amazon.com of the XYZ market...*". Today, Amazon survives, thrives, and, to the relief of investors, achieved profitability. Even so, it faces new challenges and opportunities such as cloud computing. What can other businesses learn from Amazon today?

Readings

Case: Amazon Enters the Cloud Computing Business Stanford University case 2008-353-1; May, 2008.

Marini, "Geeking Out at Amazon," *Technology Review*, Nov/Dec 2007
<http://www.technologyreview.com/article/19543/>

Optional:

Stone, Brad "Can Amazon Be the Wal-Mart of the Web?", *New York Times*, Sept 20, 2009. <http://www.nytimes.com/2009/09/20/business/20amazon.html>

URLs

- <http://www.amazon.com>
- <http://www.ebay.com>
- <http://www.walmart.com>

Study Questions

Please think about the following questions as you do the readings. Be prepared to defend your answers in class.

1. Is Amazon a technology company or a retailer? Should Amazon focus on making its platform and services available to other retailers? Is delivering Cloud Computing a good strategy for future growth?
2. How does the customer experience at eBay compare with Amazon's? How do the supply chain and logistics compare with Amazon's? How does the business model compare? What are the strengths and weaknesses of each?
3. Amazon started with a focus on books, based on Bezos's analysis of the industry and conclusion that it was well-suited for a web-based model. How far do you think Amazon can stretch its brand and infrastructure to other products and internationally? What are the benefits and risks?

4. What three things should Amazon do in the next 5 years to build on its early successes?

Required Assignment “One Pager” for Amazon Class

Please post a one page memo addressed to Jeff Wilke, Sr. VP of North American Retail at Amazon (max 300 words) analysis) by 9pm on Monday, October 2 (the day BEFORE class) on the Stellar Website in the appropriate folder. Please submit either a PDF or MS Word file, with your name, date and assignment title at the top.

Question: Based on the Amazon case you read and the other readings in class so far, what would advice would you give to Jeff Wilke and his team at Amazon?

Amazon Case

10/3

- about AWS
 - lots of things seemed wrong
 - not as I would describe them
 - did not really cover the service
 - 2 years old too it seems
 - customer focus surprising
 - not much people
 - but good experience
 - good on logistics problem
 - MIT's LFM
 - is this about Amazon's retail or AWS?
 - Frustration free packaging
 - (should have mentioned)
-

Advice for AWS

- what to say
- good plan keep at it
 - realize very basic service
- resellers need to build on top of it
- is reduced redundancy new?
 - will you be notified about loss?

②

Are doing industry case studies

But Jeff Wilke is not AWS

- is the advice for AWS

- or Amazon in general

Do AWS and to it to someone else

kinda a mess

- but only 300 words

- not easy to cover much

Jeff Wilke

- LGO grad
 - was leader for Manufacturer
- 3 main cus sets
 - web services
 - internal devs
 - some small # external developers
 - thought of as customers
 - consumer
 - marketplace
 - could it work
- late 90s
 - why are you doing heavy lifting w/ warehouses?
 - great value in complex scale-based biz
 - grow company fast from investment
- ~~retail~~ retail biz i cut over from very long ~~tail~~ tail
 - tried auction
 - one offs
 - works of art
 - Z shops
 - no one care
 - sellers want traffic
 - offer traffic
 - makes platform more attractive
 - tinkered for years
 - sellers as customers

(2)
- don't know of 100 ^{billion} million \$ biz
w/ good middle management

- trapped in bureaucracy

- or punch in clock

- growth rate allowed ^{founding} leaders to still operate parts of biz

- will get \$o pt when the leaders were not w/ company

- it can run for a long time on auto pilot

- leadership pipeline

- their hiring!

- willke @ amazon.com email

- wide range of leadership experience

- no one has done this size before

Q: the security + profitability AWS

- he does retail in US + Canada

- but not his biz

vigilance, intellect, architecture, not cutting corners

~~the~~

Q: do costs care

- depends on how much costs know about ~~the~~ cloud

- VCs can't give \$ to servers

- security not a problem

- big companies trust it more + more

③

Q: AWS profitability

- we are still investing in it
- think profitable in long run

Q: Why Amazon doing cloud computing

- retail is very low margins
- helped them run in scrappy way
- they are not doing private cloud
 - so simpler to test
 - more efficient
- we are tech + retail company
 - both are good

Q: People building on

(I understand this already)

- they did primitives

Q: "

- you must offer a good price as well
- and be able to ship it out

Q: - social network behavior is different w/ context

Q: Leadership, ~~the~~ losing peoples' focus

- ^{need} person for each retail cat
- real single threaded ownership
- not matrix of responsibilities

(4)

Q: Career advice:

- work hard
- disciplined
- focus on long-run
 - not quarter to quarter
- lead by example
 - roll up sleeves
 - make a difference
 - add value to biz
- hire your best classmates
 - and fire a few of them

end

Case Review

Q: sell to competitors

- should ~~be~~ sell to anyone can pay
- can do distribution
 - if it saves \$
- service other companies' website
- do both
 - as much competition
 - can only sell as much variety as they want
- conflicts or negatives?
 - we makes more \$
- live Cingular selling to M V No
 - Boost, etc

5

Q: Why originally get into AWS?

- need capacity in dec

Q: What is cloud computing

- apps as services
- data center software to run these apps
- selling utility computing
- lots of people call cloud computing
- MIT did in 60s w/ timesharing
- ~~internet~~ needs to be cheap + easy + available networking

Q: Why amazon

- Guy who worked at EMC
- nothing to improve on it
- all company targeting diff sectors

Q: Windows not available

- should charge upfront

- think should leave

- never thought of them as tech company
- don't know much about it

(Classic biz: just do your own thing)

- legal privacy rules
- should push into other clouds
- dramatic for startups
- the cost

(6)

- ~~the~~ launch on AWS
- then build in house since cheaper
- is it ~~best case scenario~~ always on?
 - or best case scenario
- static load
 - they are overpriced
- lot of entrants into industry
- don't focus as core of biz
- they don't focus on diff. segments
 - (biz thinking)
 - for next step
- backup needed
 - backup battery
 - not commodity
 - needs to get better
 - bandwidth
- Google locates servers near powerplant
 - power ~~cheaper~~ more expensive than bandwidth
- High Freq. trading
- complexity of standards
- Prof; people overplay utility model
- innovation fast

⑦

Tech is tip of ice-berg for CIO

- Biz strategy + models

- Co invention

Prof. Amazon very long term focused

- They were not profitable till 2002

- They could have raised p r 5% and be profitable

- dist. centers were 3-5 years focused

- all very cust-focused

- Very analytically oriented

15.567 Reading Guide October 7: Google

This session we will take a closer look at Google, and the economics of search and targeted advertising.

Readings

Case: Edelman, Google, Inc. 910036-PDF-ENG , Feb 2010

Steven Levy, "Secret of Googlenomics", *Wired*, May 22, 2009

Optional:

Varian "The Economics of Internet Search"

<http://people.ischool.berkeley.edu/~hal/Papers/2007/costa-lecture.pdf>

"Online Search" Stanford Graduate School of Business, December, 2008

URLs

- <http://www.google.com>
- <http://www.bing.com>
- <http://www.yahoo.com>
- <http://search.aol.com/aol/webhome>
- <http://www.wolframalpha.com/>

Study Questions

Please think about the following questions as you do the readings. Be prepared to defend your answers in class.

1. What were the key factors behind Google's early success?
2. Considering the economics of the search business, do you expect it to become more concentrated (i.e., dominated by fewer firms)? Is it a winner-take-all business?
3. In renewing its deal with AOL, could Google afford to pay AOL more than 100% of the revenue generated from AOL searches? How did Microsoft's maximum affordable bid for AOL's search traffic compare to Google's?
4. In addition to enhancing its core search businesses, should Google also branch out into new areas? Which of the following would you recommend: 1) building a full-fledged portal like Yahoo's; 2) targeting Microsoft's desktop software hegemony; 3) becoming an ecommerce intermediary like eBay, or 4) something very different?
5. What kinds of products and services can advertising support well? How does your answer differ for highly targeted advertising vs. broad based advertising?
6. What questions would you have for Hal Varian, now Chief Economist at Google?

- focus narrow your project
- next fri individual feedback

Q: factors behind initial success

- algorithms
 - PageRank
 - # of internet links to it
 - like how academics get ranked
 - + authority of page linked to you
- page was simple
 - no banner ads
 - relevance
 - quick loading
- low switching costs
- auction for ads
 - based on cost and quality
 - automate b

Q: In year 2015 -> what will Google's market share be?

<u>20%</u>	<u>50%</u>	<u>80%</u>
3	35	32

Search in US

- VI/ Branding
- people switch back when settings change

(2)

- Mobile w/ Android

(What did I use before Google? - can't remember)

-> yahoo?

- think of other products

- Gmail, Google maps

- refers ya back

- Former employee: things should find me

- not search for stuff

- like today marketshare for portals

Q - will google be part of this new market

- yes due to infrastructure

very good at scaling

- MS was able to do it

- but 10-15 years after they started
is when they made their hits

- but that was 10-15 years

another: google not good at social search

- knowledge of your friends

- Fb passed in minutes

another: continuously moving down the stack

- to OS -> chrome OS, android

- best position to push search, or whatever

③

another: fb will steal a lot of search from google

- businesses will move to fb
- search model → advertisers firing
- fb offers more data on people

fb more of portal

- fb like the web
- { all typical answers

Hal Varian via G-chat

Q: Why does google have a chief economist

- like a fiv - once you have it can't live w/o it
- joined in 2002
- look at ad auction
 - unclear what their biz model would be
- Ten Forecasting for data centers
- ad. behavior
- economics group - 10 people
- answer the qu management ask next month

Q: Google TV change TV conversation

- combine video experience
- search all at same time
- nice discovery experience

④ - apps to get TV in

Q - what is the biz model

- last thing on the list
- always worked in the past
- advertising → youtube
- cheap to build since have android + chrome so cheap

Q: Is Youtube losing big \$ - bandwidth + licensing ?

- Credit Suisse was 2008
- lots of costs fixed
 - data center
 - fiber
- Variable cost on human side
 - ↑ true economic cost
- so easy to develop these products
 - surprising how small a team
 - google scholar → 1 guy 20% of 6 months
- infrastructure big competitive advantage

Q: Psycic Search ← was Instant Search

Q: How will it change algorithm. ↑

- did lot of estimation before
- worked out well

Q: Biggest threat to google in 5 years

- "unimaginable future"
- tremendous growth in mobile + geo

5) seamless voice in + out

Q: China

- lots of engineering talent
- constraints in operating
- when started not much click to buy
 - CC + delivery not there
 - so did impression
 - changed now

Q: Why Baidu beating you?

- domestic firm
- Russia, Korea, etc
- tighter connection to culture

Q: Why keep investing in Korea when only 1-2% is Korea

- heavy focus on games + social
- challenging, but have not wrote it down

Q: Chrome OS → nature of competition

- netbook OS
- like TV
- ~~can~~ will grow
- have 2 oss i Android + Chrome OS
 - always free
- defensive
 - have choices available
 - no gatekeeper to Google Search

6

Q: Too costly?

- both based on Linux
- small groups of engineers

Q: Location-dependant

- doing now, w/ voice recognition
- real time training

Q: How change ads

- location proximity is part of prediction model
- add add. input to CTR prediction

Q: Is Google learning more from econ or other way around

- Google data powerful for predictions
- many problems have been analyzed in papers
- CS picked up on this first
- before Econ

Q: Cell phone auction

- wanted to meet reserve price so it could be open
- and would have picked up bargain spectrum

Q: economics of open source

- ~~we~~ wrote paper ~~at~~ Berkeley
- like freeways
- supports lots of stuff - general infrastructure
- Summer of code

End

⑦ After w/ Prof Erik

Q: Have they modeled value of privacy

- Eric S. does not understand why people are concerned
- pricing model to sell your info
- some European countries think it's in a

My Q: net neutrality

- discussions later this semester

Q: What synergies do they see in making acq.

- IDK

Q: Is it all dependant on ads?

Q: Offline ads?

- tried experiments
- did radio
- auction model
- ~~pro~~ failed.

Q: What is Google scared of

Amazon i not being best for customers

L. Page scared to death about dying

Eric S. Bing + search

- grew a little
- esp in verticals i travel

Hal: (Schapiro was chief economist at Justice Dept.)

- it can all go away quickly
 - ~~stopped~~ ^{pic} innovating rapidly
- (Prof: politically correct)

- ② In tech you can have huge marketshare
- it can all fall apart
 - not like it in ~~tech~~ industry
-

How Auctions work

- Prof's bro made multi-million biz on Adwords

A 4
B 3 ← incentive compatible
C 2 pay what next bid
D 1 2nd price auction

- treasury bills, etc sold like this

+ Quality Score

- how relevant is ad to user
- Predicted CTR
 - ↑ keyword relevance
- ~~quality~~ speed of landing page

$$\text{Do: Bid} \cdot \text{Quality Score} = \text{Effective bid}$$

Google's scarce resource → Page space

$$\text{* Revenue} = \text{click} \cdot \text{bid}$$

↖ ↗ need to get lots of ~~the~~ clicks
not just highest bid

Google 38% more revenue per actual search

Human always monitoring

Optimal strategy: Bid WTP

- if overbid, risk you will pay

9) Q: what actual pay $p = \frac{B_2 Q_2}{Q_1}$

$$\frac{4}{6} = \$1.5 \text{ C pays}$$

next $2 \frac{2}{3}$ = actually paying more
= ~~1.5~~ -? how $\frac{1.8}{3}$

~~is it~~ $\frac{B_2 Q_2}{Q_1}$

- advertiser decides which words to bid on

Google employee: maximize advertiser AOT
^
~7-8 in class

- will the user find it useful
- not just click on it
- long run play

Have to constantly refine

- people trying to game it constantly
- constantly refine
- arms race

15.567 Reading Guide

October 14: The Long Tail

As the internet and related technologies lower the costs of search, they make it easier for consumers to locate obscure products and services that may be uniquely well-suited to their tastes. At the same time, virtual shelf-space and lower production costs can make it easier to keep enormous product lists or even make customized products to order. What are the strengths and weaknesses of this story? What are the strategic and economic implications of your analysis?

Readings

Anderson, Chris. "The Long Tail," *Wired*, <http://www.wired.com/wired/archive/12.10/tail_pr.html>

Brynjolfsson, Erik, Yu (Jeffrey) Hu, and Michael D Smith. 2003. "Consumer Surplus in the Digital Economy: Estimating the Value of Increased Product Variety at Online Booksellers," *Management Science* 49 (11) 1580-1596.

Optional

Garrity, Brian. 2006. "DMG Bets on 'Long Tail'," *Billboard* 118 (7) 12, 18 Feb 2006.

Brynjolfsson, E., Hu, Y. and Rahman, M. "Battle of the Retail Channels: How Product Selection and Geography Drive Cross-channel Competition", *Management Science*, 2009.

Varian, Hal R. 2005. "Reading Between the Lines of Used Book Sales," *New York Times* 28 Jul 2005.

Study Questions

Please think about the following issues and questions as you do the readings.

1. What is the definition, theory and evidence for "The Long Tail"? What are the underlying drivers on both the supply side and the demand side?
2. What examples can you point to of this phenomenon? What counter examples are there? Where does the Long Tail seem most important? Has it been over-hyped?
3. What changes, if any, do you expect in industries with large numbers of SKUs (stock keeping units)? What strategy would you recommend in light of your analysis? What opportunities or threats do you see?
4. Should pricing be different for products in the tail of the distribution vs. the head?
5. What about the opposite of the Long Tail, the "Superstar" or "Blockbuster" effect? Where would you expect each type of effect to dominate? Could both phenomena happen at the same time?

Required Assignment "One Pager" for Long Tail Class

Please post a one page memo addressed to Howard Anderson, Managing Director, YankeeTek Ventures (max 300 words) analysis) by 9pm on Wednesday, October 13 (the day BEFORE class) on the Stellar Website in the appropriate folder. Please submit either a PDF or MS Word file, with your name, date and assignment title at the top.

Question: Based on the readings in class, briefly describe and advocate a new venture that could profit from the "Long Tail" effect in a novel and interesting way.

Long Tail

10/13

Wrote about last year for 21W_732

but now biz that takes advantage of Long tail

Amazon

Hulu

Netflix

Is there one non-media thing?

- people always talking about media w/ skew

Micropayments on newspaper articles

Course reader/info

UGC - user gen. content

- youtube is very long tail

Apple App catalog

do you make a biz that takes advantage of long tail

- or simply a strategy in biz

Used textbook

Food delivery

office supply delivery

- everything I wrote has been done

used tickets to a game

②

left over cinema tickets

1. theater 1

used cars

apps was closest

or paying individual articles

- newspapers bad at archives

- could you sell those individually?

Do already

- bot bad job

- 3rd party

- why bad job?

- bad browsing

long tail on train tickets

- transport

but must be something online can help for

TV shows

- making every always available

- like Dish DVR

Small spare parts

Cables

MSC - for mech E's

(3)

Could do TV show one

Hold basically

but every show

archives - why not sold

- good to add to A2 Unbox

- but must be new biz

Lecture Long Tail

10/13

Neil Diamond's Search theory - part of Long Tail
- must find

Consumers find you online organically
- lower search costs